



CASTLEMAINE to MARYBOROUGH **Rail Trail Feasibility Study**

July 2023

***We acknowledge that the Dja Dja Wurrung
are the Traditional Owners of the land
on which this project is sited.***

***We pay our respects to leaders and Elders past,
present and future.***

***We acknowledge the Dja Dja Wurrung's living culture
and connection to landscape and express our gratitude
in the sharing of this land.***

This document was prepared by Fitzgerald Frisby Landscape Architecture, working with Central Goldfields Shire Council, Mt Alexander Shire Council and the Castlemaine-Maryborough Rail Trail Association, as well as the specialist subconsultants Urban Enterprise, Structcom and Newton Kerr + Partners.

DISCLAIMER

Neither the consultant team nor any member or employee of the consultant team takes responsibility in any way whatsoever to any person or organisation (other than that for which this report has been prepared) in respect of the information set out in this report, including any errors or omissions therein. In the course of our preparation of this report, projections have been prepared on the basis of assumptions and methodology which have been described in the report. It is possible that some of the assumptions underlying the projections may change. Nevertheless, the professional judgement of the members and employees of the consultant team have been applied in making these assumptions, such that they constitute an understandable basis for estimates and projections. Beyond this, to the extent that the assumptions do not materialise, the estimates and projections of achievable results may vary.



EXECUTIVE SUMMARY

It has been proposed that the disused railway line between Castlemaine and Maryborough be used for the construction of a 'rail trail'. The purpose of this study is to evaluate the business case for the trail and its feasibility by examining the following points:

- **Visitor usage** including an examination of the different visitor types and the potential demand for the trail.
- **Tourism opportunities** including an exploration of potential tourism prospects, such as significant attractions, unique selling points, visitor experiences, and sustainable tourism practices. This report also examines the direct and indirect benefits the trail may have on the region's tourism system.
- Recommendations relating to **trail amenity** including surface material and supplementary infrastructure.
- Potential opportunities for **First Peoples' led experiences and engagement** along the trail and throughout the delivery process.
- **Route staging** including an examination of the options and potential outcomes for staging trail construction.
- **Economic impact and opportunity** including local job creation, local renewal, and opportunities relating to trail delivery and maintenance.
- The necessary steps for **due diligence** across key investigation and planning domains such as land tenure and potential risks to trail delivery.
- **Operating models** including an examination of options for operational models for trail infrastructure, marketing and management.
- **Trail delivery processes** including recommendations regarding the future delivery of the trail with minimal risks and delays are included in this report.



Proposed rail trail alignment

Trail alignment

The majority of the 60km shared use trail between Castlemaine and Maryborough is located along the disused rail corridor. The rail line passes near to Campbells Creek, Guildford, Newstead and Carisbrook. Shared path connections from the proposed rail trail into the centre of these towns are proposed as part of the core trail works.

The townships location along the route are mostly relatively evenly spaced, providing the required amenities (such as public toilets and rest areas) as well as points of interest for trail users and food and beverage offerings. Two new nodes are proposed to address a longer gap between Newstead and Carisbrook:

- A trail head and amenity node is proposed on the eastern side of the Joyces Creek Railway Bridge.
- A secondary node is proposed on the Moolort Plains which will include a rest area. Views of the surrounding landscape also make this a potential opportunity for interpretation and indigenous storytelling.

These proposed nodes align with Mount Alexander Shire Council and Central Goldfields Shire Council's policies regarding the development of trails and supporting infrastructure including hubs for connectivity, access to public toilets, shade, and drinking fountains.

Route staging

There are a number of ways which the trail may be constructed:

- Non staged construction, i.e. completing the construction of the entire trail in a single stage
- Staged construction with the option to start at either the Castlemaine or the Maryborough end
- Staged construction taking place at both the Castlemaine and Maryborough ends simultaneously

In order to realise the full benefits of the trail as soon as possible, reduce potential risks to project governance, and to reduce overall costs, delivering the trail in a single staged is preferred. However, it is expected that the construction will require staging to reflect funding realities. If staging is required, the identified stages are:

- Castlemaine to Campbells Creek – 4.3km
- Campbells Creek to Guildford - 6.5km
- Guildford to Newstead – 12km
- Newstead to Moolort – 14km
- Moolort to Carisbrook – 11km
- Carisbrook to Maryborough – 7km

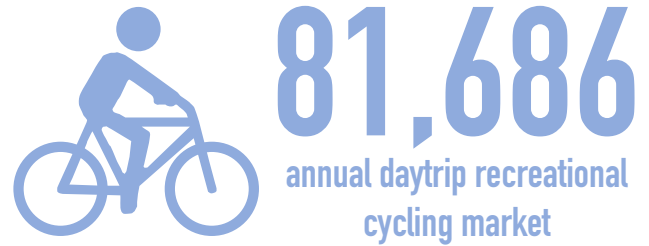
If a staged delivery is required, it is recommended that construction begin at the Castlemaine end due to its established visitor market, trail user amenities, and relatively simpler lease arrangement (due to leasing complexities at the Maryborough end). It is also recommended that making progress toward trail construction at the Maryborough end, involving tasks such as lease negotiations and rail removal, begin concurrently.

Market supply and demand

An examination of the market supply of comparable and supporting product in the region found that there is an identified market ‘gap’ in mid-range trails around 50 km in length, which could be provided by the proposed rail trail.

The range of quality tourism products and experiences across the region has the potential to enhance the user experience, help drive visitors to the trail and stimulate local consumption in the area. In particular, the Rail Trail is bookended by key activity centres - Castlemaine and Maryborough - which provides access to existing visitor markets and can serve as ‘anchor’ point for future users.

The existing market size of cycling and walking target markets for both residents and visitors is substantial, however there is significant potential for a quality rail trail to attract additional cycling visitors, the primary target market. Based on the primary research data, the cycling market size that the proposed trail can draw on is estimated at 81,686 per annum.



Project impacts

The proposed Rail Trail will provide a range of benefits to the region including market, economic, financial and social/community benefits. These benefits, summarised below, take into consideration the net benefits of the project when fully realised and focuses on the impact of new visitors and additional expenditure in the region over a 10-year period of operation.



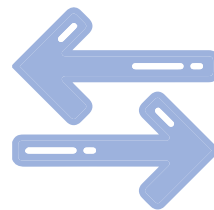
Strengthening the regions brand as a premier cycling and walking destination



Increased health and wellbeing benefits



Stimulate private investment and active visitor destinations



Encouraging a greater dispersal of visitation across the region

The Rail Trail will also support an increase in visitor spend, which will generate flow-on economic benefits in terms of job creation, additional output and increased sales for local businesses.



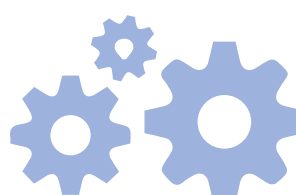
66,055
Additional visitors p.a



157
Additional jobs p.a



\$12.3M
Additional visitor expenditure p.a



\$24.6M
Additional output p.a

Trail design, infrastructure and experience

The project brief notes the aspiration for the trail to offer a ‘world-class’ trail experience. The following is a summary of key considerations derived from multiple sources, that contribute to a trails’ ‘world class’ status and the recommendations in this strategy that relate to trail design, infrastructure, experience and governance that align with this aspiration.

Consideration	Recommendations for the trail
High quality infrastructure	<ul style="list-style-type: none"> Establish trail heads at both ends of the trail as well as proposed node at Joyces Creek Establish an interpretation node and rest stop at Moolort to address gap between townships Provide supporting infrastructure such as signage, seating, drinking fountains, bike fixing stations, and bicycle parking at regular intervals
Accessibility	<ul style="list-style-type: none"> Construct 3m wide asphalt trail (2.5m minimum where corridor is constrained) and a 1m clearance either side Provide accessible connections to townships and train stations
Distinctive experiences	<ul style="list-style-type: none"> Establish First Nation led experiences such as story telling and interpretation Incorporate distinctive elements such as interpretation, artwork, landscaping and signage
Attractive natural or cultural environment	<p>The recommended trail alignment traverses attractive landscape settings such as the Ironbark forest, the open fields of the Moolort Plains, the Loddon River valley and escarpment, creekside environments and historical townships</p>
Quality trip information	<p>Ensure marketing is a key task for the ongoing governance of the trail. Marketing activities could include raising awareness of the trail, development of maps, implementation of a signage suite and a trail website.</p>
Access to quality support services	<ul style="list-style-type: none"> Businesses and operators may arise due to the establishment of the rail trail and associated visitation Provide accessible connections to train stations and townships where existing services are available
Access to food and beverage offerings	<p>Provide connections to each of the townships where multiple food and beverage offerings are available</p>
Strong trail destination positioning and marketing	<p>Ensure marketing is a key task for the ongoing governance of the trail. Marketing activities could include raising awareness of the trail, development of maps and a trail website.</p>
Effective governance	<p>Establish a Partnership Agreement Model between Central Goldfields Shire, Mount Alexander Shire and CMRT.</p>
Community engagement	<p>Continue to undertake community consultation activities as part of pre-construction and trail delivery activities</p>
Events	<p>Deliver localised events to ensure a high-quality user experience through activation of key areas</p>

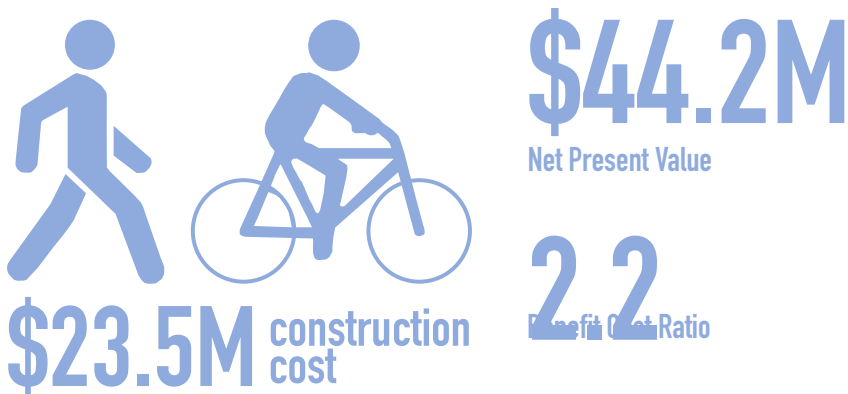
Initial community engagement undertaken as part of this project identified an interest in equestrian use of the proposed trail. Qualities of the proposed trail, particularly long narrow bridges, pose significant safety concerns, meaning that it is not feasible for the whole trail to be made available for equestrian use. Sections of the proposed trail potentially suitable for equestrian use have been identified, subject to further investigation and consultation.

Cost benefit assessment

The projected overall cost for planning, designing, project managing and constructing an asphalt rail trail, incorporating the connections to each of the townships and including construction contingencies is estimated at \$37.6M. Costs relating to the physical construction of the trail (i.e. excluding planning/design/management costs and contingencies) are estimated at \$23.5M.

The highest cost items are trail surface and bridge works, \$13M and \$7M respectively. The trail surface cost is exacerbated by the fact that rails are currently in place for approximately 60% of the trail length. Trail building by burying the rails and constructing the trail surface on top could be considered to reduce this cost however this is a sub-optimal outcome and is likely to lead to maintenance problems in the future.

A cost-benefit model was developed for a sealed surface trail over a 10-year period of operation. The model demonstrated a positive return on investment with a Net Present Value of \$44.2M and a Benefit to Cost Ratio of 2.2. These results are both comparable with other feasibility studies undertaken for similar rail trail products in Regional Victoria and Australia.



Operating model

A Partnership Agreement Model between Mount Alexander and Central Goldfield Shire Councils and CMRT has been identified as the most appropriate operating model for the Castlemaine to Maryborough Rail Trail. This model may be appropriate for both the development of the trail as well as the ongoing operations. Alternatively, a staged approach involving outsourcing the development and planning of the trail then transitioning to a partnership model for trail operation could also be considered.

The implications of each option should be considered to determine the 'best fit' and alignment to stakeholder preferences and expectations as it will have significant bearing on trail development and operation.

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1. The Project

1.1 ABOUT THE PROJECT

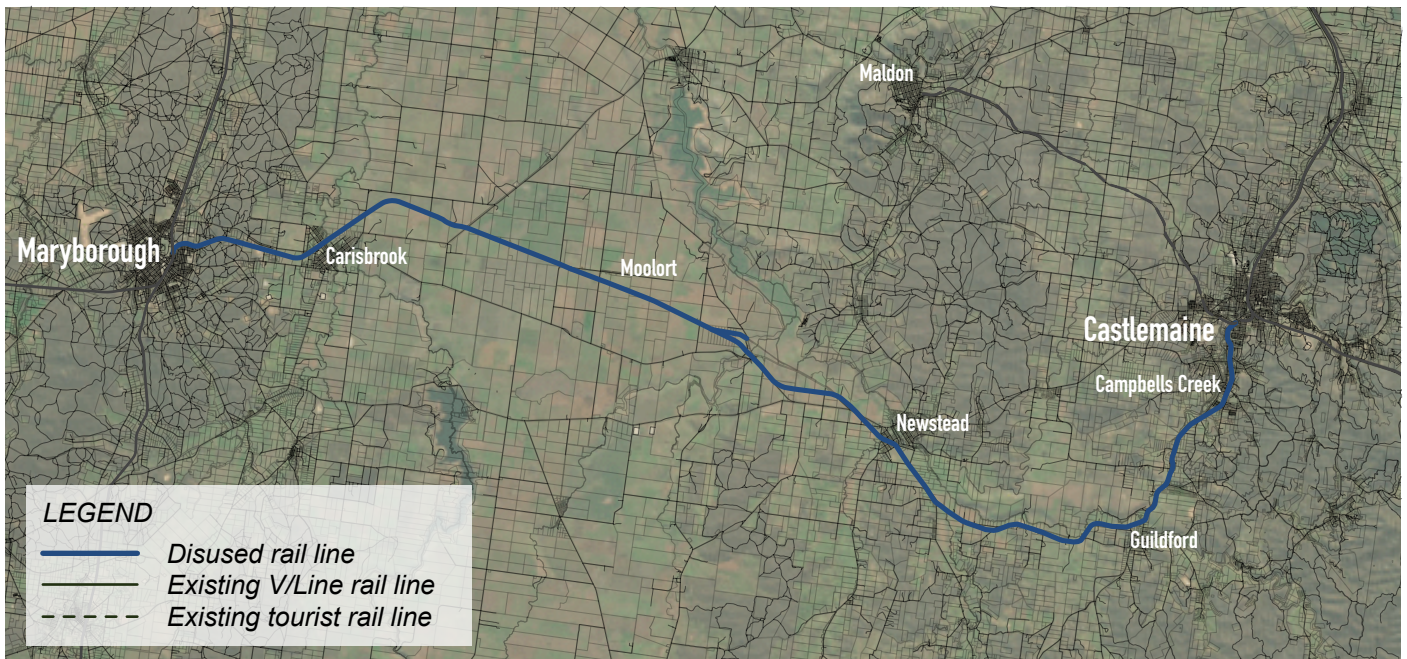
A 60km shared-use trail that has been proposed along the disused rail corridor between Castlemaine and Maryborough. The recreational trail would link these two towns via the communities of Campbells Creek, Guildford, Newstead, Moolort and Carisbrook as well as provide connections to the regions attractions and destinations.

The purpose of this study is to evaluate the business case for the trail and its feasibility, provide recommendations regarding the alignment and to provide insights regarding any further investigations and processes to assist in the future delivery of the trail with minimal risks and delays.

A significant amount of work has already been completed regarding the trail proposal by the Castlemaine-Maryborough Rail Trail Association (CMRT) in collaboration with the shires of Mt Alexander and Central Goldfields. As such, this study has been undertaken with their valuable contribution.

1.2 THE TRAIL

The trail is proposed to run between Castlemaine Station and Maryborough Station, via the townships of Campbells Creek, Guildford, Newstead, Moolort and Carisbrook, as shown in Figure 1.1. The majority of the trail is proposed to be constructed along the former rail line that links these regional towns and locations and would provide connections between population centres, natural attractions, viewing points, epicurean destinations and historical locations.



F1.1: The Disused Rail Line

1.3 THE MOOLORT LINE

1.3.1 Reinstatement of the railway

The former train line, known as the Moolort Line, operated along the rail corridor between Castlemaine and Maryborough from 1874 to 1977 (*A History of the Castlemaine to Maryborough Railway*, Ken James and David Langley). Whilst parts of the community have expressed a strong desire for a rail service to be reinstated, this is unlikely to occur in the foreseeable future. There are several reasons contributing to the unlikelihood of reinstating the rail line:

- **Existing conditions:** an audit of the rail corridor completed as part of this study found:
 - Approximately 40% of the rails along the train line have already been removed and that the remainder requires replacement due to their condition. Similarly, concrete sleepers would need to be installed for the length of the trail to accommodate train services.
 - The 26 bridges along the rail line are in a poor state and would require significant works or replacement (above and beyond what is proposed to support rail trail use).
 - Many road crossing exist along the rail corridor that either have no crossing infrastructure, or do not meet current crossing standards.
- **Cost considerations:** with existing rail infrastructure in very poor condition (where it exists at all), reinstating a rail service would come at a cost comparable to constructing an entirely new rail line.
- **Market:** there has been no investment in railway infrastructure in areas with similar characteristics (such as existing/projected population density) for many decades.
- **Government support:** studies undertaken by the Victorian Government to investigate the feasibility of reinstating passenger trains between Geelong, Ballarat and Bendigo (which would include the Castlemaine to Maryborough corridor), found that the costs of rail reinstatement far outweighed the potential benefits (*Rail Revival: Geelong-Ballararat-Bendigo Project Feasibility Summary Report, April 2013*). Furthermore, in a letter to CMRT, the Department of Transport indicated that it has no medium-term plans for the return of rail services along the Castlemaine to Maryborough corridor.

It should be noted however, that none of the works proposed as part of this study preclude re-establishing the train line in the future, should it become viable. The railway corridor, within which the trail is proposed, will still be owned by VicTrack and will be leased for the purposes of the rail trail. While rail removal would occur to establish the rail trail, the majority of the remaining railway line is in a state that would require it to be replaced anyway.

1.3.2 Railtrack riders

A review of relevant strategies and stakeholder engagement undertaken as part of this project identified an interest in converting the former rail line to accommodate Railtrack riding (i.e. pedal-powered vehicles that travels along the railway tracks). However, establishing such a venture along the rail line is high unlikely for the following reasons:

- **Existing conditions:** as discussed above, rails are only in place for part of the rail corridor and existing infrastructure is in poor condition and would require replacement of both the rails and sleepers. The costs to undertake this work would likely be prohibitive.
- **Private operation:** in order for such a venture to be viable, it would require a private operator and would therefore require a commercial lease with VicTrack
- **Usage numbers:** Due to the nature of the operation only a small number of users would be able to utilise the rail corridor at one time. The rail itself is only a single railway meaning that visitors are only able to travel in a single direction. This would restrict the usage numbers and in turn significantly reduce the benefits driven by visitors when compared to the proposed rail trail.
- **Tourism and economic benefits:** it is likely that such a venture would only operate for part of the rail line (i.e. Maryborough to Newstead) further limiting the number of users on the rail line. This would result in an uneven dispersal of and reduced tourism and economic benefits across the region when compared to the proposed rail trail.

1.4 PROJECT OBJECTIVES

The purpose of this study is to evaluate the business case for the Castlemaine to Maryborough Rail Trail and to determine its feasibility. Within this scope there are a number of key objectives:

- Consider the visitor usage, both tourists and locals, to understand different visitor types and demand for the trail.
- Investigate tourism opportunities including key attractions, points-of-difference, visitor experiences and sustainable tourism.
- Provide recommendations around trail amenity including infrastructure and trail surfaces.
- Explore opportunities for First Peoples' led experiences and engagement along the trail and throughout the delivery process.
- Investigate options and potential outcomes for staging the delivery of the trail.
- Understand the economic impact and opportunities of the trail including trail delivery and maintenance, local job creation, and local renewal.
- Explore the direct and indirect benefits the trail may have on the region's tourism system.
- Assess steps for due diligence across project's key investigation and planning domains including land tenure and risks to trail delivery.
- Explore operational models for trail infrastructure, marketing and management.

The following items were not included in detail as part of this study as they will require further investigations and specialist input during future stages of trail delivery:

- **Pre-construction activities** such as council endorsement of trail concept, specialised studies including Cultural Heritage Management Plans and Flora and Fauna Assessments, lease negotiations, land owner and management negotiations, additional community consultation and obtaining a planning permit (if required).
- **Detailed design** including precise capital cost estimates, civil and structural engineering, and geotechnical engineering.
- **Impacts of staging** the trail construction including impacts to project timeline, costs and user experience.
- **Long-term macroeconomic conditions** such as inflation and interest rates, on the projects expected future cost and financial viability.

1.5 PROJECT VISION

The Castlemaine to Maryborough Rail Trail can be developed as a world-class recreational trail. Historic landscapes and rich storytelling will help the region come to life for tens of thousands of visitors and provide new, healthier and safer transport pathways for more than 20,000 people locally.

The trail will creatively transform disused land, and bring economic renewal, better land management and social dividends to several major communities, while adding a connecting link to Victoria's wider trail network.

1.6 PROJECT APPROACH

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

- **Context review** - including the review of strategic documents relevant to the trail, planning schemes and overlays, pre-1750 Ecological Vegetation Classes and the surrounding trail network.
- **Desktop review** - including analysis and mapping of trail alignment(s) and potential connections to townships along the trail. The mapping provided in this report follows an east-to-west arrangement because Castlemaine is the first location when considering alphabetical order and is the closest to Melbourne CBD which aligns with other distance marker systems.
- **Cultural immersion tour** - a tour of culturally significant sites in parts of the region lead by Uncle Rick Nelson, a Dja Dja Wurrung Elder.
- **Trail audit** - involving riding the disused rail line (where access was permitted via an access deed granted by Victrack) to confirm trail alignment, determine trail character, visually inspect trail structures and to discover potential opportunities that may contribute to the trail experience.
- **Preliminary community consultation** - including an on-line questionnaire promoted by the Councils as well as through other organisations with a potential interest in rail trails. The questionnaire was open for four weeks over May and June 2023 and received over 1200 responses.
- **Structural review** - including a high level review of all trail structures to determine what works may be required to ensure safety and structural integrity.
- **Cost plan** - including a Concept Cost Plan to determine the estimated costs for all stages of trail delivery.
- **Business Case** - including the assessment of local usage and drivers, impacts to the tourism industry, review of route staging, economic impacts to the region and cost benefit analysis.
- **Assessment of next steps** - including review of potential operating models and the trail delivery process and associated risks.

1.7 ACKNOWLEDGMENTS

This project was undertaken by a consultant team lead by *Fitzgerald Frisby Landscape Architecture*, with specialist inputs from *Urban Enterprise*, *Structcom*, and *Newton Kerr and Partners*.

This study was undertaken with extensive and invaluable input from the Project Control Group (in alphabetical order):

- John Carruthers - *Castlemaine to Maryborough Rail Trail Inc.*
- Alisha Chadwick - *Central Goldfields Shire Council*
- Sophia D'Urso - *Mount Alexander Shire Council*
- Peter Dearsley - *Department of Jobs, Skills, Industry and Regions*
- Karen Evennett - *Mount Alexander Shire Council*
- David Hale - *RMCG*
- Rosalie Hastwell - *Central Goldfields Shire Council*
- Sophie Leversha - *Department of Jobs, Skills, Industry and Regions*
- Emma Little - *Central Goldfields Shire Council*
- Janice Simpson - *Castlemaine to Maryborough Rail Trail Inc.*
- Merryn Tinkler - *Mount Alexander Shire Council*

This project also benefited greatly from the input of a very broad range of people and organisations including Uncle Rick Nelson Elder of the Dja Dja Wurrung and people who responded to the questionnaire undertaken as a part of this project.

1.8 ACRONYMS

AAGR	Average Annual Growth Rate
ABS	Australian Bureau of Statistics
BCR	Benefit Cost Ratio
CMRT	Castlemaine to Maryborough Rail Trail Inc (community organisation)
LGA	Local Government Area
NPV	Net Present Value
P.A.	Per Annum
TRA	Tourism Research Australia

1.9 GLOSSARY OF TERMS

Direct Impacts	Direct output or value of construction activity or local consumption.
Indirect Impacts	Supply-Chain effects – The increased output generated by servicing industry sectors in response to the direct change in output and demand. Consumption effects – As output increases, so too does employment and wages and salaries paid to local employees. Part of this additional income to households is used for consumption in the local economy which leads to further increases in demand and output region.
Input-Output Model	This method is based on the interdependencies and relationship between industry sectors and is widely used across the public and private sector to estimate the direct and flow on economic impacts of a project or activity to an economy (using industry multipliers).
Employment	Employment data represents the number of people employed by businesses/ organisations in each of the industry sectors in a defined region. Employment data presented in this report is destination of work data. That is, no inference is made as to where people in a defined region reside. This employment represents total number of jobs (irrespective of full-time equivalency).
Output	Represents the gross revenue generated by businesses / organisations in each of the industry sectors in a defined region. Gross revenue is also referred to as total sales or total income.
Benefit Cost Ratio	The BCR determines the overall benefits that a project or investment is likely to generate, relative to its costs. If a project has a BCR greater than 1, this suggests that the project will generate a positive financial impact, as the present value of the project benefits will exceed the present value of total costs (and vice versa).
Net Present Value	The difference between the present value of income and the present value of expenditure over a period of time. A positive NPV indicates that the projected revenue generated by a project or investment exceeds the anticipated expenditure and is, therefore, likely to be profitable and financially beneficial (and vice versa).

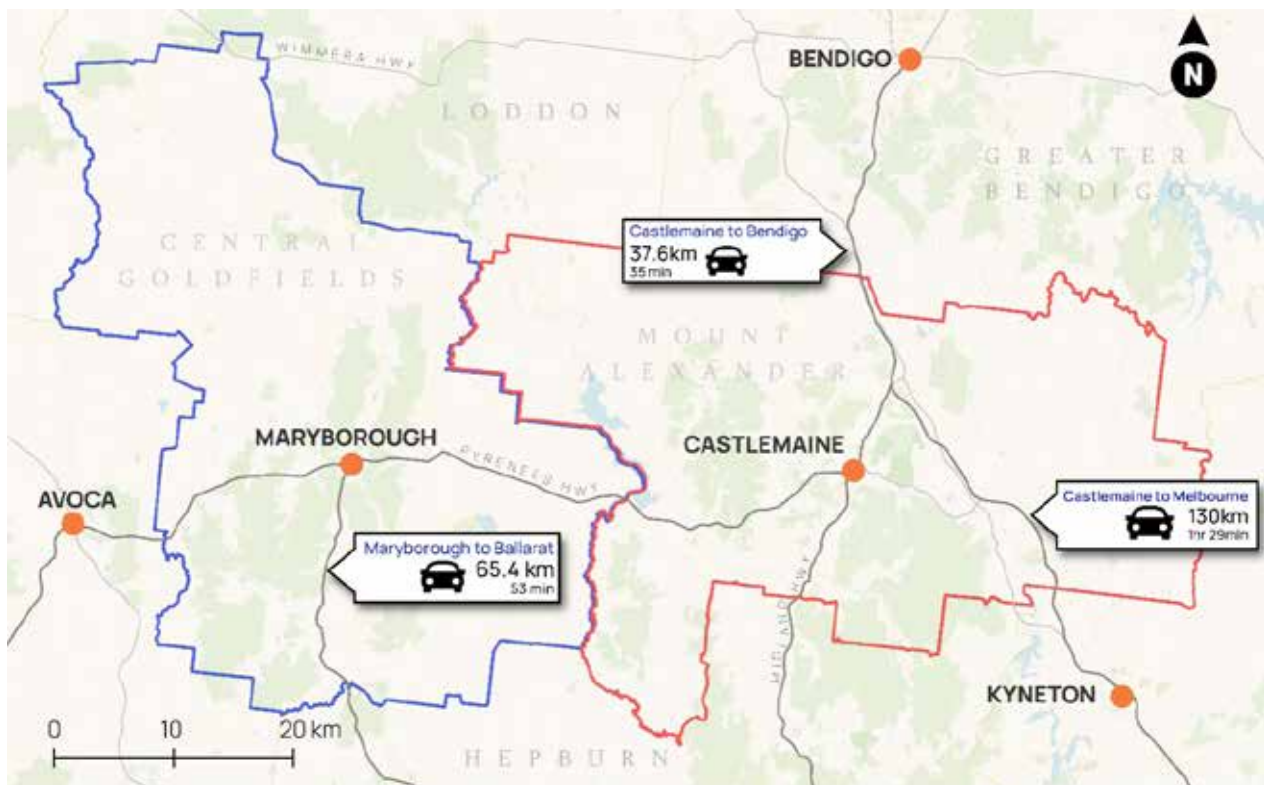


2. Context

2.1 KEY FINDINGS

- The trail study area includes the Central Goldfields and Mount Alexander Shires, which are part of the broader Bendigo Region Tourism area. This provides access to key population and visitor markets across key centres including Bendigo, Ballarat and Metropolitan Melbourne.
- Castlemaine and Maryborough are the two activity centres that bookend the Rail Trail, which can support visitation and well as local consumption through provision of amenity, infrastructure and services.
- Development of the Rail Trail aligns with State, Local and Regional policy to:
 - Provide high-quality visitor product that attracts new target markets and enhances the visitor experience;
 - Sustainably grow the visitor economy through increasing visitation and spend in the region, which will benefit local businesses and the economy; and
 - Promote increased access to natural assets, smaller towns and support local participation in outdoor recreation.
- The study area is subject to a number of overlays including Environmental Significance Overlay, a Salinity Management Overlay and a Heritage Overlay.
- The rail corridor is zoned under Transport Zone 1 - State Transport and Infrastructure which is currently owned and managed by VicTrack
- A study of the pre-1750 Ecological Vegetation Classes shows the alignment traversing a number of distinct landscape types.
- The rail trail proposed would connect into a wider trail network within the region creating the opportunity for loop paths and multi-day use.

Importantly, this project will support the Experience Victoria 2033 plan, by aligning with regional product strengths and supporting investment in product priorities across Wellness, Arts and Culture, First Peoples, Food and Drink, Nature.



F2.1: Project Study Area

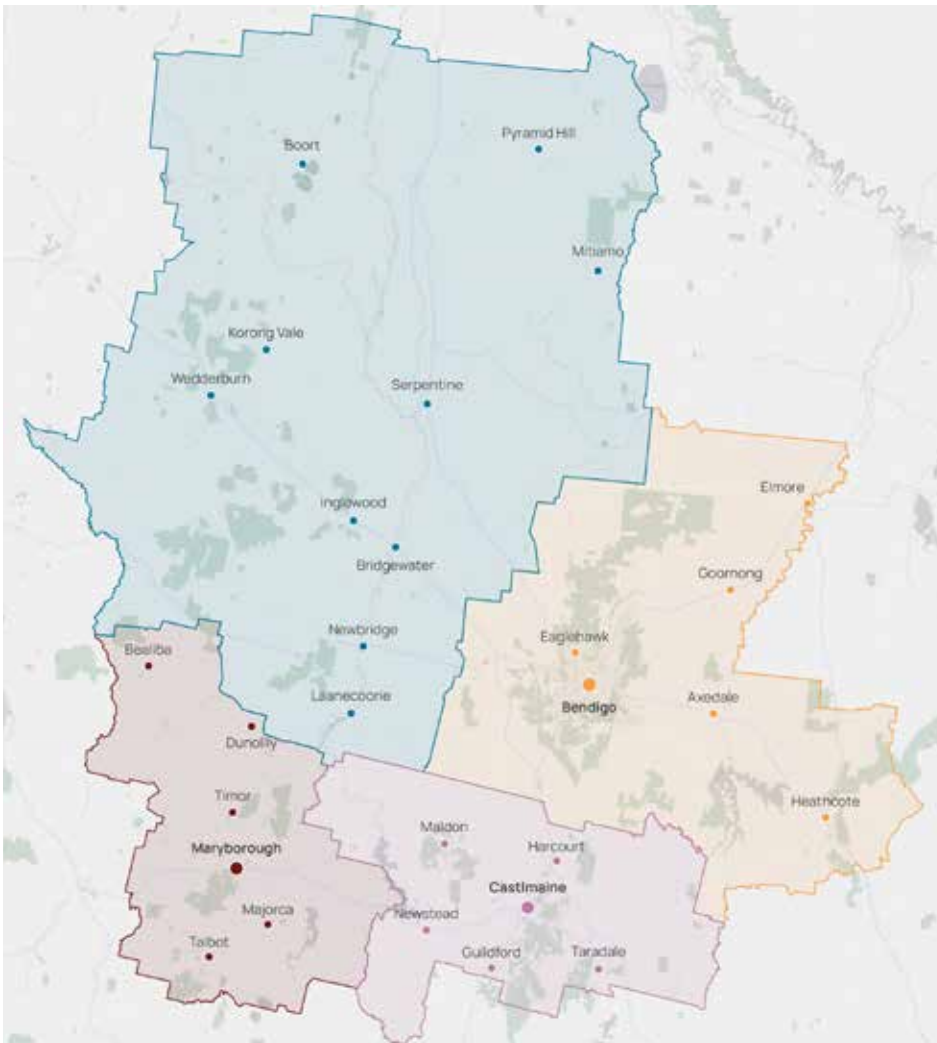
Source: Bendigo Regional Tourism, created by Urban Enterprise

2.2 REGIONAL CONTEXT

2.2.1 Strategic location

The proposed rail trail traverses the Mount Alexander and Central Goldfields municipalities, which is part of the Bendigo Tourism Region (see F2.2). These Local Government Areas (LGAs) represents the project study area, which is used to determine the market, economic and social impacts of the rail trail.

This area is strategically positioned in Central Victoria, ranging from a 1.5 to 2-hour drive from Melbourne (represents approximate drive-time from Melbourne to Castlemaine and Melbourne to Maryborough), as well as being surrounding by the regional cities of Ballarat and Bendigo. More specifically, Castlemaine and Maryborough are the two main activity centres within the study area (and bookend the rail trail), providing key services, infrastructure and amenity to service visitors, residents and promote local consumption for businesses.



F2.2: Bendigo Tourism Region

Source: Bendigo Regional Tourism, created by Urban Enterprise

2.2.2 Strengths and attributes

The two municipalities through which the proposed trail pass, as part of the broader Bendigo Tourism region, possess many attributes that provides amenity to both visitors and residents. This includes the following primary, secondary and emerging product strengths, as identified in the regional Destination Management Plan, that serve as demand drivers.

T2.1 Study Area Tourism Product Strengths

	Primary product strengths	Supporting product strengths	Emerging product strengths
Central Goldfields Shire	<ul style="list-style-type: none"> • History and Heritage • Retail • Events 	<ul style="list-style-type: none"> • Nature-based tourism • Cycling 	<ul style="list-style-type: none"> • Arts and Culture
Mount Alexander Shire	<ul style="list-style-type: none"> • Arts and Culture • Food and Dining • Events 	<ul style="list-style-type: none"> • History and Heritage • Nature-based tourism • Retail 	<ul style="list-style-type: none"> • Cycling • Wineries and Breweries

Source: Bendigo Region Destination Management Plan, 2015

The strengths in history and heritage are associated with the region’s goldrush era, as well as the significant Indigenous culture and history throughout the region. Other strengths include arts and culture, dining and events. Importantly, these strengths align with the *Victorian Government Visitor Economy Recovery and Reform Plan (VERRP)* themes and *Experience Victoria 2033* product priorities (nature, arts & culture, wellness, food and drink, First Peoples’).

The development of the Castlemaine to Maryborough Rail Trail, including the concept development and interpretation elements, should relate to these products by leveraging the primary regional strengths and supporting growth in secondary and emerging strengths. Furthermore, the project will represent investment in a new tourism product that will support cycling tourism as a key driver of visitation and spend.

2.3 STRATEGIC CONTEXT

There are a large number of existing strategies and policies have been reviewed as a part of this study to help inform the feasibility of the Castlemaine to Maryborough Rail Trail :

- **Documents produced by Castlemaine - Maryborough Rail Trail Inc:**
 - *Castlemaine-Maryborough Rail Trail Project Management Plan (2022)*
 - *Dreaming the Landscape: Imagining the trail in 2028*
 - *Tourism data and Insights*
 - *Regional Tourism Attractions & Festivals*
 - *Tourism Map 2022*
- **Central Goldfields Shire Strategies, Policies and Plans**
 - *Integrated Transport Strategy 2020-2030*
 - *Recreation and Open Space Strategy 2020 to 2029*
 - *Walking and Cycling Strategy 2017-2026*
 - *Economic Development Strategy 2020 - 2025*
 - *Tourism and Events Strategy 2020-2025*
 - *Priority Projects Plan 2022*
 - *Council Plan 2021-2025*
 - *Central Goldfields Health and Wellbeing Plan (2021-2025)*
- **Mount Alexander Shire Strategies, Policies and Plans**
 - *A Commitment to the Aboriginal and Torres Strait Island People of the Shire 2014*
 - *Economic Development Strategy 2013 - 2017*
 - *Heritage Strategy 2012 - 2016*
 - *Municipal Public Health and Wellbeing Plan 2021 - 2025*
 - *Walking and Cycling Strategy 2010 - 2020*
 - *Public Open Space Strategy 2016*
- **Regional Level Strategies, Policies and Plans**
 - *Loddon Mallee South Regional Growth Plan*
 - *The Victorian Goldfields World Heritage Master Plan (2023)*
 - *Loddon-Campaspe Regional Economic Development Strategy (2022)*
 - *Bendigo Region Destination Management Plan (2015-2020)*
 - *Loddon Campaspe Integrated Transport Strategy (2015)*
- **State Level Strategies, Policies and Plans**
 - *Victorian Cycling Strategy 2018-28*
 - *Victoria's Trails Strategy, Tourism Victoria 2014-2024*
 - *Visitor Economy and Recovery and Reform Plan (VERRP) 2021*
 - *Experience Victoria 2033*
 - *VicHealth Physical Activity Strategy 2019 - 2023*
 - *Plan Melbourne 2017-2050*
 - *Victorian Visitor Economy Masterplan Directions Paper (2022)*
 - *Victoria's Infrastructure Strategy (2021-2025)*

Each of the studies and their impact on the rail trail have been summarised in Appendix A.

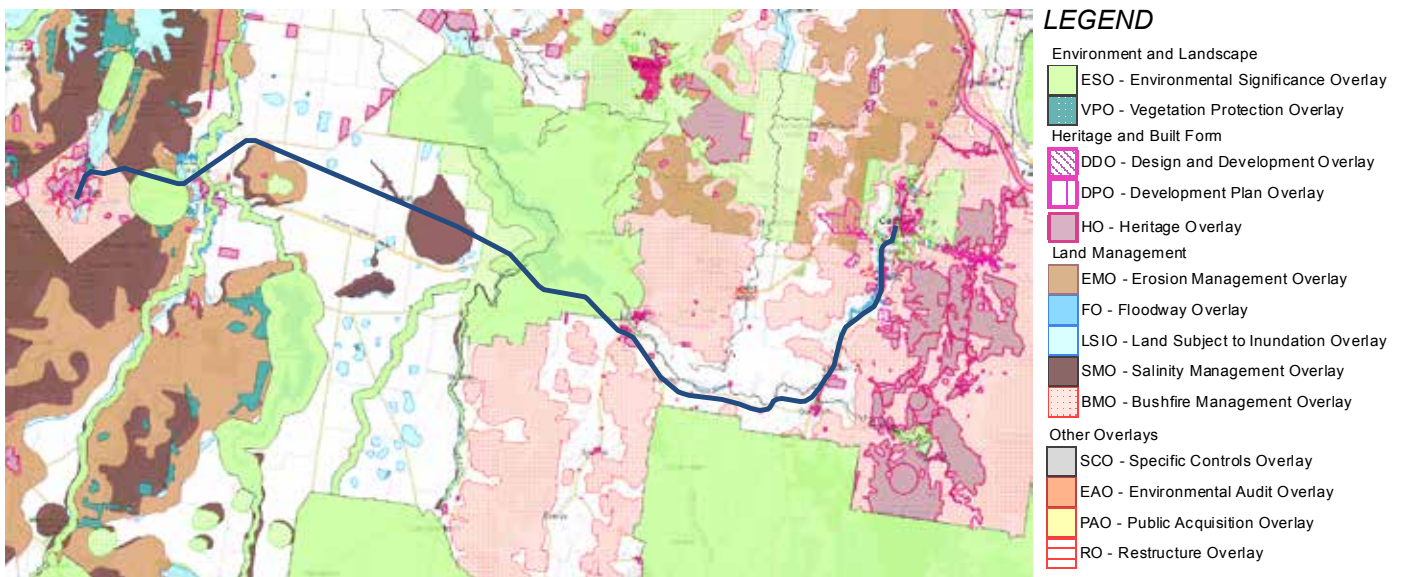
2.4 PLANNING CONTEXT

2.4.1 Planning Overlays

As shown in the figure below, the rail corridor is subject to a number of planning overlays including:

- An Environmental Significance Overlay (ESO) at Joyces Creek and around Carisbrook
- A Salinity Management Overlay (SMO) near Moolort
- A Heritage Overlay (HO) in Maryborough

Due to the overlays in place, any development along the rail corridor must be compatible with the environmental values present and not adversely impact the existing heritage.



F2.3: Planning overlays

Source: mapshare.vic.gov.au/vicplan



F2.4: Planning scheme

Source: mapshare.vic.gov.au/vicplan

2.4.2 Planning Scheme

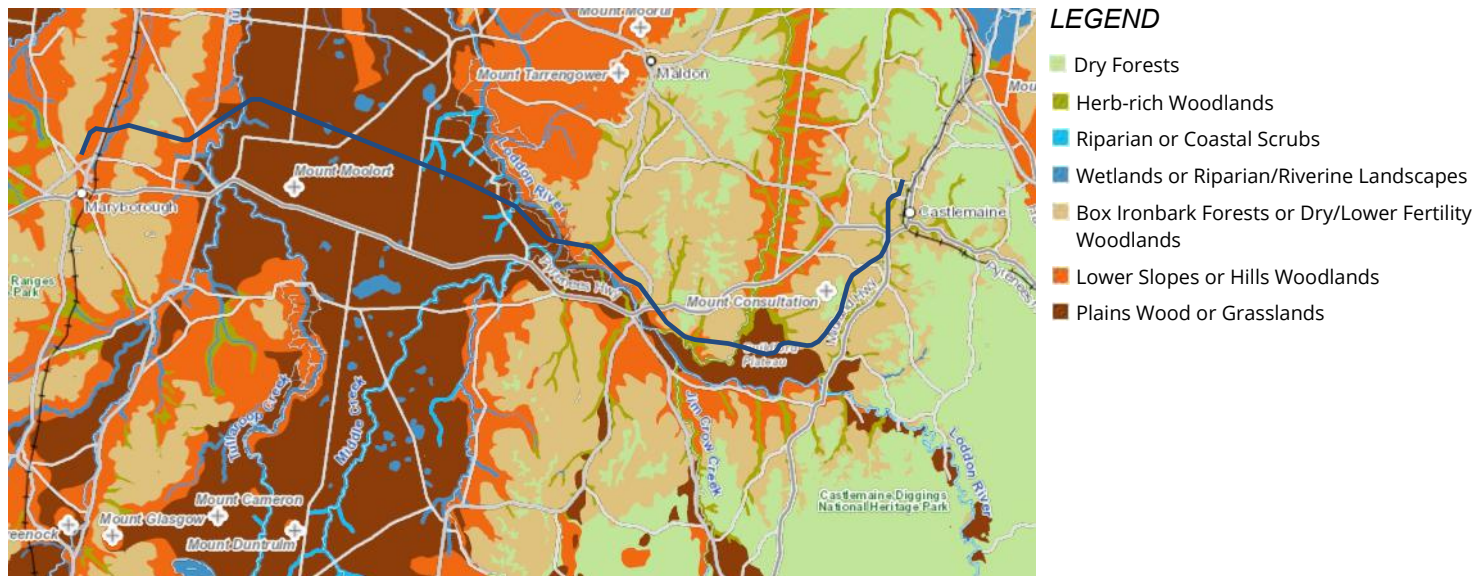
The majority of the land that the proposed rail trail passes through is zoned Farming Zone, which provides land for agriculture, as shown in Figure 2.4. The disused rail corridor itself is subject to Transport Zone 1 - State Transport Infrastructure (TRZ1) meaning that any works within the rail corridor need to be arranged with VicTrack, the land manager.

Adjacent to the trail, are a number of other planning zones that may need to be considered including:

- Township Zone and General Residential Zones around the townships and anchor towns
- Rural Living Zone around Carisbrook
- Public Conservation and Resource Zone around the Ironbark Forest outside Maryborough.

2.4.3 Ecological Vegetation Classes

Despite significant disturbance to the rail corridor and surrounds, it is possible to gain insights into the landscape type prior to European impact by examining the pre-1750 Ecological Vegetation Classes (EVC), refer to Figure 2.5 below. The dominant Ecological Vegetation Communities (EVCs) present alongside the rail line comprise Plains Woodlands or Grasslands, Lower Slopes or Hills Woodlands, and Box Ironbark Forests. Riparian areas and Herb-rich Woodlands can be observed adjacent to water bodies along the rail corridor.



F2.5: Pre-1750 Ecological Vegetation Classes

Source: mapshare.vic.gov.au/vicplan



Indigenous vegetation observed within the rail corridor near Moolort

2.5 GOLDFIELDS REGIONAL TRAIL NETWORK

The proposed shared use trail will connect into the wider trail network including the off-road Goldfields Track, the Castlemaine to Maldon Rail Trail and the Ballarat to Maryborough Heritage Trail (combination of off road and on road trails), as shown in Figure 2.6.

The proposed rail trail would create a loop within the existing network between Ballarat - Castlemaine and Maryborough. It also presents the opportunity for users to undertake a multi-day trip in the region.



F2.6: Goldfields trail network



3. Consultation

3.1 PRELIMINARY CONSULTATION SUMMARY

For the purposes of this study, initial consultation was undertaken and involved engaging with stakeholders and the local community. It is important to note that this consultation marks the initial phase of ongoing consultation that extends beyond the scope of this project.

The community engagement involved an on-line questionnaire which was promoted by the Councils as well as through other organisations with a potential interest in rail trails, such as Rail Trail Australia and Bicycle Network. The questionnaire was open for approximately six weeks over May, June and July 2023 and received 1347 responses.

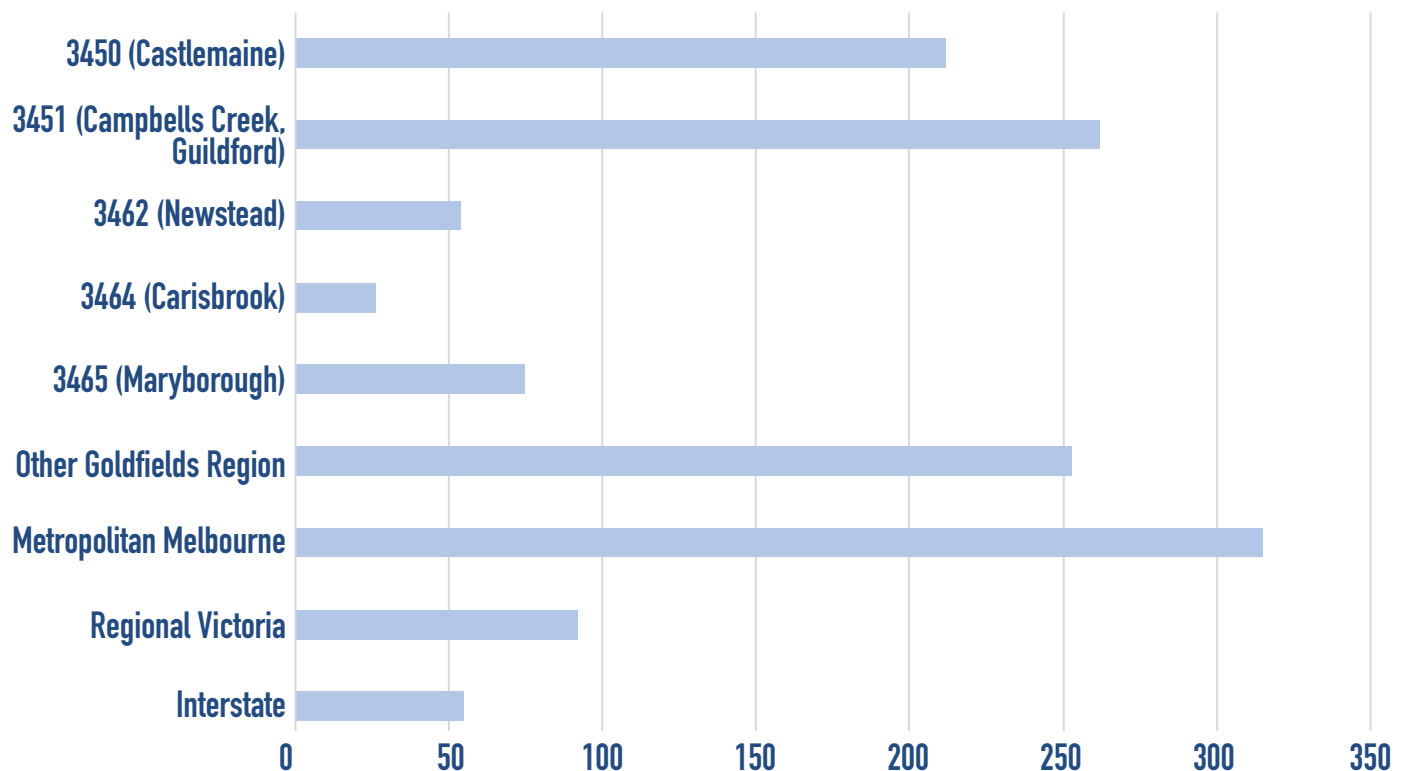
3.1.1 Key findings

The results of the questionnaire highlight the support from the local community and beyond for a rail trail between Castlemaine and Maryborough. Key findings from the questionnaire include:

- Almost half of the total respondents were from townships along the trail including Campbells Creek, Guildford, Castlemaine, Maryborough and Newstead.
- 95% of respondents support the development of a rail trail along the rail corridor if it is not to be used for rail transport.
- There was strong interest in both cycling and pedestrian use of the trail, as well as some interest in equestrian use.
- Fitness and access to natural and rural environments were the top motivations respondents listed for using the trail.
- A route for local residents separate from traffic, encouraging more visitors to see the region, and supporting local business were seen as the greatest benefits of the proposed rail trail.
- Less than 20% of respondents expressed concerns about the potential rail trail.

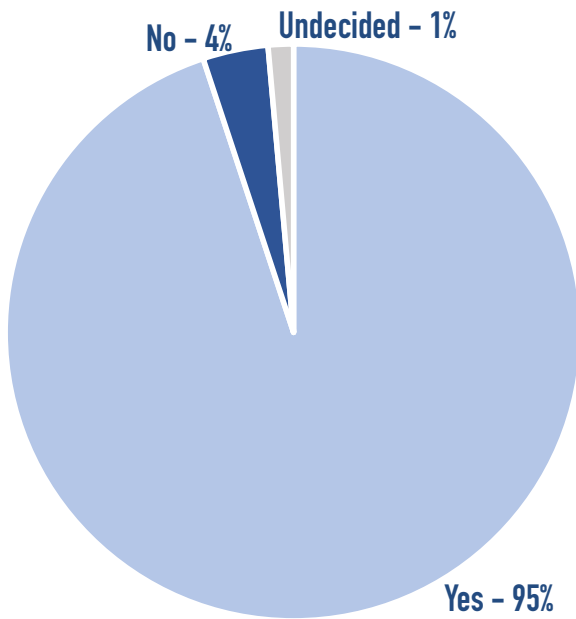
Overall, the high level of support indicates a promising outlook for a potential future rail trail and suggests that it could be a popular and well-received addition to the community.

T3.1: Respondent location (by number of respondents)



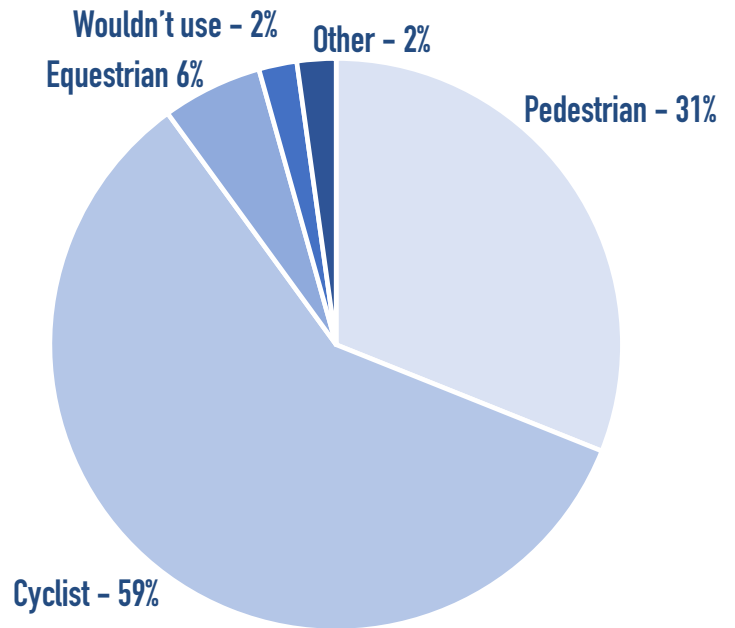
Q1 What is your residential postcode?

T3.2: Trail support



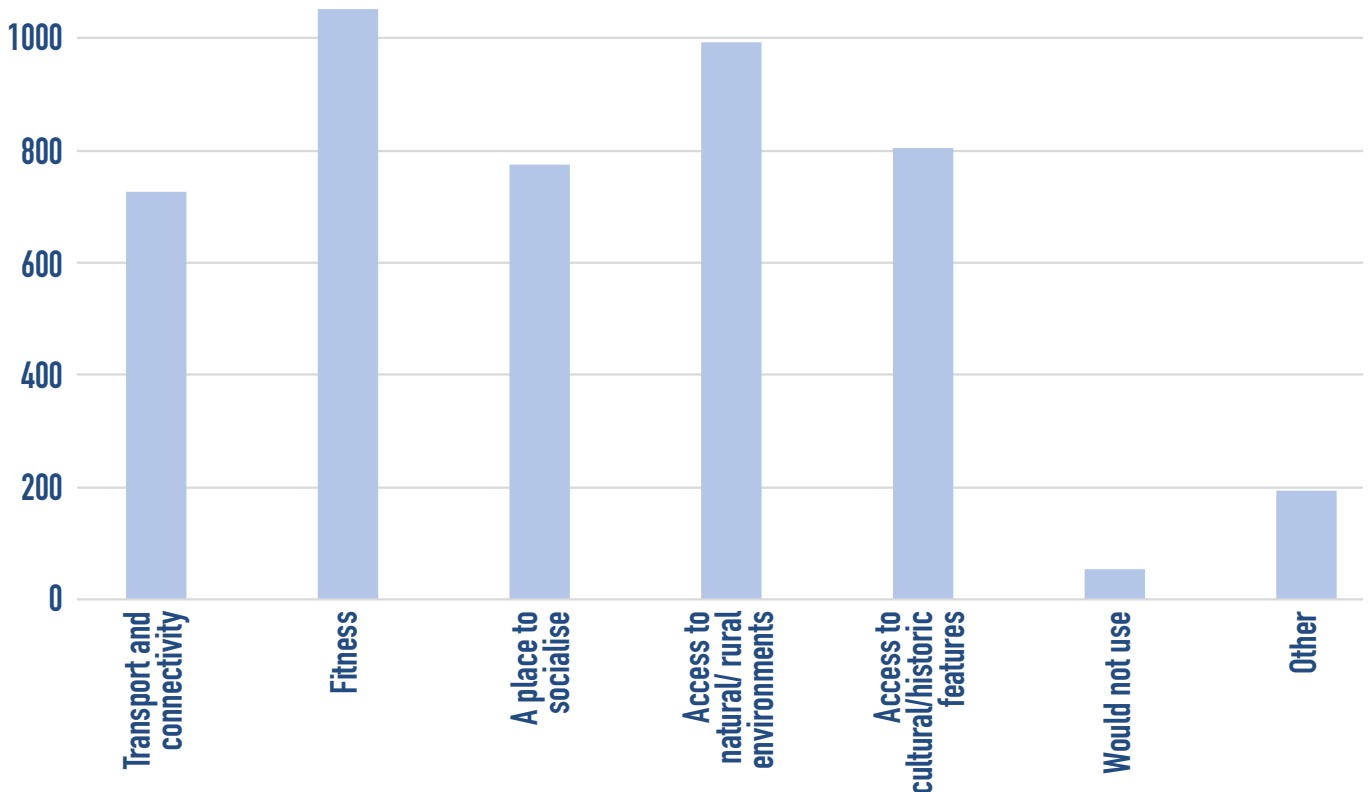
Q2 If the rail corridor between Castlemaine and Maryborough is not to be used for rail transport, do you support the development of a shared-use path for walking and cycling (i.e. Rail Trail) along this route?

T3.3: Mode of use



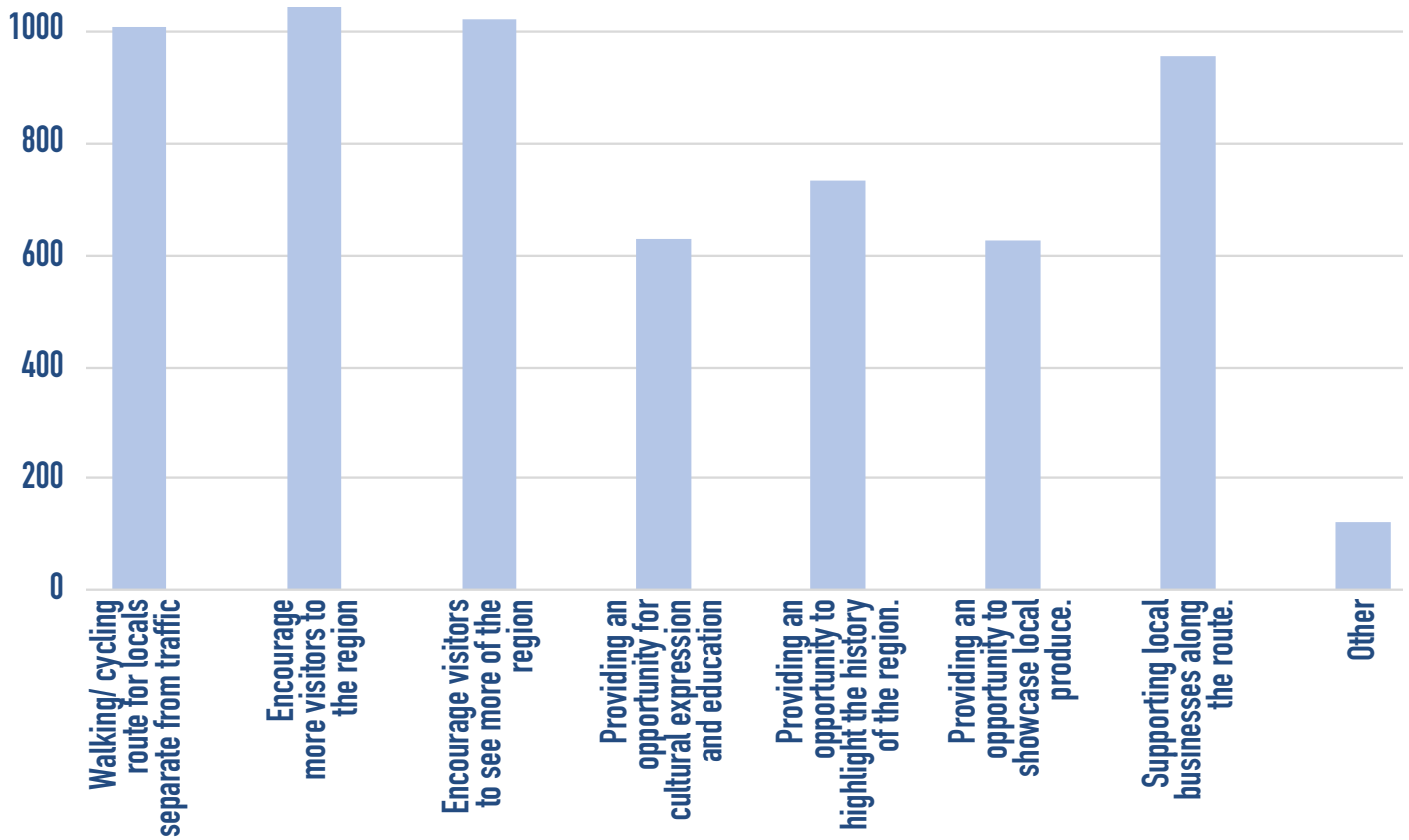
Q4 If there was a rail trail between Castlemaine and Maryborough, what modes of transport would you be likely to use on the trail?

T3.4: Motivations for use (by number of respondents)



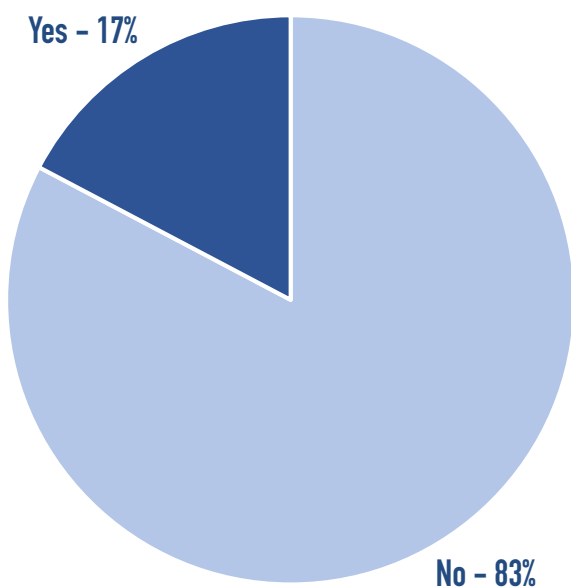
Q3 If the Castlemaine to Maryborough Rail Trail was developed along this rail corridor, what would be your motivations for using it? (Option to select more than one response)

T3.5: Trail benefits (by number of respondents)



Q5 What do you think would be the greatest benefits of a rail trail between Castlemaine and Maryborough?
 (Option to select more than one response)

T3.6: Concerns about trail development



Q7 Do you have any concerns about the development of a rail trail between Castlemaine and Maryborough?

The questionnaire encouraged respondents to leave any additional comments relating to any concerns they may have. Below is a summary of the common themes and issues that were raised:

- **Trail experience and quality** - including:
 - concern that the section between Joyces Creek and Carisbook wouldn't offer the best experience to trail users and may not be highly used.
 - trail needs to be world class, highlight the landscape and include supporting infrastructure (such as interpretive signage).
 - trail surface needs to be safe for cyclists
 - facilities to cater for camping along the trail
 - amenities along the trail including art and shade
- **Trail users** - concern that trail will not cater to all users, such as horse riders.
- **Timing** - such as the length of time a project like this takes to be fully realised.
- **Rail reinstatement** - including concern that the rail trail will prevent any future reinstatement of the train line.
- **Vegetation/ management** - concern regarding the potential spread of weeds and the potential threat to ecological communities along the rail corridor.
- **User behaviour** - including undesirable use such as trail bikes, anti-social behaviour, vandalism and littering.
- **Neighbouring properties** - concern regarding privacy and security for properties adjoining the proposed trail.
- **Maintenance** - concern about ability for the trail to be well maintained.
- **Priorities** - concern that the trail development is not the best use of public money.
- **Safety** - including the safe use of road crossings and potential conflict between users.

It is important that these key themes and issues be addressed in the development of the trail proposal. It is noted that most of the issues raised are not unique to this location and have been successfully addressed in the design and management of other similar trails.



4. The Trail

4.1 TRAIL CONCEPT

The existing character of the proposed trail setting can be expressed in three key conceptual themes: indigenous culture and nature, European and railway history and produce and production (see Figure 4.1). These themes cover existing traits of the region as well as points of interest and commercial activities. For example:

- **Indigenous culture and nature** - the surrounding area is rich with indigenous history and culture, in particular the landforms and remnant vegetation that can be observed at points along the trail. A range of opportunities exist to strongly integrate these significant landforms with indigenous stories and cultural expression along the trail.
- **Railway history** - The rail history can be seen in the remnant tracks and infrastructure still in place along the trail as well as the railway stations at Maryborough, Castlemaine, Newstead and Carisbrook.
- **European history** - Historic sites along the trail, such as the gold rush era Maryborough Station and the Carisbrook Log Gaol, speak to the history of the area



F4.1: Existing conceptual themes

- **Produce and Production** - The farmland surrounding the trail highlights the productive landscape of the area, local produce can be tasted at numerous pubs and cafés within the townships along the trail, and users can engage with the local arts and crafts scene at places such as the Newstead Arts Hub.

These interrelating themes strongly relate to the five product priorities (nature, arts & culture, wellness, food and drink, First Peoples') of the State Government as outlined in *Experience Victoria 2033*, with the exception of 'wellness'. However, the development of the trail would offer significant wellness benefits, including walking and cycling opportunities, and opportunities for connection to nature. The addition of wellness as a key theme in the ultimate conceptual scenario is shown in Figure 4.2.

These themes can be used as a foundation to develop and market destinations and experiences along the trail to attract locals and visitors.



F4.2: Ultimate conceptual themes

4.2 NAMING THE TRAIL

Should the proposed trail be developed, it will need an official name. Assigning a name to the trail is an important step as it identifies and distinguishes the trail, establishes a basis for unique market positioning, and fosters a sense of community ownership.

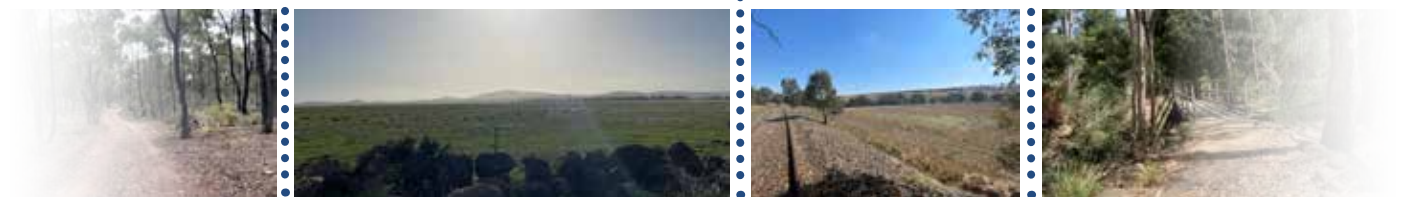
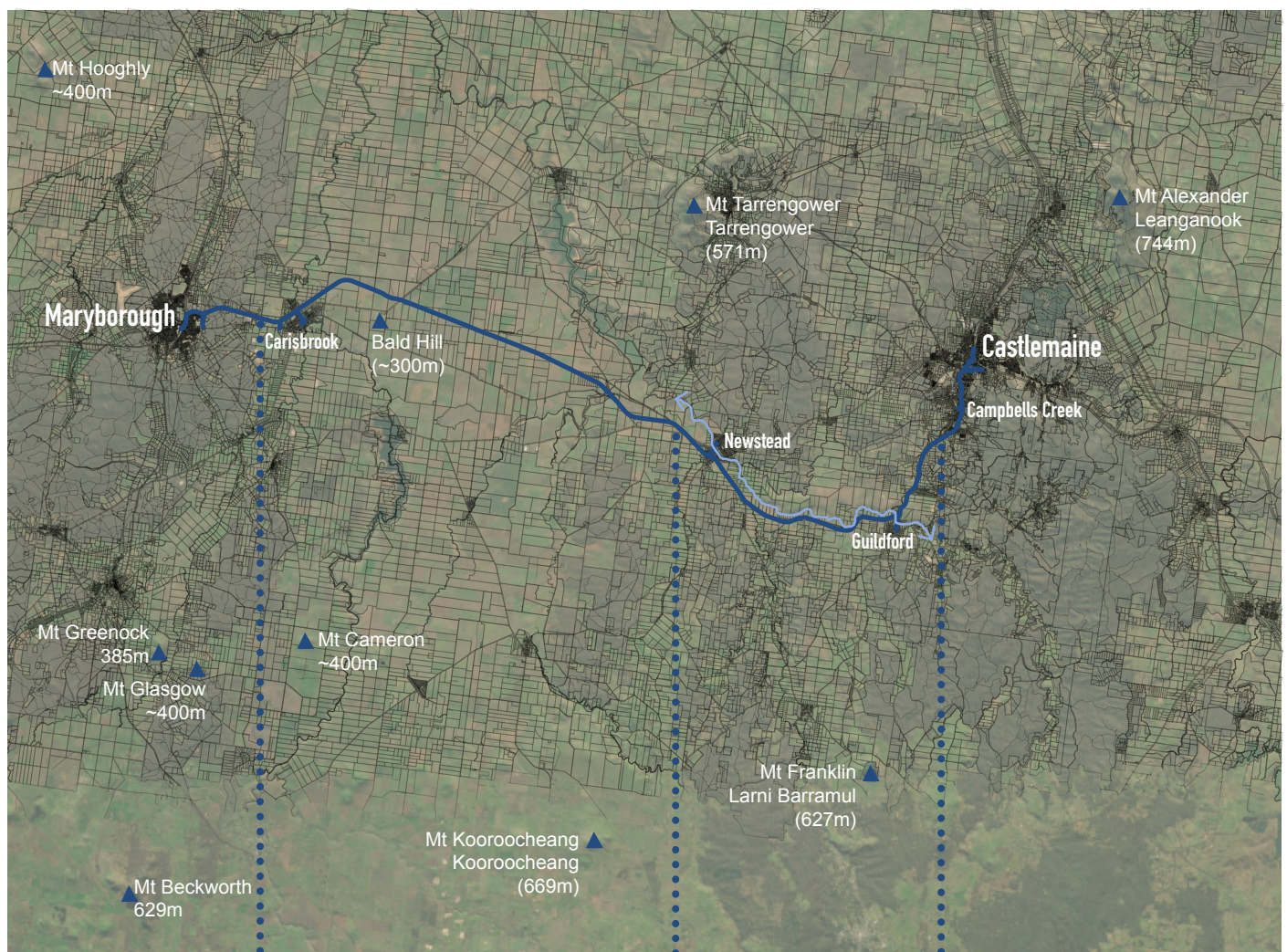
It is proposed that the official trail name be selected by key stakeholders in a process separate from this study. However, in the preparation of this study a number of potential naming options have emerged. These are noted below along with the relative benefits of each:

- **Castlemaine Maryborough Rail Trail.** Already in use informally, retaining this name presents several advantages:
 - The inclusion of 'Castlemaine' and 'Maryborough' emphasises the location of the trail and the train stations at each end (a strong selling point for potential trail users and a point of difference compared to other rail trails).
 - Incorporating the term 'rail trail' in the name clearly communicates the type of trail experience people can expect.
 - Providing a sense of continuity to the local community and those who have already engaged with the project to date.
- **Moolort Rail Trail** or **The Moolort Line.** This name option presents the following key benefits:
 - The word Moolort is believed to be an Aboriginal word which could align the trail with a first nations focus.
 - The Moolort Line refers to a name historically used to describe the rail line between Castlemaine and Maryborough.
 - Indicates the location of the trail, Moolort, the halfway point on the trail.
 - Potentially incorporates the term 'rail trail', clearly communicating the type of trail experience people can expect.
 - Refers to the Moolort Plains, the dominant landscape character type experienced along the trail.
 - Is shorter than the currently-used name.
- A new indigenous cultural name, to be decided upon by the Dja Dja Wurrung. The benefits of this approach would be:
 - a very strong alignment of the trail with a First Nations focus, which creates a clear point of difference with other rails trails.

4.3 TRAIL CHARACTER

The landscape character of the region can be observed at different points along the trail adding to the unique trail experience. As shown in Figure 4.3, the distinctive characteristics can be seen in the Ironbark forest in Maryborough, the open fields of the Moolort Plains, the Loddon River valley and escarpment and the creekside environment of Campbells Creek.

As a part of the indigenous cultural tour undertaken as a part of this study, landmark landforms in the landscape were identified as an opportunity for cultural story-telling and expression, with a focus upon Larni Barramul (Mt Franklin). This and other prominent landforms surrounding the trail are mapped below. These are particularly evident on the Moolort Plains, where view lines are open. This, along with evidence of a strong historic indigenous presence on the resource-rich Moolort Plains, identifies this as a potential focal point for First Nations cultural expression.



Ironbark forest

Moolort Plains

Loddon River valley and escarpment

Creekside

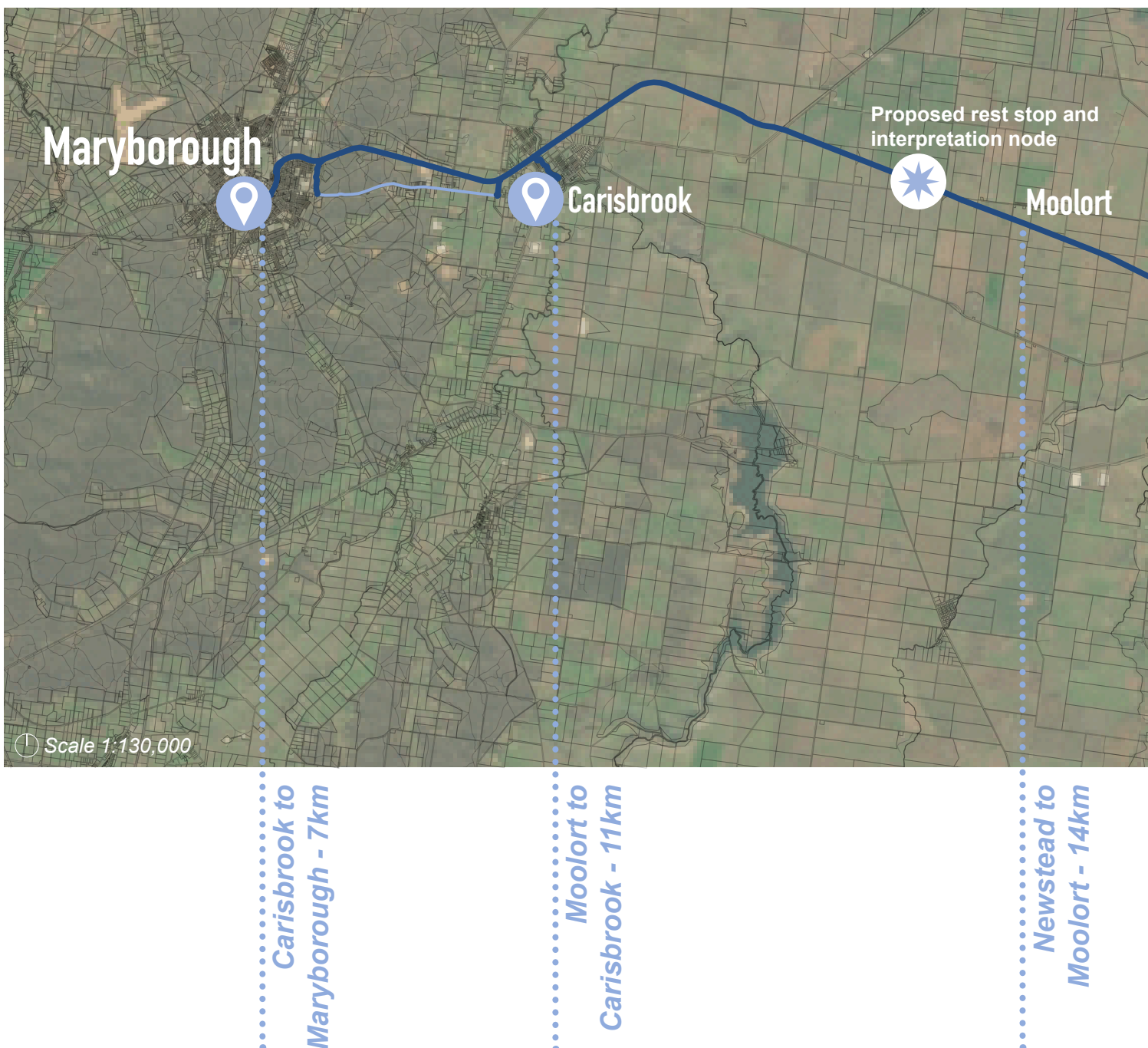
F4.3: Landscape character

4.4 TRAIL ALIGNMENT

The entirety of the trail between Castlemaine and Maryborough is located along public land including the disused rail line (part of which is leased by VicTrack), road reserves and waterways. Aligning the trail as recommended in the following maps will ensure there is no need for private land leasing or acquisition.

Shared path connections into Campbells Creek, Guildford, Newstead and Carisbrook are proposed to be implemented as part of the core trail works due to the importance of these links to realise benefits to local communities for economic development, active transport and recreation opportunities. Detailed maps of the recommended alignments into each of these townships can be viewed in the following pages.

The existing trail from Maryborough to Carisbrook, and the existing Campbells Creek Trail from Castlemaine to Campbells Creek township both run approximately parallel to the rail alignment. These are proposed to be supplementary to the main rail alignment, presenting the opportunity to connect these to the rail alignment to create trail loops.

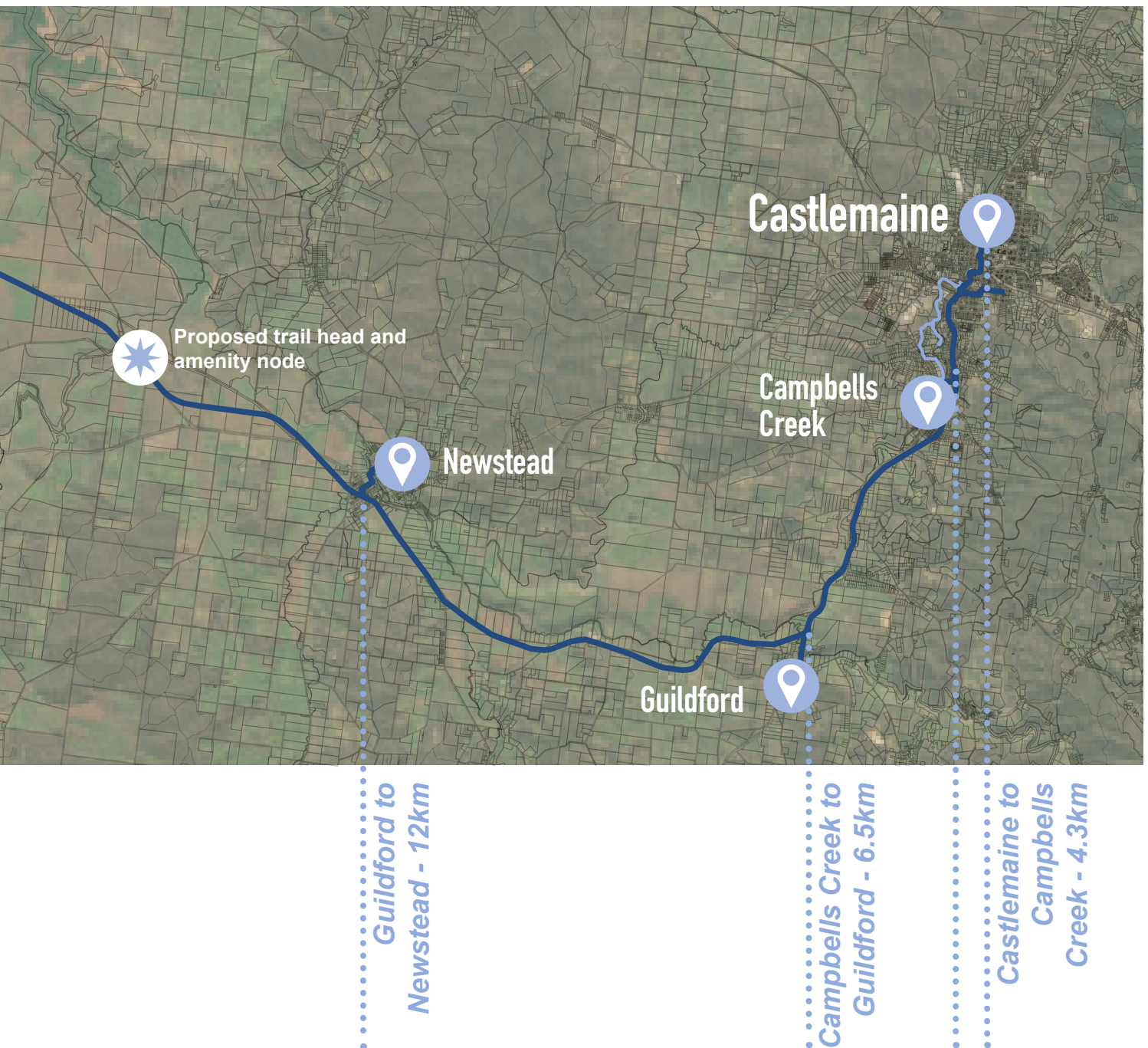


F4.4: Proposed rail trail alignment

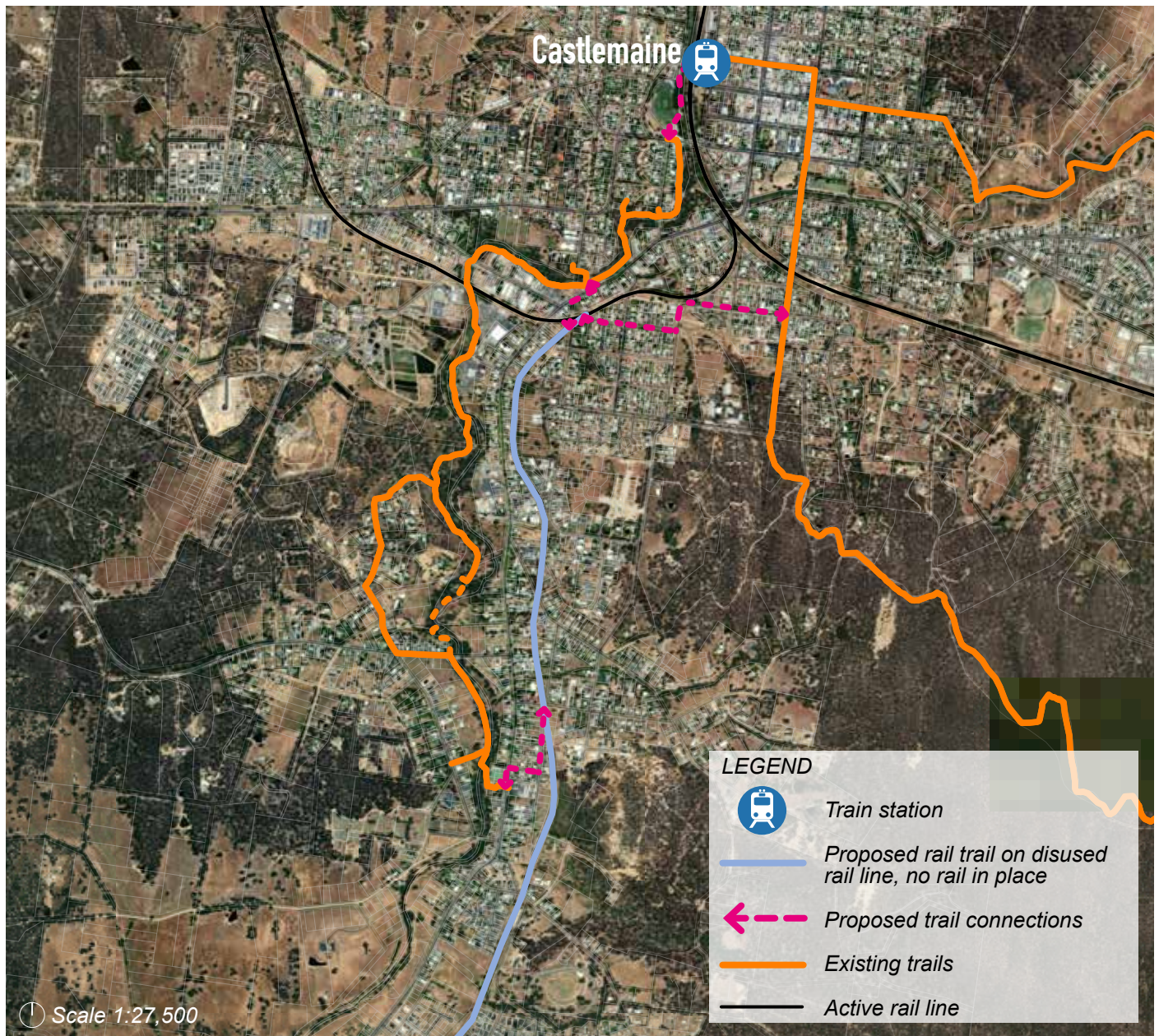
The towns along the route are relatively evenly spaced, as shown in figure 4.4, providing the required amenities, such as public toilets and rest areas, as well as points of interest for trail users such as a food and beverage offerings. The largest gap between towns and associated amenities is between Newstead and Carisbrook (over 20km). As such, two new nodes are proposed to address this gap.

A trail head and amenity node is proposed on the eastern side of the Joyces Creek Railway Bridge which is recommended to be developed as a destination in itself. This node is proposed to include a public toilet, rest area and car parking.

A secondary node is proposed at a high point on the Moolort Plains section of the trail with an indigenous culture and nature focus. This node will include a rest area and an opportunity for interpretation and indigenous storytelling. This node will not only fill the physical gap between amenities but also the under-appreciated cultural and natural values of this area.



4.4.1 Castlemaine To Campbells Creek

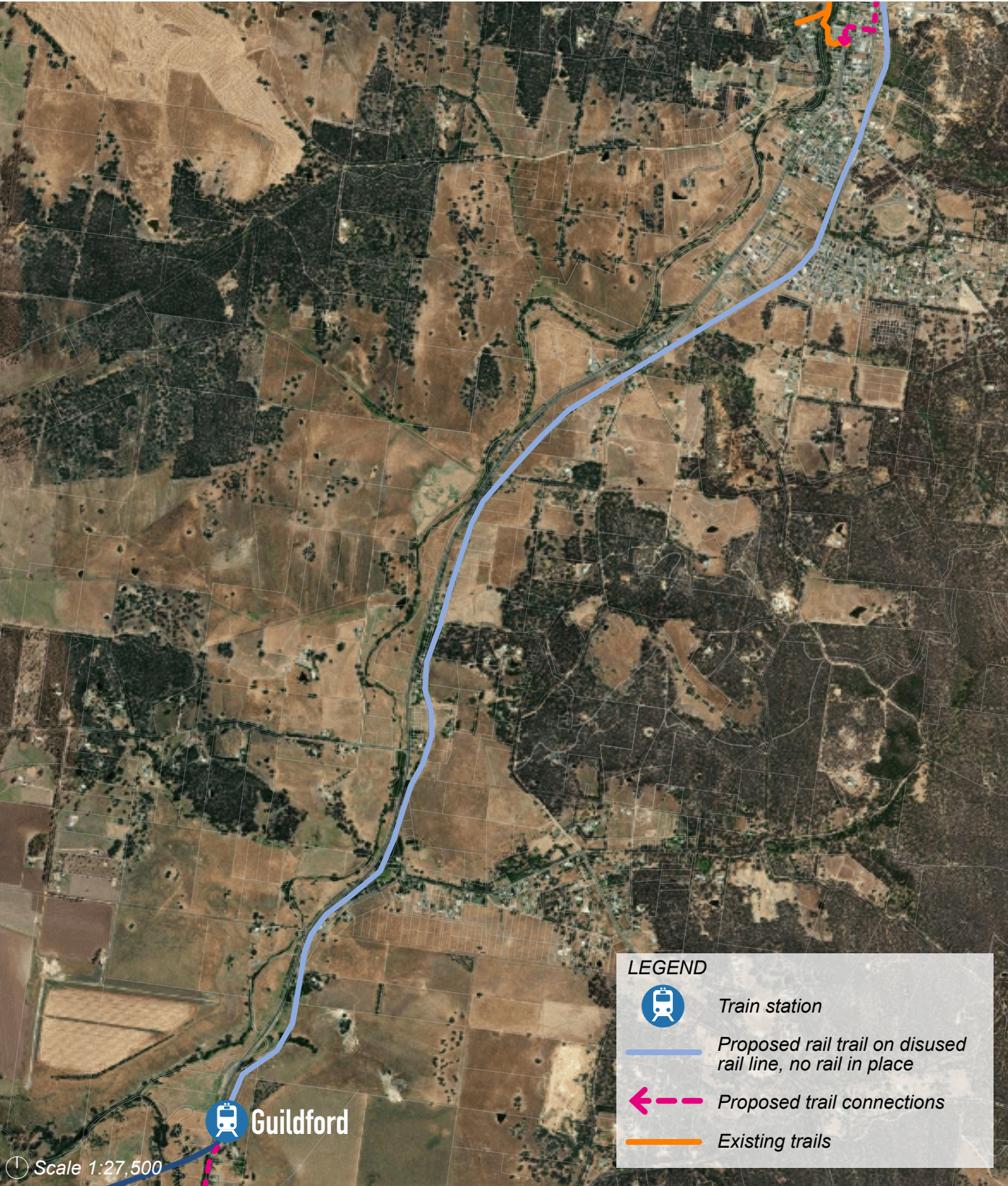


This section of the proposed trail begins at Castlemaine Station, then passes through Camp Reserve (in line with Council’s 2020 *Camp Reserve Master Plan*) to Forest Street where it connects with the Campbells Creek Trail. The proposed trail then follows the Campbells Creek Trail to the crossing over the Pyrenees Highway where new sections of trail are proposed to cross over the Victorian Goldfield Railway line and connecting to the disused rail line.

The proposed trail works also include a connection to the Goldfields Track providing an alternative on-road route and directing trail users into the centre of Castlemaine. It will also provide a secondary connection to the rail trail in case of flooding along Campbells Creek, an issue identified as negatively impacting users of the Campbells Creek Trail.

The location and proximity of the Campbells Creek Trail presents the opportunity to create a loop between Castlemaine and Campbells Creek which will cater to those wishing to travel shorter distances.

4.4.2 Campbells Creek To Guildford



From Castlemaine, the rail trail continues along the disused rail line in to the township of Campbells Creek where and additional connection to the Campbells Creek Trail is proposed.

The trail then continues along the rail corridor to the township to Guildford.

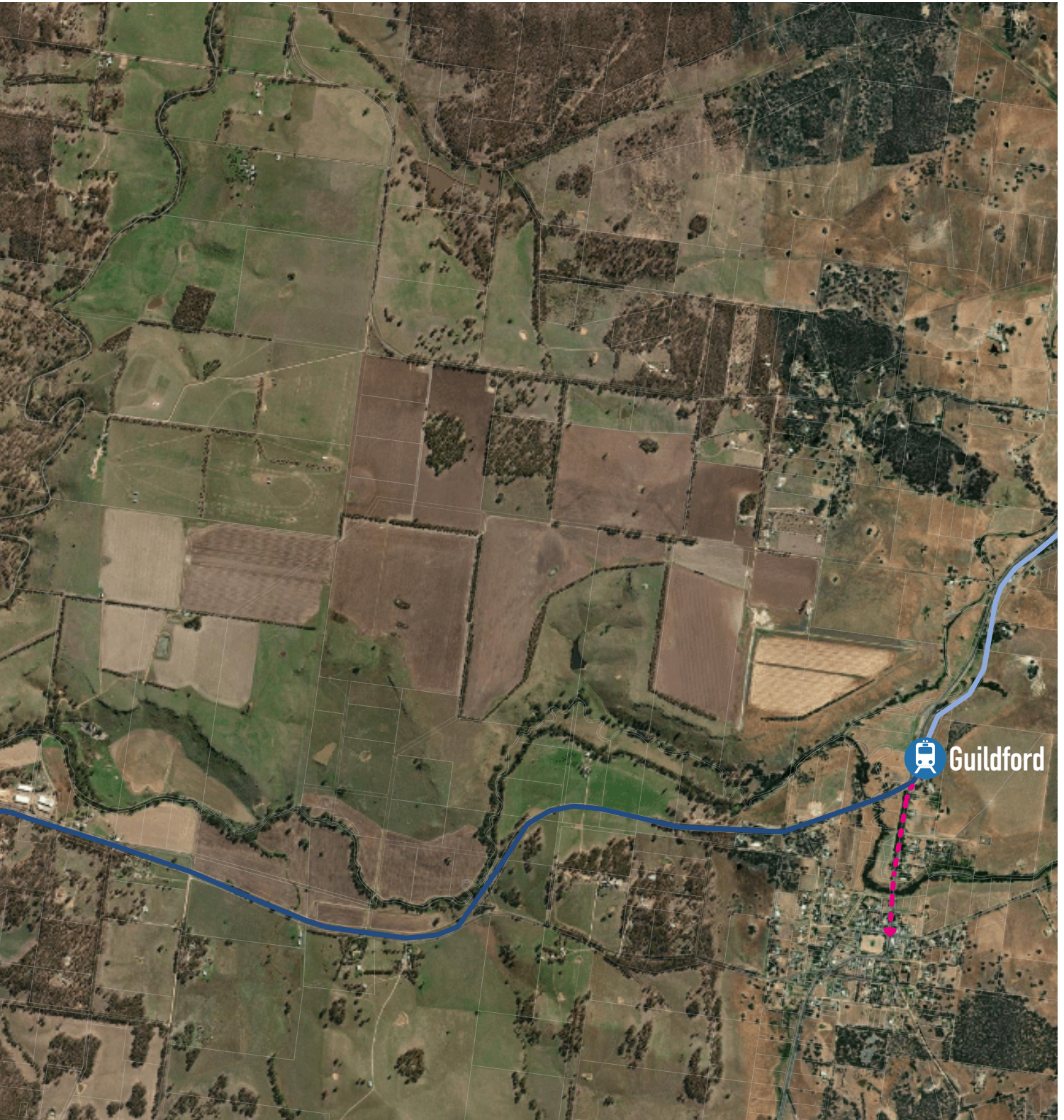
4.4.3 Guildford To Newstead

At the old Guildford Station, a connection is proposed along the Midland Highway into the township of Guildford. This connection aims to entice trail users to explore Guildford and its attractions such as food and beverage offerings, points of interest (i.e. the Big Tree) and rest stop amenities.



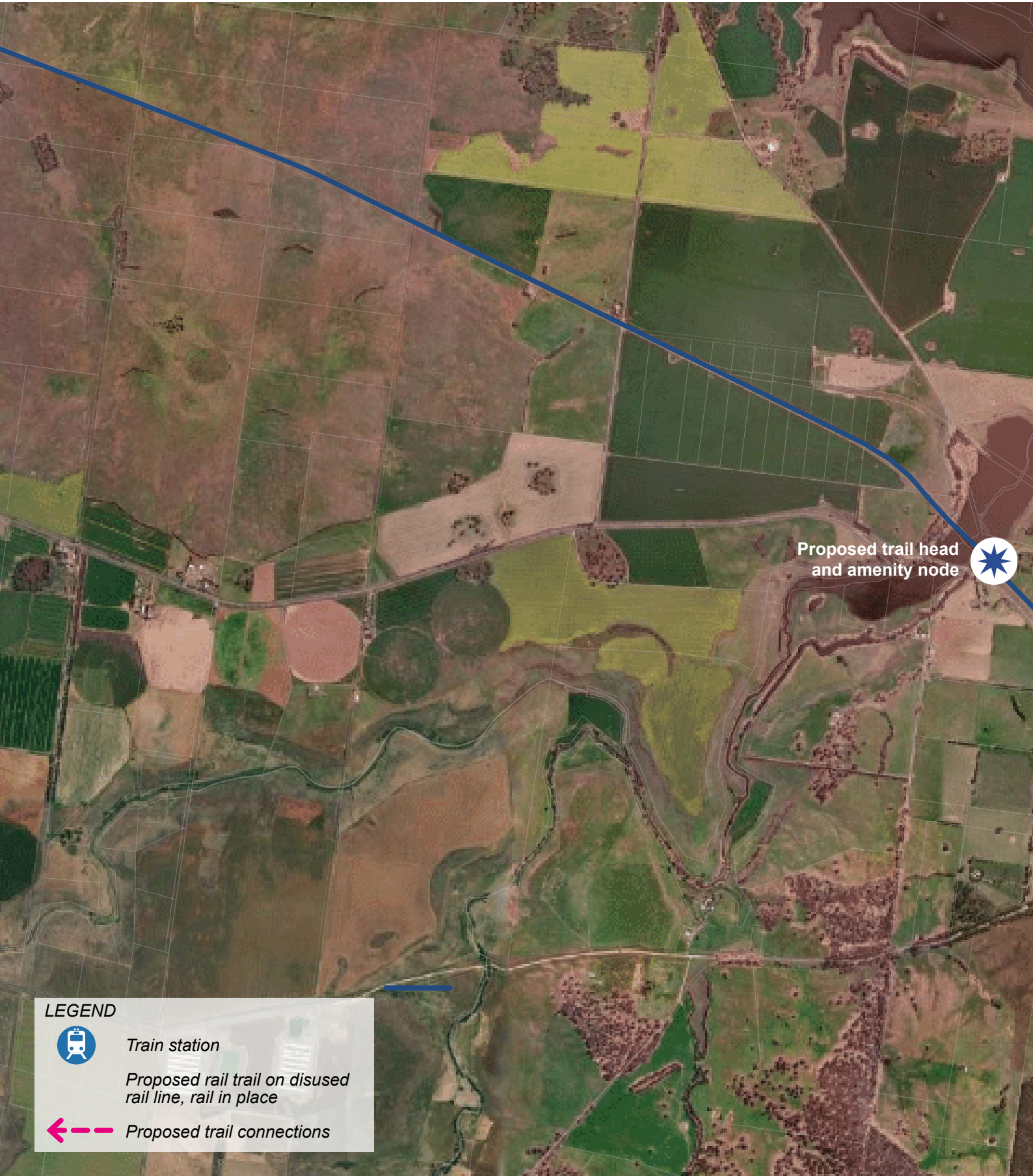
From Guildford, the trail continues along the disused rail line to Newstead with a proposed connection into Newstead along existing roads and over the Loddon River.

As shown in the plan below, the rail line is still in place for this section of the proposed trail and will require removal prior to developing the trail.



4.4.4 Newstead To Moolort

From Newstead, the trail continues along the disused rail line to the Joyces Creek Railway bridge where a new trail head and amenity node are proposed. This node, with access to the impressive bridge, has the potential to become a destination in itself. From here, the trail continues west along the Moolort Plains.





Newstead 

Scale 1:27,500

4.4.5 Moolort To Carisbrook

The trail continues along the disused rail line across the Moolort Plains, to Carisbrook, passing through a proposed rest stop and interpretation node located on a high point with views to the surrounding landscape and landmark landforms.

At Carisbrook a connection is proposed along the newly installed trail along the Tullaroop Creek directing trail users into the main street of the township.



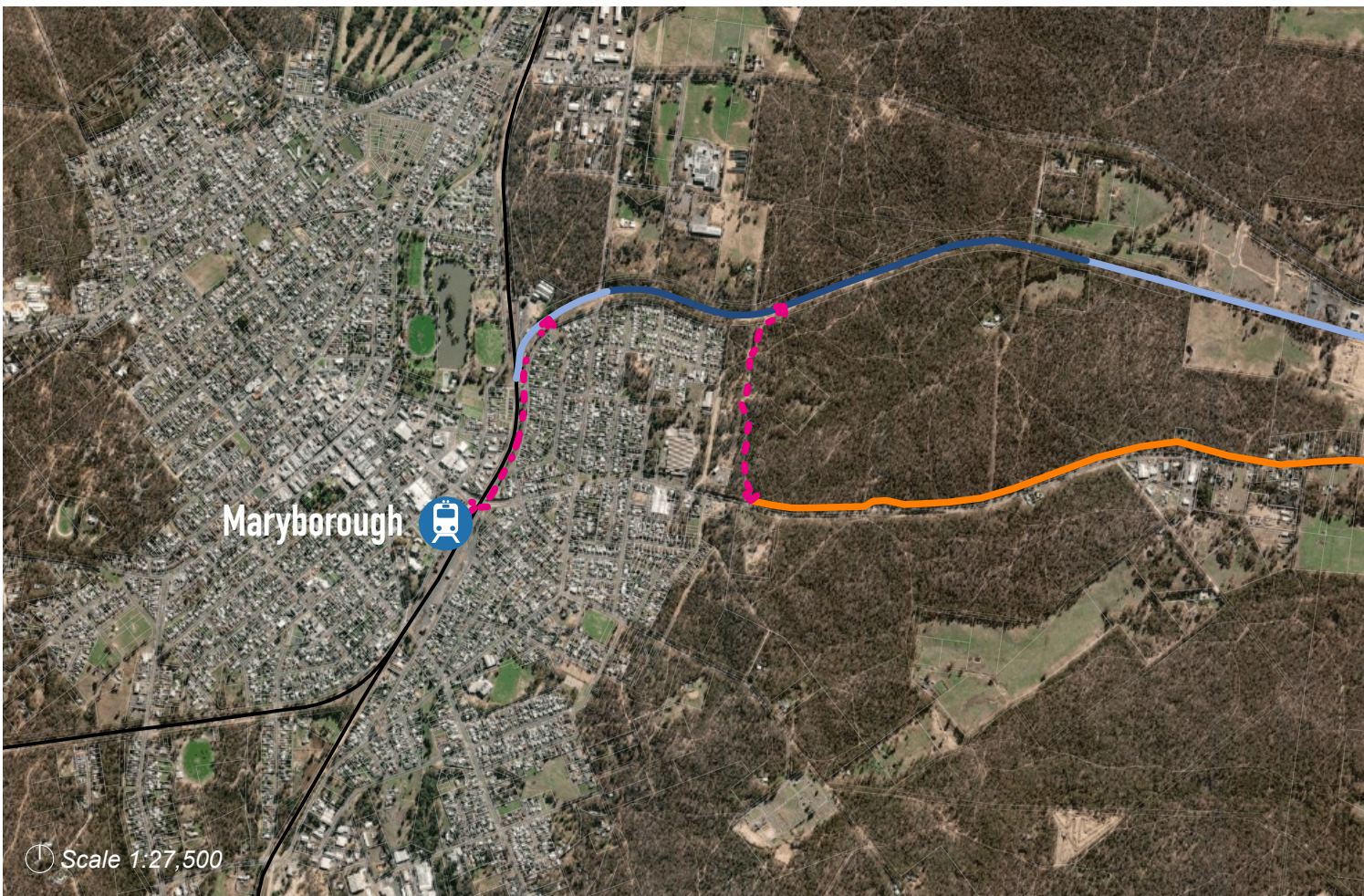


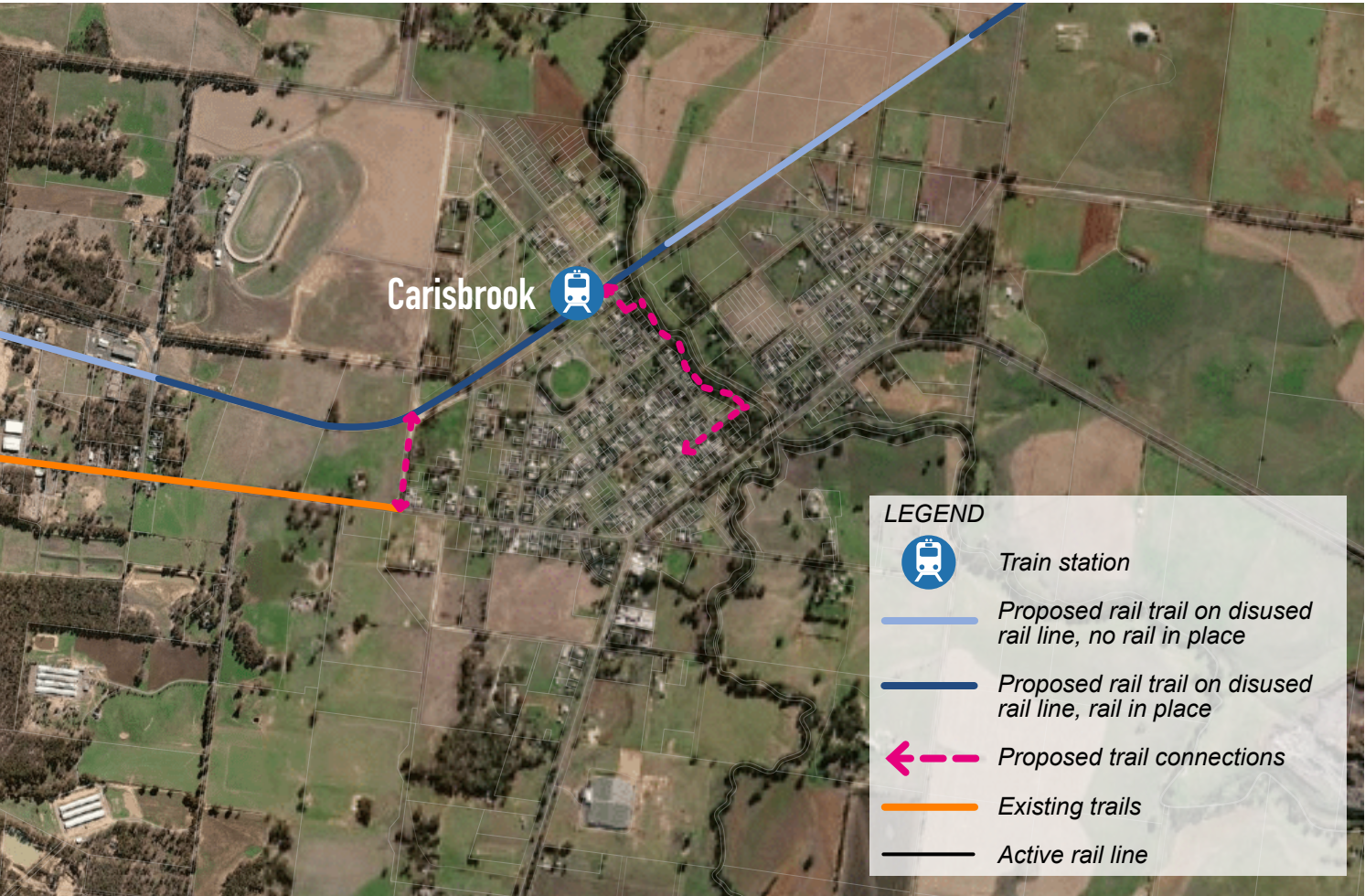
4.4.6 Carisbrook To Maryborough

From Carisbrook the trail continues along the rail corridor, through the Ironbark Forest where it meets the active train line in Maryborough. At this point, the trail is proposed to continue along Golden Wattle Drive, over the Pyrenees Highway to Maryborough Station, the end point for the rail trail.

As shown in the map below, an existing trail between Maryborough and Carisbrook runs alongside the Pyrenees Highway connecting the townships of Maryborough and Carisbrook. Two additional sections of trail are proposed to connect this trail to the rail trail; one through the Ironbark Forest and the other along Pleasant Street. This will allow for loop paths which would create additional route options for trail users wishing to travel shorter distances.

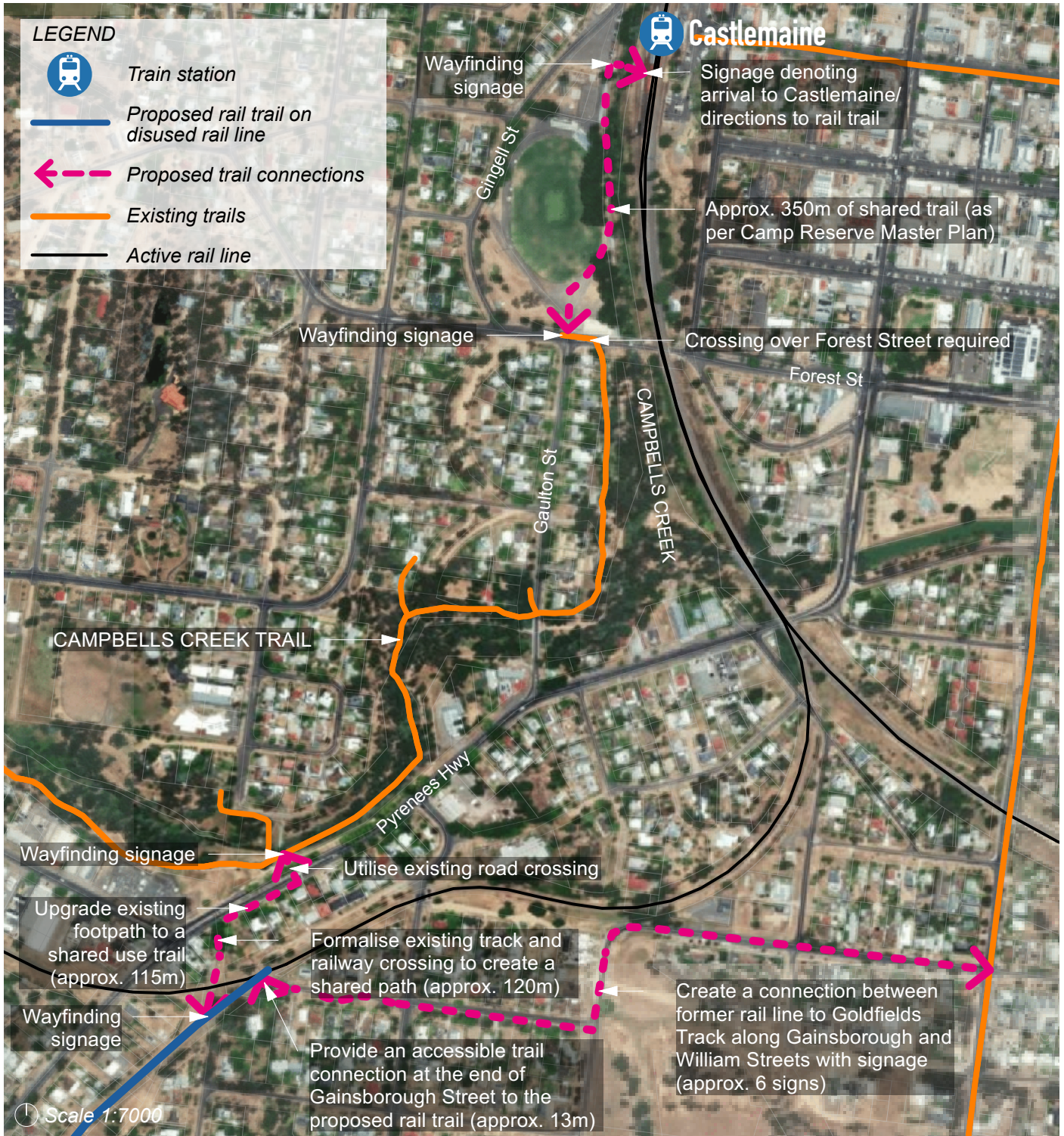
While the remainder of the proposed trail follows the former rail line, this particular segment is currently managed by VLine. Therefore, before entering into a lease with VicTrack, there is a requirement for the lease to be transferred from VLine back to VicTrack. This process could potentially impact the timelines for the completion of the trail





4.4.7 Castlemaine

The map below outlines the recommended route and the steps required to connect Castlemaine Station with the starting point of the rail trail. The proposed route passes through Camp Reserve and then utilises the Campbells Creek Trail to the top of the former rail line.



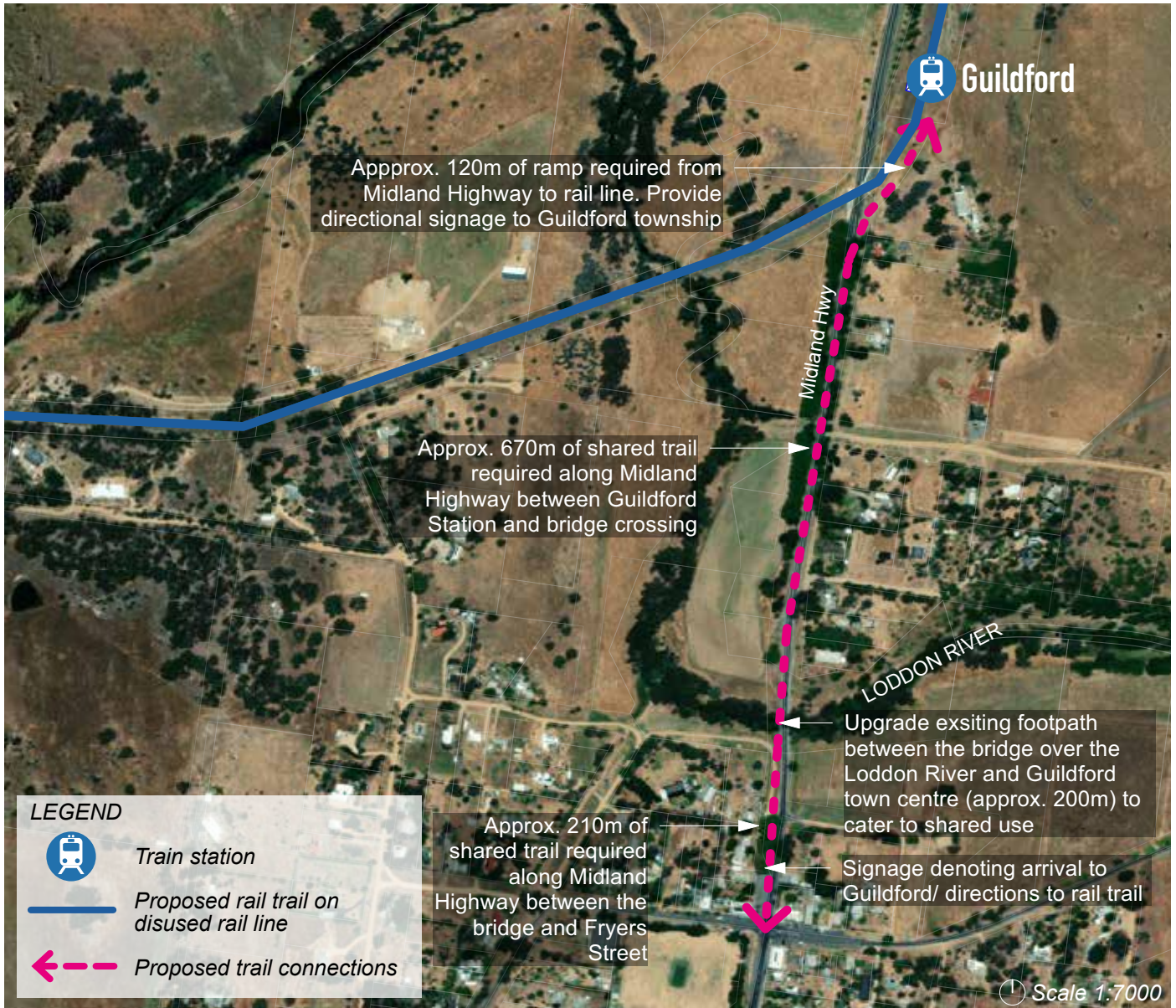
4.4.8 Campbells Creek

In order to connect the proposed rail trail to the Campbells Creek Trail, works are proposed to existing roads and footpaths to cater for shared trail use. These works include implementation of trail infrastructure along existing roads, road crossings, upgrading of existing footpaths and signage as outlined below.



4.4.9 Guildford

A shared trail along the Midland Highway from Guildford Station to the town centre is proposed to connect trail users to the township of Guildford. The steps required to achieve this are outlined below.



4.4.11 Carisbrook

The trail alignment to the Carisbrook township uses the existing trail along Tullaroop Creek and requires only small sections of new trail to be built at either end as shown below.

A small section of trail is also proposed along Pleasant Street which will connect the Maryborough to Carisbrook Trail with the former rail line creating a loop trail which may appeal to users wishing to travel shorter distances without needing to backtrack along the same trail.



4.4.12 Maryborough

The alignment shown below proposes a new trail along Golden Wattle Drive connecting the rail trail to the Maryborough Station using the existing crossings over the Pyrenees Highway and active rail line.



4.5 TRAIL INFRASTRUCTURE + DESIGN

There are a wide variety of elements that make up a rail trail. Firstly there is the trail surface itself, which can vary in width and construction material. Trails often also have a range of supporting infrastructure, including signs (both directional signs to tell people where the trails lead, as well as hazard and use-related signs), bike fixing stations, seats, shelter, and drinking fountains. All of these elements play a role in the way a trail is used and influence the trail-use experience. The type and quality of facilities also have broader impacts upon the way trails present themselves and are perceived, impacting upon the character of a place and sense of community.

The recommendations within this chapter generally outline the ideal outcomes that have been accounted for as part of the feasibility study however, there are various factors involved in trail and infrastructure implementation that will require case by case consideration.

4.5.1 Trail surface

Rail trails can be constructed using either a sealed surface (most commonly asphalt but may also be concrete) or an unsealed surface (usually compacted gravel). The relative benefits and issues with each surface type are summarised in the table below.

As noted in Table 4.1, sealed surfaces are more expensive to install, however it should be noted that the difference in upfront costs are relatively minor compared to the ongoing maintenance costs, i.e. decisions to use gravel surfaces based primarily upon installation costs should be very mindful of the ongoing maintenance costs. Other specialist surfaces (such as boardwalks, concrete) should be used sparingly to address specific circumstances due to the high costs of construction, potential long-term maintenance costs and safety concerns.

Furthermore, rail trails featuring a sealed surface are considered to offer a premium experience for users, for example the Murray to Mountains Trail.

Due to concern around ongoing maintenance costs, the aspiration for the Castlemaine to Maryborough Rail Trail to offer a premium experience, accessibility for all abilities use and the economic benefits of a sealed trail (refer to the Cost Benefit Analysis), it is recommended that the trail be constructed primarily of an asphalt surface.



Murray to Mountains Trail
Source: www.ridehighcountry.com.au/rail-trails/murray-to-mountains/the-long-ride-to-bright/

Rail Trails Australia's *Rail Trail Establishment Guidelines* recommend a minimum width 2.5m, preferably 3m wide where practical. This will allow for the multiple user types that will use the trail and reduce potential conflicts.

T4.1 Trail surface material comparison

Material	Positive attributes	Negative attributes
Bitumen/ asphalt	<ul style="list-style-type: none"> • Flexible sealed surface, meaning that it does not need regular joints, and any lifting of pavement tends to occur gradually, initially creating rises and falls within a surface rather than abrupt cracks and edges. • Ongoing maintenance is less expensive than an unsealed surface. • Accessible for all abilities use. • Sealed surface trails considered a 'premium' product 	<ul style="list-style-type: none"> • Because of the flexibility of the material, it may require edging to prevent edges deteriorating. • Problematic when installed on highly reactive subgrades such as clay. Shrink-swell behaviour of reactive subgrades can cause cracking to pavement. • Installation costs more expensive than an unsealed surface. • Inappropriate for equestrian use (except where a separate parallel unsealed path is provided).
Gravel	<ul style="list-style-type: none"> • Provides a more natural trail character than a sealed surface. • Preferred surface for equestrian use. • Less expensive than a sealed surface. • Reduces speed of cyclists minimising trail conflict between cyclists and other users. 	<ul style="list-style-type: none"> • Variable quality, dependent upon the material used, the quality of the installation and drainage conditions. • Susceptible to water damage (erosion from water flowing, flooding, and softening from pooling water). • Edge maintenance can be an issue if a hard edge is not provided. • Does not provide all abilities access due to uneven surface. • More regular, intensive and expensive maintenance required.
Concrete	<ul style="list-style-type: none"> • Durable - very little maintenance required once installed. • Ongoing maintenance is less expensive than an unsealed surface. • Accessible for all abilities use. • Sealed surface trails considered a 'premium' product 	<ul style="list-style-type: none"> • Inflexible - if tree roots or subsurface conditions cause movement, this will result in cracking and abrupt level changes creating significant hazards. • Regular jointing required, which can create a bumpy ride for cyclists if tooled joints are used (alternative joints are now commonly used). • Runners often avoid using concrete surfaces because the inflexible surface can be harsh on joints. • Most expensive in terms installation costs than the other two options identified here. • Inappropriate for equestrian use.

4.5.2 Equestrian Use

Community engagement undertaken as a part of this study has identified some interest in equestrian use of the proposed trail. There are benefits to having a trail appeal to as broad a range of users as possible, however there are also specific practical considerations that relate to equestrian use of trails of this nature.

- **Bridges** - The presence of long and narrow bridges along the route creates significant safety concerns relating to equestrian use. Narrow widths mean that space is not available for horses and other trail users to pass each other safely. Horse riders sit higher than cyclists, and the balustrading typically provided would not provide an adequate barrier for any equestrian falls that may occur on narrow bridges. Addressing these safety concerns in the design (for example by creating a wider bridge surface and raising balustrade heights), would significantly increase the cost of bridge works if this was to occur for all 26 bridges existing along the proposed route.
- **Surface** - For a variety of other reasons identified in Table 4.1, asphalt is the recommended surface for the proposed trail and is not suitable for equestrian use. *Rail Trails Australia* recommends a separate dirt path alongside the main trail for equestrian use in these circumstances. This depends upon suitable space being available (which is not the case for bridges and some embankments existing along the route), and increases the trail footprint (with potential impacts on things like native vegetation retention). The provision and maintenance of a separate alignment also has resource and cost implications.
- **Trail head** - To accommodate horse riders, a trail head where vehicles can access the trail is required. Ideally, a trail head would include watering points, sufficient parking areas with adequate space for horse floats, and holding yards.



Opportunity 1 :
5km, Maryborough :
to Carisbrook :

Opportunity 2 :
7.5km, Moolort :
Plains :

Opportunity 3 :
5.5km, Guildford to :
Campbells Creek :

F4.5: Potential equestrian use opportunities

Based upon these considerations as they relate to the proposed trail route, making the whole trail accessible for equestrian use is not recommended. However, the proposed trail alignment has been assessed in order to identify sections of trail that may be more suited to equestrian use. Desired characteristics included:

- Sections of trail that did not include a large number of bridges, or long bridges (such as those found at the Loddon River, Tullaroop Creek and Joyces Creek).
- A relatively long trail section with sufficient width to accommodate a separate parallel trail.
- Appropriate sites with adequate space and vehicle access for trail heads and parking facilities to at least one end of the proposed equestrian-use segment.
- A desirable setting/character, providing an experience that will attract use.

As shown in Figure 4.5 and summarised in Table 4.2, three potential equestrian use sections of proposed trail have been identified:

- Maryborough to Carisbrook
- Moolort Siding to Joyces Creek bridge
- Guildford to Campbells Creek

These sections are relatively short in length, ranging from 5 to 7.5km one-way, and as such, further investigation and consultation with equestrian users groups is required to determine if any of the above sections are desirable.

If a longer segment of the trail is preferred over the opportunities identified in Figure 4.5, it is anticipated that extra funding will be necessary, particularly in regard to upgrading the bridges to cater for equestrian use. Further investigations during the project’s later phases will be needed to evaluate the preferred trail location(s) for equestrian use, the optimal length, and the estimated cost.

T4.2 Equestrian use opportunities

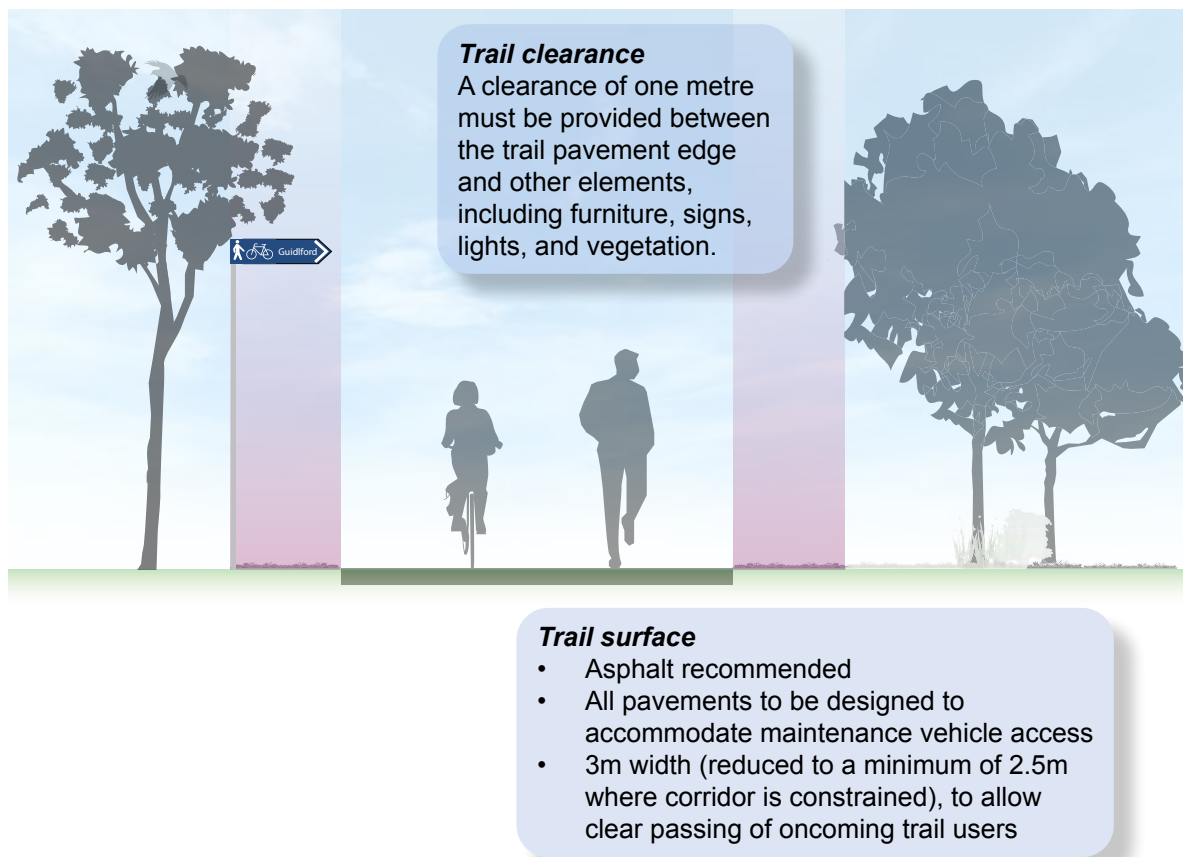
Opportunity	Length	No. of bridges	Trail head location	Experience	Estimated cost
1. Maryborough to Carisbrook	5km	5 (approx. 59 lin. m)	On the outskirts of Maryborough in the Ironbark forest	<ul style="list-style-type: none"> • Ironbark forest • Agricultural and industrial landscape of Carisbrook • Anchored to townships of Maryborough and Carisbrook 	\$875,000
2. Moolort Plains	7.5km	2 (approx. 23 lin. m)	Buftons Lane road reserve, near Moolort Station	<ul style="list-style-type: none"> • Across the Moolort Plains (single landscape character) 	\$950,000
3. Guildford to Campbells Creek	5.5km	2 (approx. 16 lin. m)	Old Guildford Station	<ul style="list-style-type: none"> • Elevated views across Campbells Creek and the valley and escarpment of Guildford • Adjacent to the Midland Highway • Anchored to townships of Guildford and Campbells Creek 	\$700,000

4.5.2 Trail facilities

Trail facilities such as signage, seating, drinking fountains, toilets and bike fixing stations can play an important part in the trail usage experience. The townships along the trail can provide good opportunities for rest stops, food and drink, and toilet facilities, and are in many cases the destinations of trails users. In such cases, the 'trail head' infrastructure is being largely provided by these destinations.

For the purposes of this feasibility study, allowances have been made for the provision of signage, seating, drinking fountains, bike fixing stations, bicycle parking at regular intervals along the trail. Larger nodes are proposed at key locations along the trail:

- Trail head at Castlemaine Station with signage, shelter, drinking fountain and bike parking
- Trail head at Joyces Creek Railway Bridge including car parking, toilet, seating and shelter
- Rest stop node on the Moolort Plains with seating, shelter and interpretive signage/potential First Nations cultural expression
- Trail head at Maryborough Station with signage, shelter, drinking fountain and bike parking



F4.6 Trail design guidelines

4.5.3 Sustainable Trail Design

When considering sustainable materials and elements for trail design and construction, it's important to take into account various factors such as performance, risk, initial and ongoing cost, and maintenance to ensure the trail's longevity and functionality. Some sustainable materials and practices that could be considered for the trail design include:

- **Recycled materials** - Recycled concrete or crushed stone can be used as a base for trail construction reducing the need for new materials. Other recycled products (such as composite timber or recycled plastic) could be considered for furniture or signage elements along the trail
- **Revegetation** - Planting indigenous plants along sections of the trail can positively contribute to the ecology of the study area as well as adding to the experience for trail users.
- **Local materials** - Sourcing materials locally helps to reduce transportation-related carbon emissions and supports the local economy.
- **Reusing materials** - reusing materials already existing on the site assists in reducing waste and the need for new materials. For example, existing bridge infrastructure can be reused in bridge upgrade works and the railway ballast on the rail bed can be retained and incorporated into the construction of the trail.

4.5.4 Bridges

There are many bridges along the Castlemaine to Maryborough Rail Trail which add interest and provide unique view points and experiences for users. Over the course of this study, 26 bridges and two overpasses were visually inspected and mapped along the trail, as can be seen in Figure 4.7.

A high-level structural engineering review was undertaken to assess the works likely required to ensure each bridge is trafficable and suitable for rail trail use. The outcomes of this review included:

- There is just under 900 linear metres of bridges along the length of the trail including Joyces Creek bridge, 275m, Tullaroop Ck bridge (Carisbrook) 140m, Larni Barramal Yaluk (formerly Jim Crow) Creek bridge, 114m, and Loddon River bridge (Guildford) 95m.
- One small bridge (B3.7) is recommended to be replaced completely, subject to a more thorough investigation into the existing structure.
- All other bridges to:
 - utilise existing structural components with repairs as required
 - have new precast concrete modular decking and handrails installed. An example of this is shown in the images below.



Source: Great Victorian Rail Trail Project Story

Source: ridehighcountry.com.au/listing/yea-to-molesworth-16km/



B1.1: Lawrence St Overpass



B1.2



B1.3



B2.1



B2.2: Hutchinsons Lane Bridge



B3.1: Midland Highway Bridge



B3.2: Loddon River Bridge



B4.3: Joyces Creek Railway Bridge



B4.4: Moolort-Baringhup Road Overpass



B5.1



B5.2



B5.3

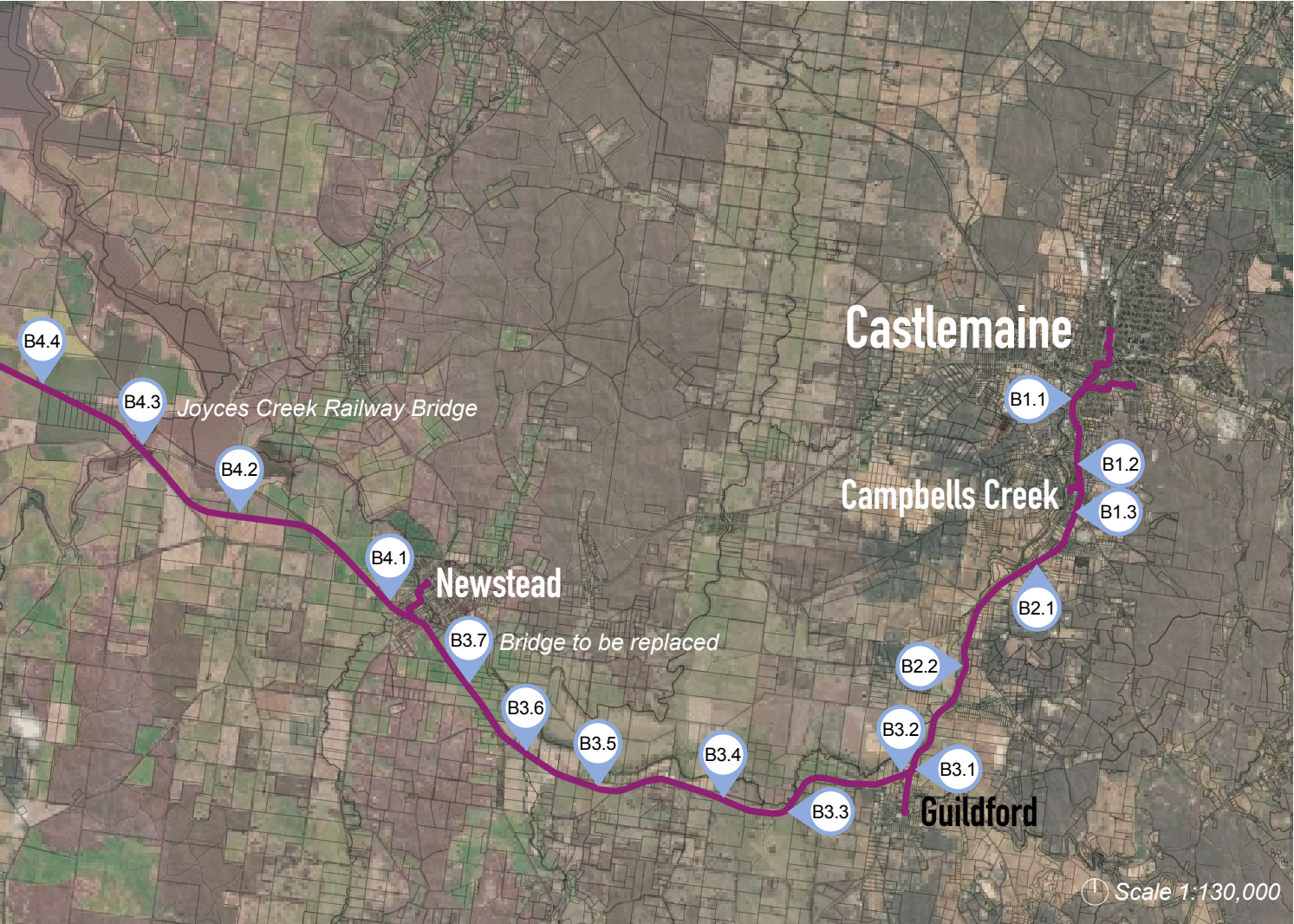


B5.4



B5.5

F4.7 Existing bridge assessment



B3.3: Kennedy's Gully Bridge

B3.4

B3.5

B3.6: Larni Barramul Yuluk Bridge

B3.7

B4.1: Green Gully Creek Bridge

B4.2: Butlers Creek Bridge



B5.6

B6.1: Tullaroop Creek Bridge

B6.2

B6.3

B6.4

B6.5

B6.6

4.5.5 User safety

There are many considerations to be taken into account when delivering a rail trail in regard to user safety and experience. Below is a table of the considerations, potential risks and mitigation options that have been allowed for within this feasibility study.

T4.3 Trail safety considerations

Safety consideration	Design outcome
Major road crossing	Where the trail intersects with a major road provide the following (subject to design and safety audit by a traffic engineer): <ul style="list-style-type: none"> • Concrete apron at 90° to road ensuring a flat stable surface for users to stop safely • Holding rails to allow cyclists to stop safely • Mid-road refuges (on major roads only) • Signage for both trail users and vehicles
Minor road crossing	Where the trail intersects with a minor road ensure the trail approaches the road at a 90° angle. Provide signage for both trail users and vehicles. (Subject to design and safety audit by a traffic engineer).
Private driveway crossing	If there is no alternative access to the property, provide signage to alert trail users of the vehicle crossing. Consider if a gate system is required for regular vehicles or stock crossing, involving blocking the trail for short periods while the crossing occurs (as occurs on other rail trails).
Railway crossing	For live railway lines (for this project, only the tourist line to Maldon) railway crossing to be designed in line with relevant rail safety authority.
Steep edge to trail	Provide handrails/balustrade where there is a steep and/or high drop from the trail edge (eg. along bridges, culverts and embankments).
Obstacles in the rail corridor	Ensure a minimum buffer of 1m is provided either side of the trail surface and is kept clear of all obstacles.
Grain facility fumigation/ agricultural spraying	Consider arranging rosters with trail neighbours to spray/fumigate in off-peak times, and notify trail users of location and timing of upcoming events.
Dehydration	Provide drinking fountains at trail heads, nodes and townships.
Exhaustion	Provide seating and shade at regular intervals along the trail and at trail heads, nodes and townships.
Incident or accident	Install emergency markers at regular intervals along the trail in accordance with Emergency Marker Signage Guidelines. Ensure access for emergency vehicles is provided.
Threat of fire	<ul style="list-style-type: none"> • Actively manage and maintain rail trail to reduce potential fire risk • Consider closing/ managing access the trail during periods of fire bans • Ensure access for fire trucks is provided

4.6 TRAIL EXPERIENCE



Yalinguth app: augmented audio experience
 Source: msd.unimelb.edu.au/news/yalinguth,-a-first-nations-augmented-reality-app



Interpretive signage at the Bendigo Botanic Gardens by Djaara
 Source: [instagram.com/p/CjeG-h5hO-N/?hl=en](https://www.instagram.com/p/CjeG-h5hO-N/?hl=en)



Art along the Great Victorian Rail Trail
 Source: www.greatvictorianrailtrail.com.au/art



Avenue of trees (Murray to Mountains Rail Trail)
 Source: www.ridehighcountry.com.au/rail-trails/murray-to-mountains/



Caboolture to Wamuran Rail Trail signage suite
 Source: dotdash.com.au/projects/caboolture-to-wamuran-rail-trail

There are a number of intentional features that can be implemented to enhance the marketing positioning, attract users and positively contribute to the trail experience. Elements such as interpretation, artwork, landscaping and signage can positively influence the way a trail presents itself and is perceived, impacting upon the character of the trail, visitation and the trail experience.

4.6.1 Interpretation and storytelling

Interpretive elements such as signage can provide valuable information about the natural or cultural significance of the area, and can serve as a medium for sharing stories about the site and its surroundings. This element will be particularly important if this project is to realise the stated desire of having a strong First Nations focus. There is an opportunity to incorporate innovative features such as geo-located soundscapes, (the Yalinguth app is one example, which delivers First Nations-related stories relevant to the location of the user in Gertrude Street, Fitzroy).

4.6.2 Artwork

Incorporating art installations or sculpture along the trail can create points of interest, similar to the installations found along the Great Victorian Rail Trail. The inclusion of art presents a valuable opportunity for the stories of the site to be told, encouraging trail users to connect with the environment and its rich history. Artwork also presents a very strong opportunity for First Nations cultural expression.

4.6.3 Landscaping

Implementing landscaping along the trail not only enhances biodiversity but also offers trail users unique and seasonal experiences, such the avenue of trees found on the Murray to Mountains Rail Trail.

4.6.4 Signage

Signs play a significant role in the experience of trails, whether they be behavioural, wayfinding or interpretive signs. The implementation of a consistent signage suite can apply to not only trail signage but also trail heads, rest stops and interpretation nodes. A recognisable suite of signs can not only enhance the user experience of the trail but can be a useful marketing tool, contributing to the visual branding of the trail (and potentially used for trail collateral such as websites and maps). There is also the opportunity to have artistic or indigenous expressions of culture integrated into the design of the signage suite.

4.7 ROUTE STAGING

Trail construction sequencing can be approached in various ways, with the main consideration being whether it needs to be staged or not. When determining the construction staging and its sequence, several important factors must be taken into account:

- **Funding** - Construction of a trail, is highly dependent on funding, and finalising the staging may be contingent on what grants and funding opportunities are available.
- **Trail user demand** - To maximise use of the trail in the early stages, it would ideally be anchored to a town, or towns, with an established tourism market, and existing visitor amenities and infrastructure to support trail users.
- **Lease agreements** - Before trail implementation can progress lease agreement with VicTrack needs to be established. This is further complicated by the fact that the rail corridor lease between Carisbrook and Maryborough is currently held by VLine and will need to be handed back to VicTrack prior to being leased for trail purposes, which is likely to take some time.
- **Project governance** - Commencing the trail at one end, within a single shire, may impact the collaborative relationship between Mount Alexander Shire and Central Goldfields Shire. This is because resources from both shires would be utilised while only one shire would reap the benefits. Options to reduce this risk should be explored.
- **Regional support** - It is crucial to retain continuous support from both Councils. To mitigate any potential risk, it is essential for both Councils to maintain a vested interest in the delivery of the trail.

Taking into account these factors, Table 4.4 examines the potential benefits and disadvantages of four staging scenarios. The demand impacts (and subsequent economic and financial impacts) of a staged rollout are discussed in Chapter 7.2.

In order to realise the full benefits of the trail as soon as possible, reduce potential risks to project governance, and to reduce overall costs, delivering the trail in a single staged is preferred. However, it is expected that the construction will require staging to reflect funding realities. If staging is required, the identified stages are:

- Castlemaine to Campbells Creek – 4.3km
- Campbells Creek to Guildford - 6.5km
- Guildford to Newstead – 12km
- Newstead to Moolort – 14km
- Moolort to Carisbrook – 11km
- Carisbrook to Maryborough – 7km

It is recommended that the connections to the townships along the trail occur alongside implementation of the relevant stages.

If a staged delivery is required, it is recommended that construction begin at the Castlemaine end (i.e. scenario 2) due to its established visitor market, trail user amenities, and relatively simpler lease arrangement. To manage the risks associated with project governance, it is recommended that making progress toward trail construction at the Maryborough end, involving tasks such as lease negotiations and rail removal, begin concurrently.

T4.4 Route staging analysis

Staging scenario	Positives	Negatives
<p>1. Non-staged construction</p> 	<ul style="list-style-type: none"> • Benefits of trail implementation fully realised immediately • Reduced risk to trail governance (more equitable between partner LGAs) • Reduced costs due to economies of scale • Less resource intensive due to single contract and funding application 	<ul style="list-style-type: none"> • Likely difficulty in securing funding for entire trail length
<p>2. Staged construction starting at Castlemaine</p> 	<ul style="list-style-type: none"> • Capital funds more likely to be provided in stages • Takes advantage of Castlemaine's higher visitor numbers resulting in higher use of partially constructed trail (when compared to option 3) 	<ul style="list-style-type: none"> • Potential risk to trail governance (due to inequity between partner LGAs) • Benefits of trail implementation only partially realised • Potential for project to lose momentum if trail is delivered over a lengthy period • Resource intensive for managing stakeholders due to multiple funding applications • Higher capital costs due to multiple contracts and cost escalation over time
<p>3. Staged construction starting at Maryborough</p> 	<ul style="list-style-type: none"> • Capital funds more likely to be provided in stages • Greater potential for visitor uplift to developing tourism market in Maryborough 	<ul style="list-style-type: none"> • Potential time risk around potentially complex lease arrangements from Carisbrook to Maryborough • Potential risk to trail governance (due to inequity between partner LGAs) • Benefits of trail implementation only partially realised • Potential for project to lose momentum if trail is delivered over a lengthy period • Resource intensive for managing stakeholders due to multiple funding applications • Lower visitor demand (when compared to option 2) • Higher capital costs due to multiple contracts and cost escalation over time
<p>4. Staged commencement taking place at both ends simultaneously (i.e. lease negotiations and rail removal in Maryborough, trail construction in Castlemaine)</p> 	<ul style="list-style-type: none"> • Reduced risk to trail governance (more equitable between partner LGAs). • Capital funds more likely to be provided in stages • Greater potential for visitor uplift to developing tourism market in Maryborough. • Takes advantage of Castlemaine's higher visitor numbers resulting in higher use of partially constructed trail. 	<ul style="list-style-type: none"> • Potential difficulty in securing funding for two stages of works. • Construction inefficiencies related to having two work sites some distance apart. • Potential time risk around complex lease arrangements from Carisbrook to Maryborough. • Benefits of trail implementation partially realised. • If project loses momentum (due to lengthy delivery), partial trails exist at both ends without meeting. • Resource intensive for managing stakeholders due to multiple funding applications. • Higher capital costs due to multiple contracts and cost escalation over time.



5. MARKET ANALYSIS

5.1 MARKET DEMAND ANALYSIS

The following provides an overview of the resident and visitor demand markets for the Castlemaine-Maryborough region, including target market characteristics and trends. This provides the evidence base to estimate future utilisation rates of the trail, which will help identify the potential impact on demand and overall feasibility of the project.

Data has been analysed for the Central Goldfields and Mount Alexander municipalities (i.e. the study area). Residents are, therefore, considered any individuals living within these areas, while visitors are those that visit from another LGA.

The information in this section uses various sources, including:

- Australian Bureau of Statistics, Census of Population Data; and
- Tourism Research Australia's (TRA) National Visitor Survey (NVS) and International Visitor Survey (IVS).

The resident and visitor demand markets are both important considerations for this project, as the trail will support community use, as well as visitation to the region for recreation purposes. Therefore, both these markets have been analysed.

5.1.1 Key findings

- There is a substantial existing market size of cycling and walking target markets for both residents (i.e. local utilisation) and visitors, which could be capitalised on to support utilisation of trail infrastructure;
- Cyclists are considered the primary target markets that are motivated by rail trails to visit a region, whereas visitors that walk along rail trails are typically existing visitors to the region (and undertake 'incidental' utilisation of the trail).
- The primary research suggests there is significant potential for a quality rail trail to attract additional cycling visitors. In particular, this Rail Trail could support day trip rides and generate additional visitor nights in the region.
- Based on the primary research data, the cycling market size that the proposed Rail Trail can draw on is estimated at 81,686 p.a.

5.1.2 Population growth

The table below details the current population (and historic growth) for the study area. In 2021, there were almost 34,000 residents living in the catchment area, which represents average growth of 1.2% p.a. Majority of residents reside in Mount Alexander, which is attributed to the proximity to Melbourne and role of Castlemaine as a key population centre.

As the regional population continues to grow, demand for community amenity, activities and leisure/recreation product will also grow.

T5.1 Study area population

	2016	2021	AAGR
Central Goldfields Shire	12,993	13,483	0.7%
Mount Alexander Shire	18,762	20,253	1.5%
Total	31,755	33,736	1.2%

Note: Growth projections have been calculated based on the historical rate of population growth between 2016-2021.

Source: ABS Census of Population and Housing, 2016 & 2021

5.1.3 Visitor market demand

Tourism is an important industry for the region, with both Castlemaine and Maryborough serving as key visitor nodes in the Bendigo tourism region. When combined, the visitor economies for these LGAs contributes approximately \$104 million to economic output (2.6% of total), as well as generating 582 tourism-related jobs (4.7%) (*REMPPLAN*, Central Goldfields and Mount Alexander Shires, 2021) for the study area.

Visitation and forecasted growth

Visitation to Central Goldfields and Mount Alexander Shires was averaged approximately 980,000 annually between 2015 and 2019. This represents significant growth of 229,363 (+5.5% p.a.) since the preceding five-year annual average (2010 to 2014), refer to T5.2.

Due to the impacts of the pandemic, which affected tourism over 2020 and 2021, the visitor economy was recovering over the 2022 period. Therefore, the 2015-19 annual average figure has been adopted to reflect a fully recovered visitor economy, assuming domestic tourism reverted to pre-COVID levels in 2023 (*Tourism and Hotel Market Outlook – Edition 2*, Deloitte Access Economics, 2022).

T5.2 Study area visitation

	2010–14 average	2015–19 average	AAGR
Central Goldfields Shire	200,154	263,708	5.7%
Mount Alexander Shire	550,648	716,457	5.4%
Total	750,801	980,165	5.5%

Note: An annual average figure was adopted to account for low sample sizes in the data.
Source: National Visitor Survey, Tourism Research Australia, 2015-2019 5-year average

Type of Visit

The Central Goldfields and Mount Alexander Shires are predominantly domestic visitor destinations. Given the proximity to Melbourne and other regional centres, visitation is driven by the lower-yielding daytrip market (71% of total). As such, the project components could support growth in the visitor economy by providing product that caters to growing visitation, increases length of stay in the region and stimulates expenditure growth.

Importantly, as the region is located proximate to Melbourne and other regional population centres, new tourism product will be accessible to both daytrip and overnight visitors.

T5.3 Castlemaine-Maryborough Visitor Expenditure, 2015-19 Average

		Daytrip	Domestic overnight	Total
Central Goldfields Shire	Average spend	\$17,415,835	\$19,401,638	\$36,817,473
	Average spend/ visitor	\$99	\$221	
Mount Alexander Shire	Average spend	\$37,775,715	\$40,276,839	\$78,052,555
	Average spend/ visitor	\$72	\$210	
Total		\$59,899,611	980,165	\$120,150,112

Source: Tourism Research Australia, NVS and IVS 2015 to 2019, YE Dec; REMPLAN, 2019

5.1.4 Target market analysis

Several target markets – comprising residents and visitors – have been identified based on alignment to shared trail products, as well as the landscape of the region. The key target market segments include:

- Primary target markets – Cyclists;
- Secondary target markets – Walkers, other recreation (e.g. horseriding).

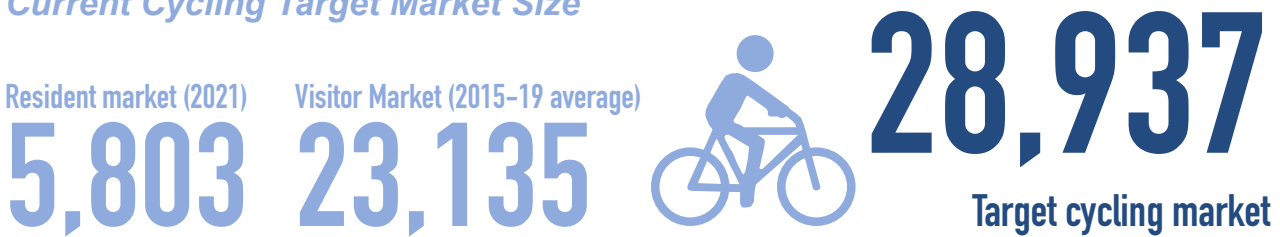
While the rail trail has the potential to target horse riders, this activity is not defined within TRA data and is subsequently not included in the analysis.

Cyclists

The Rail Trail is expected to attract a significant number of cycling users, including both residents and visitors. According to the Australian Sports Commission’s National Sport and Physical Activation Participation Report, approximately 17.2% of residents in Victoria regularly participated in cycling between June 2021 and July 2022. Applying this participation rate to the resident population demonstrates that 5,803 residents participate in recreational cycling in 2024.

Between 2015 and 2019, an average of 23,135 visitors participated in cycling activities annually (2.4% of the visitor market).

Current Cycling Target Market Size



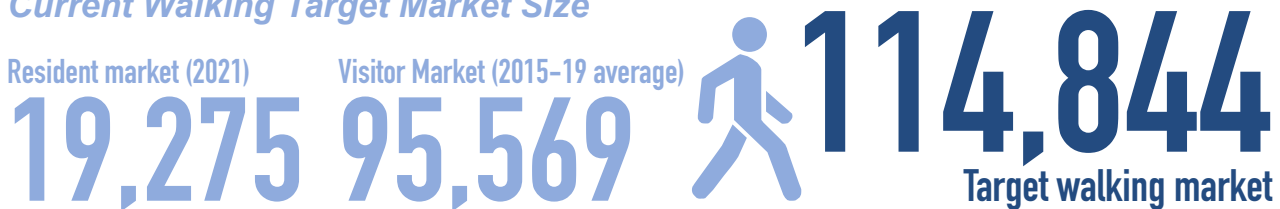
Source: Ausplay National Sport and Physical Activation Participation Report, Australian Sports Commission, Victoria, 2022 YED June; VicHealth Indicator Survey, VicHealth: Participation in Sport and Physical Recreation, Central Goldfields and Mount Alexander LGA, 2015; ABS Census of Population and Housing, 2021; Tourism Research Australia (TRA) National Visitor Survey (NVS), 2015-2019 5-year average.

Walkers

Walkers are also expected to be one of the major users of the proposed rail trail. According to various sources, between 51% and 61% (*Victoria: Participation in Walking (recreational), Ausplay National Sport and Physical Activity Participation Report, Australian Sports Commission, October 2022; Central Goldfields Shire and Mount Alexander Shire: VicHealth's Indicator Survey, VicHealth 2015: Participation in Sport and Physical Recreation, Wodonga LGA*) of residents in the region participate in walking on a regular basis. Applying the midpoint participation rate to the resident population indicates that approximately 19,987 residents will participate in walking regularly in 2024, which is expected to grow to 22,559 in 2034 (+2,572 or +1.2% p.a.).

The expected visitor market for walking activities in the region (categorised as bushwalking by Tourism Research Australia) is 95,569, which represents 10% of the total visitor market.

Current Walking Target Market Size



Source: Ausplay National Sport and Physical Activation Participation Report, Australian Sports Commission, Victoria, 2022 YED June; VicHealth Indicator Survey, VicHealth: Participation in Sport and Physical Recreation, Central Goldfields and Mount Alexander LGA, 2015; ABS Census of Population and Housing, 2021; Tourism Research Australia (TRA) National Visitor Survey (NVS), 2015-2019 5-year average.

Nature-based and Outdoor Market

This market includes visitors that are likely to engage with the Rail Trail for passive recreation activities, while the resident market has been excluded as this is difficult to quantify and could potentially reflect the entire resident population of the study area.

This includes a variety of nature-based and outdoor experiences such as sightseeing, birdwatching and picnicking. The number of visitors that could be expected to engage with the rail trail include those that undertake the following activities, as categorised by TRA:

- Visit National State Parks;
- Visit Botanical or Other Public Gardens;
- Visit Wildlife Parks / Zoos / Aquariums;
- Birdwatching; and
- Participate in Picnics or BBQs.

The projected size of this market is 221,531 which represents 23% of the visitor market, excluding bushwalking (*Tourism Research Australia (TRA) National Visitor Survey (NVS), 2015-2019 5-year average*).

5.1.5 Market research analysis

Urban Enterprise conducted a primary research study for recreational cycling in Regional Victoria. This is a critical component of the analysis to help understand the potential market appeal, market size and travel preferences for the cycling visitor market.

The findings of this analysis are used to inform visitor demand for the rail trail and determine the types of experiences that will attract cycling markets to the product. Although the walking market (and other user groups) will utilise the rail trail, these visitors were excluded from the research for the following reasons:

- Walking markets are typically motivated to travel for more adventurous/challenging walks (e.g. hiking trails). As such, shared-use paths, including rail trails, are not primary motivators for walking visitor markets. They are more often used by local resident walkers for recreation or connectivity purposes; and
- Visitors that walk along rail trails/shared-use paths typically do so as a secondary motivation (i.e. they are already in the region for a different purpose).

Cyclists are, therefore, the primary target markets that are motivated by rail trails to visit a region, therefore the survey focuses on this segment.

Format and Respondents

The market research consisted of an online survey, which targeted a statistically representative sample. In order to qualify for the survey, respondents were required to satisfy the following:

- Aged between 15-74 years and reside in Victoria (given that 97% of visitors to the region originated from within Victoria) (*Tourism Research Australia, NVS and IVS 2015 to 2019, YE Dec*);
- Typically undertakes at least one recreational holiday to regional Australia every two years; and
- Typically cycles for recreation in regional Australia at least once every two years.

The survey attracted 1,174 total responses, with 521 qualifying based on previous travel and cycling experiences.

Findings

The key findings of the research are presented below.

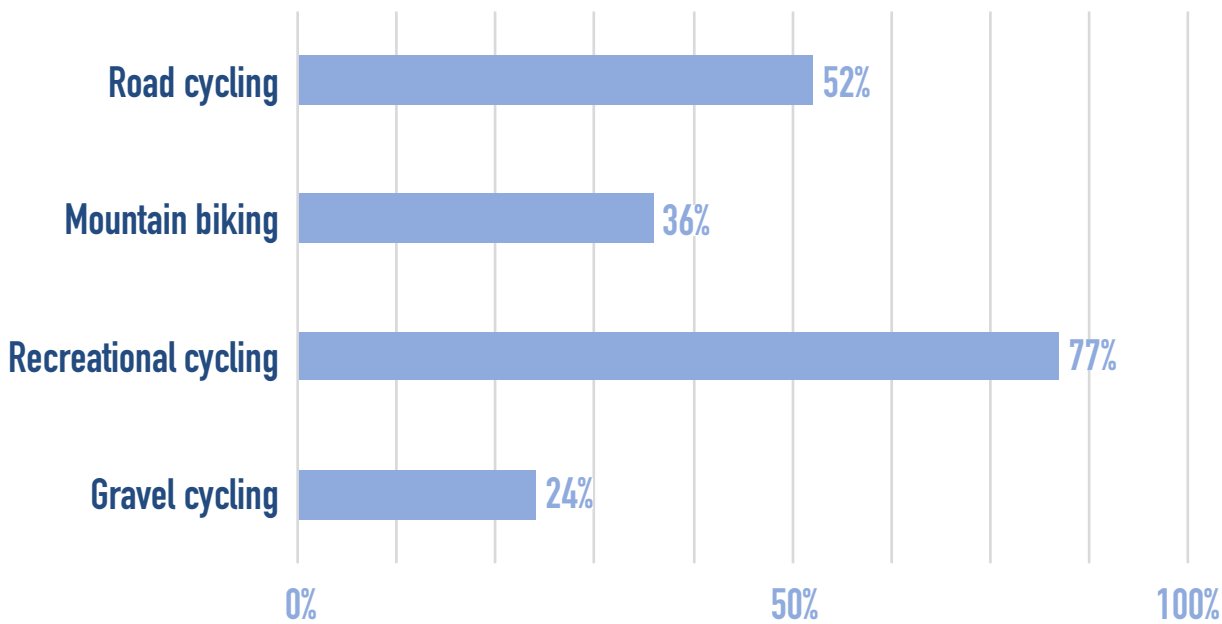
- **Market segments**

The cycling market can be segmented based on the following types of rides:

- Road Cycling - Cycling which takes place on paved roadways (e.g. public roads).
- Mountain Biking - Cycling which takes place off-road, often over rough terrain, including single track on a mountain bike.
- Recreational Cycling - Cycling which takes place on shared-use paths. E.g. river trails and rail trails.
- Gravel Cycling - Cycling which takes place on gravel roads, using a gravel bike (drop bars with all terrain tyres).

As shown in Figure F5.1, the research suggests that 403 of the 521 respondents (77%) have undertaken recreational cycling – including rail trails – over the past five years.

Although cyclists can be included in multiple segments, this data indicates the relative size of each of the markets.



F5.1 Cycling Market Segmentation

Source: Urban Enterprise, 2023

Note: totals equal over 100% as respondents can select multiple ride types

- **Trip details**

The key preferences and indicators for the recreational cycling market can be summarised as follows:

- The primary motivations for undertaking a recreational cycling trip include:
 - Nature and outdoors (e.g. enjoying being outdoors, looking at scenery): 46%
 - Social: 28%
 - Fitness: 14%
- The duration of most recreational rides are:
 - Less than 2 hours: 37%
 - Half-day: 38%
 - Full day: 12%
- The trip duration of most recreational rides are:
 - Daytrip: 24%
 - 2 days (1 night): 22%
 - 3 days (2 nights): 29%
 - 4 days (3 nights): 22%
- The average travel party with cyclists is 3.9 people, which consists :
 - Family group: 33%
 - Adult couple: 31%
 - Friends & relatives: 26%
 - Average group size: 3.9
- The most popular non-cycling activities undertaken during a trip include:
 - Visiting a café: 59%
 - Visiting restaurants: 53%
 - Hiking: 48%
 - General sightseeing: 42%
 - Visiting wineries, distilleries, breweries, cellar doors: 39%

*Note: totals equal over 100% as respondents can select multiple activities and experiences

- **Trip expenditure**

Table T5.4 outlines the average expenditure for recreational cyclists, which is broken down by category (Accommodation, Retail, Food and Beverage, Transport). Based on the research, the average total spend per recreational cyclist visitor is \$391, with the average nightly spend equating to \$184 per overnight visitor, and \$112 per daytrip (excluding accommodation).

This demonstrates a higher propensity for recreational cyclists to spend, when compared to the regional average daily spend per person. This could be attributed to the high prevalence of participating in spending activities, particularly food and beverage.

T5.4 Trip Expenditure

	Total Spend per Visitor (average)	Daily Spend per Visitor (average)
Accommodation	\$160	\$72
Retail	\$49	\$21
Food and beverage	\$109	\$51
Transport	\$74	\$40
Total	\$391	\$184

Source: Urban Enterprise, 2023

- **Market Preferences**

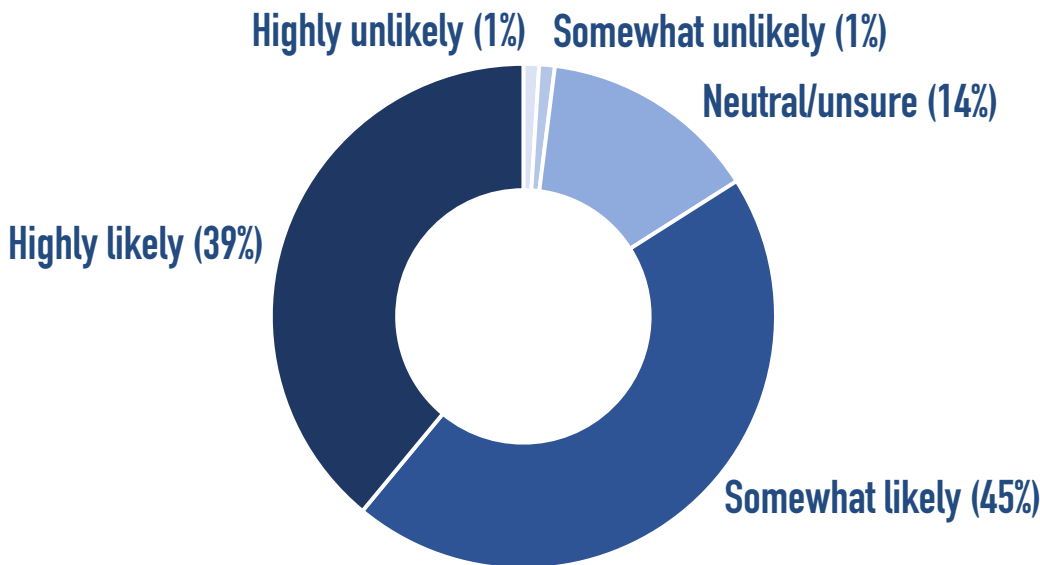
When asked to consider preferred features and ride types for a potential future recreational cycling visit in Regional Victoria, the following responses were provided:

- The most important features for a shared-use trail include:
 - Access to drinking water (60%)
 - Well-formed trails (56%)
 - Mobile reception (53%)
 - Rest areas (51%)
- The most popular supporting experiences involved:
 - Good accommodation: 64%
 - Local quality dining experiences: 46%
 - A river or lake to swim: 36%
 - Places for picnics: 36%
 - A good pub: 36%
 - Quality coffee: 35%
- The most appealing types of recreational rides include:
 - High quality multiday overnight rides: 25%
 - Multi-day ride that includes other ways to travel (i.e. railway): 29%
 - A cycling tour: 19%
 - None: 13%

*Note: totals equal over 100% as respondents can select multiple activities and experiences

To help estimate market size for recreational cyclists to new rail trail product, respondents were asked the 'likelihood of visiting in the next five years' if the above needs and preferences are met. As shown in Figure F5.2 below, majority (83%) of recreational cyclists were either 'highly likely' (39%) or 'somewhat likely' (45%) to visit the region.

This indicated the potential popularity of the region amongst recreational cyclists and the potential for visitation to a quality rail trail.



F5.2 Likelihood To Visit And Undertake Recreational Cycling (Over Next Five Years)

Source: Urban Enterprise, 2023

Market Size Estimates

The primary market research provides key insights that can be used to estimate the potential cycling market size for the proposed rail trail.

Based on this data, the potential market size that the Rail Trail can draw on is estimated at 81,686 p.a., which is calculated as follows:

- The primary market is considered to include residents aged between 20 and 74 years residing in Victoria (4.627,448);
- 34% of respondents (1,588,468) have, within the last two years:
 - Travelled to regional Australia at least once; and
 - Undertaken recreational cycling during their trip.
- The research found that, of the recreational cycle visitor market, 39% (618,832) are 'highly likely' to undertake a recreational cycling trip in the region over the next five years – which equates to 123,766 p.a.; and
- 66% of these highly likely visitors (81,686) will undertake a day ride, which aligns with the product length as a daytrip (or partial day) experience.



81,686
annual daytrip recreational cycling market



Key Issues and Opportunities

The primary research suggests that there is a significant market opportunity for quality recreational cycling (i.e. rail trail) experiences and that the region is well-positioned to cater to this market. A lack of quality rail trails or shared use paths may be constraining visitation from the recreational cycling market, which is a significant segment of the total cycling market.

The majority of the recreational cycling visitor market are interested in day trip rides, which could be supported by the development of the rail trail. As such, this is a relatively untapped market for the region that the product could attract.

This suggests that with development of quality trail infrastructure and supporting experiences and amenity, take-up from cycling visitors could be strong. The market research also provides important insights that need to be factored into concept development and planning when thinking about attracting target markets, including:

- Aligning the rail trail with key product strengths of the region, including nature, food and drink, First Nations and arts and culture. This could influence the interpretation elements of the rail trail and ensure the trail meets the needs and expectations of the user markets; and
- Supporting infrastructure is critical to the visitor experience and attracting target markets, particularly accommodation (for extended stays before and after the journey), appropriate signage and accessibility of towns and trailheads.

5.2 MARKET SUPPLY ANALYSIS

This section provides an audit of competing trail product across, as well as existing tourist amenity and products surrounding the proposed Rail Trail, in order to identify:

- The potential market gaps in shared trail experiences that the project could help meet for residents and visitors;
- Existing secondary products and infrastructure that can be leveraged to support trail visitation (and drive visitor spend); and
- Potential product strengths, as well as gaps that will require additional investment to meet user needs and expectations.

A supply analysis was undertaken to identify the potential market gaps that the rail trail could meet for residents and visitors, as well as existing tourist product and that could support the trail and provide a quality visitor experience and stimulate spend.

5.2.1 Key findings

An examination of the market supply of comparable and supporting product in the region found that:

- There is an identified market 'gap' in mid-range trails around 50 km in length, which could be provided by the proposed Rail Trail; and
- There are a range of quality tourism product and experiences across the region – particularly at the key activity centres of Castlemaine and Maryborough – that could enhance the user experience, help drive visitors to the trail and stimulate local consumption in the area. Activity centres at the bookends of the trail can serve as 'anchor' points for visitors

5.2.2 Competing product analysis

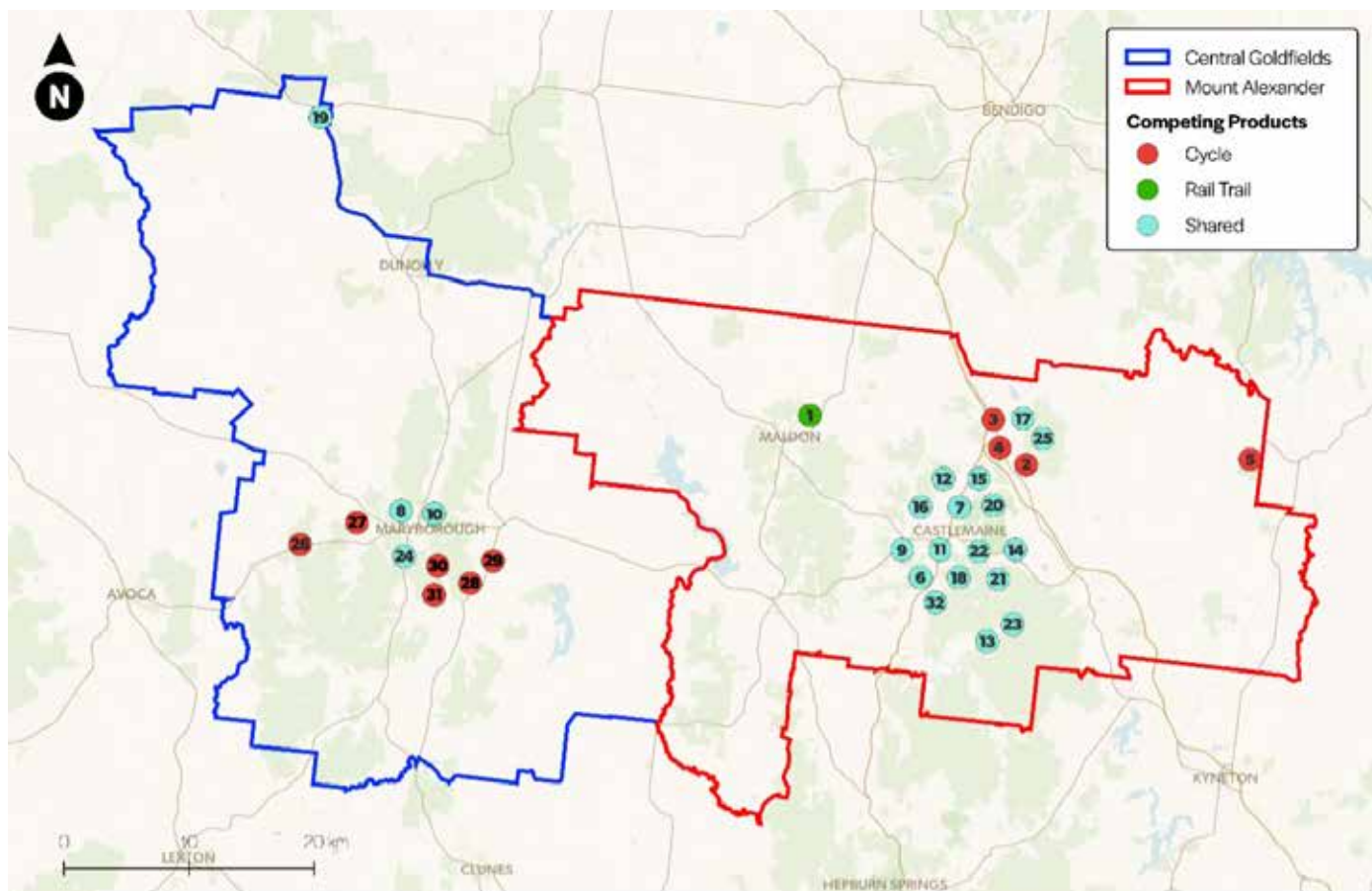
Existing tracks and trails

An overview of existing tracks and trails within the Mount Alexander and Central Goldfields municipal boundaries is displayed in Figure F5.3, representing product which may compete with the project. Key insights into this analysis are as follows:

- There is only a single rail trail in the region (Maldon to Castlemaine), demonstrating a lack of supply with this type of trail product;
- There is a limited trail network across Central Goldfields, with potential for growth in developing quality trail product (although the O'Keefe Rail Trail is an established trail located in nearby Bendigo, the Castlemaine to Maryborough Rail Trail's point of difference is having market access at both ends of the trail at established towns); and
- Majority of supply, excluding the Goldfields Track, cover shorter lengths (less than 25 km), indicating a potential 'gap' in mid-range, daytrip trail product.

In addition, only the Castlemaine to Maldon Trail links provides a direct link to either the Castlemaine or Maryborough townships. This provides opportunity for the Castlemaine to Maryborough Rail Trail to complement the existing network and provide these linkages.

F5.3 Competing Trail Products



Trail Name	Length	Trail Name	Length
1 Railway Track Maldon to Castlemaine	15-20km	17 Leanganook Track Harcourt to Springs Rd	20-25km
2 Gart Gart and Gurri MTB Tracks	5-10km	18 Monk Track, Poverty Gully and Eureka Loop	10-15km
3 La Larr Ba Gauwa MTB Park Loop	20-25km	19 Mount Moliagul	10-15km
4 Mir Track, Milakuk, and Milipa MTB Tracks	10-15km	20 Pineys Loop	5-10km
5 Redesdale 24hr Loop	15-20km	21 Poverty Gully Reservoir	<5km
6 Ajax Track Loop	<5km	22 Stephens Track Track	5-10km
7 Baco Track	5-10km	23 Sugarbag Track Loop via Telecom Track	5-10km
8 Bristol Hill Loop	<5km	24 Talbot Heritage Trail	20-25km
9 Campbells Creek Trail	5-10km	25 Wanyarra Track	<5km
10 Carisbrook Settlers Trail	20-25km	26 Avoca Mountain View Trail	25km<
11 Castlemaine - Miner's Ruins - The Monk	15-20km	27 Timor Grand Duke Trail	25km<
12 Cloverleaf Loop	15-20km	28 Majorca Kong Meng Trail	20-25km
13 Dry Diggins Track Cycle via Vaughan Springs	25km<	29 Dunolly/Havelock Gold Rush Trail	25km<
14 Garfield Waterwheel to Welsh Village Loop	5-10km	30 Paddys Ranges Trail	20-25km
15 Ken's Track	10-15km	31 Craigie Forest Trail	10-15km
16 Ladies Lounge Track	5-10km	32 Goldfields Track	25km<

Note: The trail locations in the map illustrates the location for a trail head

Source: AllTrails, derived by Urban Enterprise, 2023

5.2.3 Rail trail supply analysis

Figure F5.4 provides a detailed audit of existing rail trail product across Regional Victoria (excluding Metropolitan Melbourne), with each trail categorised by length as well as driving distance from the Melbourne CBD. A total of 29 significant rail trails were identified (see Appendix A for detailed list of trails), noting:

- There are 8 competing rail trails within a similar drive time from Melbourne (i.e. between 2-3 hours);
- Of these trails, there is an identified gap in ‘mid-range’ trails around 50 km in length, with existing product either over 100 km, or less than 30km; and
- There is an emerging cluster of rail trails around the Goldfields region, of which an additional high-quality trail could support the development of this area into a ‘trails destination’. Therefore, the Rail Trail project could support existing product and stimulate target markets into the area

F5.4 Competing Rail Trails



Note: The trail locations in the map illustrates the location for a trail head

Source: Rail Trails Australia, derived by Urban Enterprise, 2023

5.3 SUPPORTING TOURISM AMENITY AND SERVICES

Figure F5.5 provides an audit of tourism product strengths at the trail bookends, as well as key stopover points along the indicative trail route (see appendices for a detailed list). This demonstrates the significant supporting products and experiences that could enhance the user experience, help drive visitors to the trail, increase dwell time and stimulate local consumption in the area.

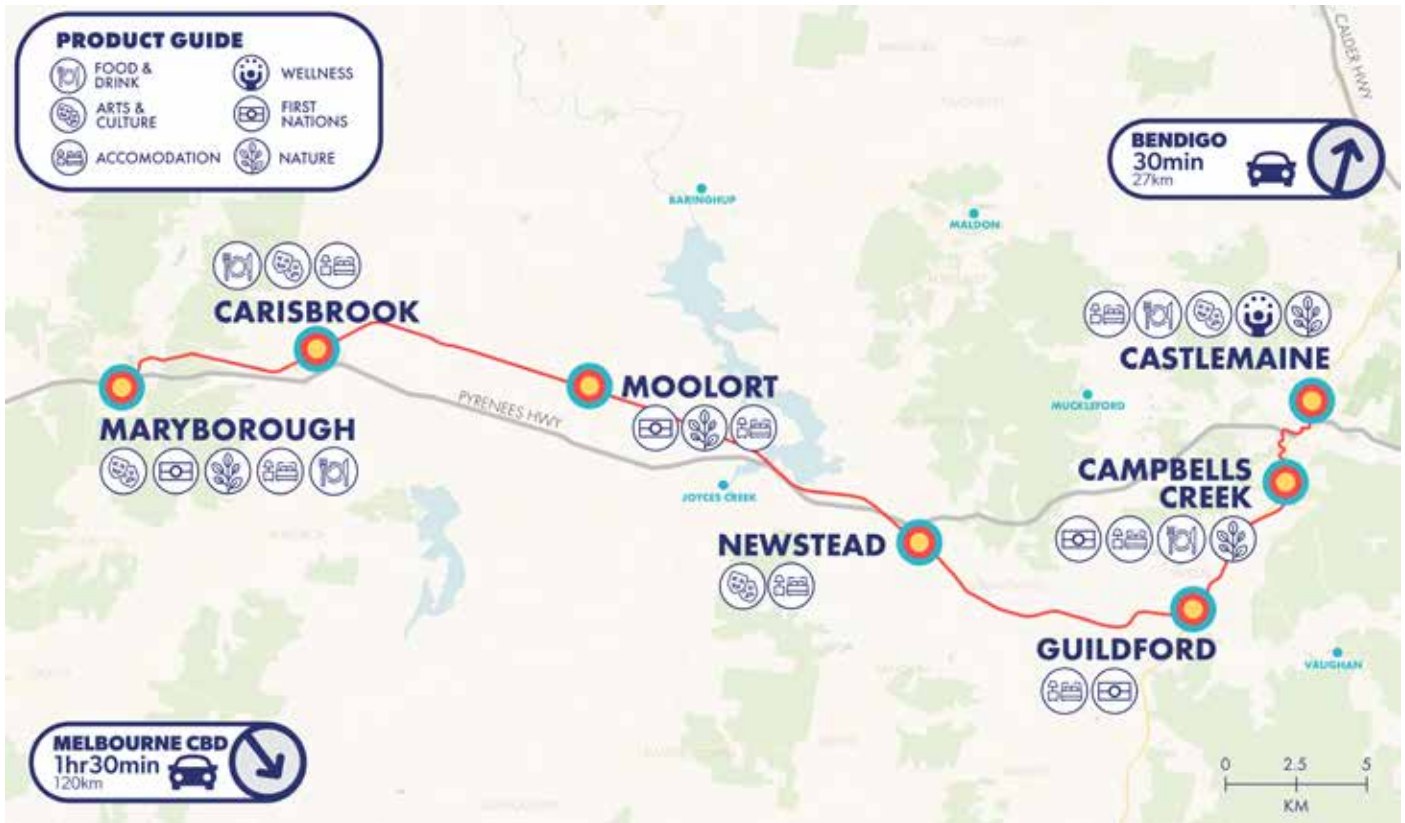
As illustrated below, there is a substantial range of nature-based attractions, arts and culture experiences (e.g. museums, heritage buildings), as well as destination eateries along the indicative route. These products are primarily located in the main destinations of Castlemaine and Maryborough, including accommodation to support overnight stays.

Along the route there is an emerging cluster of products within the smaller villages, although there is opportunity for increased investment in secondary attractions to support trail utilisation and increase visitor dispersal (and spend). Other key findings are noted as follows:

- Castlemaine is the most established and well-serviced visitor destination, with provision of arts and culture, food and drink, as well as accommodation. Having this town as a Rail Trail ‘anchor’ will be a key attractor for the Rail Trail and drive visitation;
- Maryborough is a key activity centre and developing visitor destination, with existing strengths in arts and culture (including Goldfields heritage), as well as food and beverage. The Rail Trail, and subsequent increased visitation from users, will support increased investment in commissionable products and services and will help grow the town as a destination; and
- The smaller towns along the route (i.e. Campbells Creek, Guildford, Newstead, Carisbrook) have a distinctive character and some tourism offerings, however, there is opportunity for increased investment to service additional tourists.
- The landscape surrounding the trail is unique and distinctive and could be a key attractor (i.e. the Ironbark Forest, the openness of the Moolort Plains, the escarpment and valley of the Loddon River and the creekside environments, as discussed in ‘Trail Character’)
- Existing developed attractions, products and experiences will help to drive visitation to the rail trail. These attractions include:
 - Guildford’s Big Tree;
 - Newstead Arts Hub;
 - Food, wine and agritourism offerings; and
 - Events such the Maryborough Highland Gathering, Castlemaine State Festival and farmers markets

Finally, while the region is rich with First Nations history and indigenous culture, expressions of this along the route are limited. Engagement undertaken with local elder, Uncle Rick Nelson of the Dja Dja Wurrung, identified the opportunity to acknowledge the significant landforms in the landscape surrounding the trail.

This provides potential to grow First Nations products through additional investment



F5.5 Tourism Product And Experience Audit

Tourism product has been categorised using the state-wide product pillars from the Experience Victoria 2033 document, as well as accommodation.

Source: Urban Enterprise, 2023

(which could become a key focus for the Rail Trail), including:

- Site-specific interpretation and storytelling at significant locations along the route (such as the proposed interpretation node with panoramic views of the surrounding landscape on the Moolort Plains);
- First nation led tours; and
- Cultural expression along the trail, this may include physical expressions such as signage and art but may also include First Nations led cultural management of sites (i.e. revegetation, cultural burning).
- Integrated trail wide experience: this may include physical expressions of storytelling, First Nations led cultural tours or oral storytelling (i.e. through geolocated soundscapes).

It is important to note that any opportunities identified through the course of trail development should be led by the Dja Dja Wurrung.

The development of the rail trail also presents the opportunity to develop new destinations along the trail such as:

- The Joyces Creek Bridge, which may include a trail head with a toilet and car park on the eastern end of bridge and enhancements to the bridge itself.
- Businesses that may arise due to the establishment of the rail trail and associated visitation

5.4 CASE STUDY ANALYSIS

This section identifies and examines case study rail trails that are relevant to the project concept. The purpose of this assessment is to identify the common features and success factors that could be used to inform the development of the Castlemaine to Maryborough Rail Trail (as well as provide comparable visitation estimates).

The following case studies, which were identified for inclusion in the analysis based on a combination of market awareness, trail utilisation and enhancing connectivity of small towns in regional areas, were included in the analysis (explored in greater detail below):

- East Gippsland Rail Trail;
- Tumbarumba to Rosewood Trail;
- Murray to Mountains Rail Trail;
- Great Victorian Rail Trail;
- Port Fairy-Warrnambool Rail Trail; and
- High Country Rail Trail.

5.4.1 Key findings

- Rail trails that cover multiple municipalities are typically governed and operated under a partnership model – either through direct Council agreements or outsourcing to a dedicated committee.
- Rail trails have the potential to cater to a variety of user groups, including cyclists, pedestrians and horse riders. Therefore, the available infrastructure and amenity needs to meet the expectations of these diverse markets.
- Accessibility to the trail via a regional train station provides significant advantages for utilisation, as it provides an alternative transport option for cyclists.
- The overarching themes and interpretive focus of rail trails are typically aligned with the region's local history and heritage. There is limited variety in terms of promoting the region's arts and culture or First Nations experiences.
- The range and quality of supporting tourism products and experiences are critical in providing a quality visitor experience, attracting different visitor markets and driving visitor spend. This is significant in the context of generating flow-on economic benefits.
- A collaborative approach to marketing is a common factor amongst other trail product, particularly partnering with local and regional tourism organisations to increase trail exposure and market awareness.

5.4.2 Case study summary

Detailed information for each trail case study is provided in Table T5.5, including an overview of the trail, utilisation, supporting amenity and infrastructure, marketing and governance.

T5.5 Case Study Summary

	East Gippsland Rail Trail	Port Fairy–Warrnambool Rail Trail	Murray to Mountains Rail Trail	Great Victorian Rail Trail	High Country Rail Trail	Tumbarumba to Rosewood Rail Trail
Trail surface	Mix of gravel and sealed	Mix of gravel and sealed	Sealed	Mix of gravel and compacted earth	Mix of gravel and sealed	Sealed
Distance	96km	38km	116km	134km	80km	21km
Municipalities	1	2	3	3	3	1
Tourism region	Lakes (Gippsland)	Great Ocean Road	High Country	High Country/ Goulburn	High Country/ Murray East	Snowy Valleys/ Riverina
Public transport	Bairnsdale Train Station	Warrnambool Train Station	Wangaratta Train Station	Tallarook Train Station	Albury & Wodonga Train Stations	-
User groups	Hybrid bikes Mountain Bike (MTB) Horse riding Walking	Hybrid bikes MTB Horse riding Walking Prms and wheelchairs Scooters	Hybrid bikes MTB Horse riding Walking Prms and wheelchairs	Hybrid bikes MTB Horse riding Walking Prms and wheelchairs	Hybrid bikes MTB Horse riding Walking Prms and wheelchairs Scooters	Hybrid bikes MTB Walking Prms and wheelchairs Scooters
Interpretation/ theme	Rail history	Historic old towns, and rail infrastructure	Rail history	Historic towns and nature	Local rail, military, and natural history	History of the rail trail and the region
Visitor infrastructure and amenity (along trail route)	Toilets, parking, rest areas, general store, water stations	Toilets, parking	Toilets, parking, passes several towns with visitor services	Toilets, parking, rest stops, visitor information centre, water stations, picnic facilities	Toilets, parking, picnic tables, water stations, bike pumps	Toilets, bike repair station, parking, picnic areas
Supporting tourism products and experiences	Wineries and breweries, farmgate produce, dining, spa, craft shops, accommodation	Flagstaff Hill Maritime Village, beaches and whale-watching, country markets, dining, accommodation, Koroit Railway Station and Goods Shed	Milawa gourmet region, Rutherglen wine region, accommodation, spa, wineries, breweries and distilleries, dining, historic railway stations	Country markets, dining, wineries, accommodation, skatepark, playground	Restaurants, accommodation, wineries and breweries, Bonegilla Station	Dining, accommodation, historic railway stations
Governance/ management	EGRT Committee of Management	Rail Trail Committee of Management	Council partnership (Indigo, Wangaratta and Alpine)	Council partnership (Mansfield, Murrindindi and Mitchell) Friends of the Great Victorian Rail Trail	Parklands Albury-Wodonga CoM	Maintained by Snowy Valleys Council with guidance from Tumbarumba to Rosewood Rail Trail Steering Committee (a volunteer group)
Marketing/ promotion	Trail website, Visit Gippsland, Snowy River Cycling, social media (Instagram, Facebook)	Trail website, Port Fairy Australia, Great Ocean Road Regional Tourism, social media (Facebook)	Ride High Country, Victoria's high Country, Visit Melbourne, social media (Facebook)	Trail website, Ride High Country, social media (Instagram, Facebook)	Ride High Country, Parklands Albury Wodonga, social media (Instagram, Facebook)	Trail website, Visit Snowy Valleys, social media (Instagram, Facebook)
Cycling visitor market capture rate*	2.6%	1.9%	3.9%	2.8%	3.7%	1.5%

* Percentage of visitation to tourism region

5.4.3 Case Study Insights

The case studies provide the following insights and findings that can help inform development and operation of the Castlemaine to Maryborough Rail Trail:

- Most trails are either fully or partially sealed, which reflects an increasing development of sealed rail trails as the premium product type. Benefits of a sealed trail include:
 - Providing an enhanced user experience;
 - Increase the market reach to road cyclists and less experienced riders; and
 - Improving accessibility for a range of user groups, including families, younger consumers and disabled.
- Many of the rail trails cover multiple municipal boundaries, which promotes connectivity between a range of smaller regional towns and supports visitor dispersal.
- Most trails are typically accessible via train stations, which is an advantage as it promotes trail access for cyclists via multiple transport nodes and supports increased utilisation.
- Rail trails are suitable for a variety of user groups, ranging from cyclists, pedestrians, to horse-riding (subject to surface quality). This suggests that trails cater to a range of target markets, including residents and visitors. As such, trail development and planning should consider all relevant user types and cater to the needs and expectations.
- Given that rail trails are situated on disused rail beds, a key area of focus is typically on the local history of the region, including the themes of history and heritage. There does not appear to be a wide variety of interpretation relating to arts and culture, or First Nations experiences, which indicates a potential gap in experiences.
- Popular rail trails provide a basic level of visitor infrastructure and amenity to support the user experience, including toilets, drinking stations and suitable rest areas. These facilities are critical to promote stopovers and dispersal along the trail, which will increase dwell time for users.
- Key to generating economic benefits is the alignment to, and accessibility of, supporting tourism products and experiences. Having access to local tourism businesses and operators can be a major drawcard for visitation and drive local consumption and business activity.
- Where a trail covers multiple municipalities, the operating model typically involves a partnership – either directly between Councils – or via a dedicated Committee of Management structure. This alleviates some of the resource pressure for Local Government and diversifies the decision making across relevant stakeholders. Further information regarding the benefits (or otherwise) of the partnership operating model is detailed in the Operating Model Analysis section of this report.
- Multiple channels of online marketing is generally undertaken, as this is key to raising awareness and support utilisation. This includes a dedicated social media presence, a trail website, as well as promotion, through the local or regional tourism organisation.

In addition, an examination of the number of cycling visitors (the primary target markets) attracted to the trail – as a proportion of total visitation to the region (i.e. the capture rate) – ranges from 1.5% to 3.9%. Based on this data, the average capture rate across the case studies is 2.7% of total visitors. This helps to understand the scale of visitation a quality rail trail can attract to a region and is explored in the Project Impact Assessment Chapter.



6. Strategic Considerations

The following details the project's strategic considerations, including relevant issues and opportunities, to inform the project development and achieving optimal outcomes. This draws on the stakeholder consultation, case studies, background research and market analysis.

6.1 KEY CONSIDERATIONS

The following considerations have been categorised to inform the delivery and operation of the Rail Trail.

Visitation and Consumption Drivers

- The Rail Trail will support **local utilisation**, including those undertaking outdoor recreation (walking/cycling), as well as using the trail for connectivity purposes. In addition, it will cater to a range of **visitor markets**, including recreational cyclists and walkers. While most walking users will likely be undertaken by existing visitors in the area, the product will be an attractor for new cycling markets to the region.
- The Rail Trail is bookended by **key towns/activity centres** – including Castlemaine and Maryborough. This provides exposure to an existing visitor and resident base and can be a drawcard to attract new users.
- In particular, anchoring the product to an **established visitor destination** (Castlemaine), with existing tourism infrastructure and amenity (including accommodation, retail, hospitality), will service visitors, provide a high-quality visitor experience and help generate local consumption.
- In addition, creating a link to the **developing visitor destination** in Maryborough, as well as smaller towns along the route (Campbells Creek, Guildford, Newstead, Carisbrook), will help grow the local visitor economies and provide investment opportunities for additional tourism/hospitality product.
- In addition to investment in tourism/hospitality product (e.g. dining, retail, etc.), sufficient demand could support future investment in private shuttle services transporting users between trail bookends (who only wish to travel one-way).
- The Rail Trail is, therefore, designed to be a **cross-regional product** that will serve both the Central Goldfields and Mount Alexander Shires. The product can also promote **visitor dispersal** to a range of smaller towns along the route. This will help improve the sustainability of the local visitor economy, by reducing congestion at existing visitor hubs (i.e. Castlemaine), and spreading the reach of visitors to smaller, less frequented areas of the region
- Given the proposed distance of the trail, cyclists would be able to undertake a return trip over a **single day** (or a shorter ride, depending on the segments undertaken). However, there is potential for the trail to attract **overnight visitors** that cycle the return journey, over multiple days. This is possible through the existing supporting product, infrastructure (including accommodation) and visitor experiences in the region.

Competitive Advantages

Based on the region's assets and positioning in the market, the following existing suite of competitive advantages can help attract visitation, drive trail utilisation and contribute to the success of the project:

- Proximity of the region to key population and visitor centres, including Melbourne, Ballarat and Bendigo, which provides access to a significant market size and can facilitate local usage as well as daytrips;
- Ability to undertake short 'family friendly' trips between the small towns connected along the Rail Trail;

- High-level of amenity across the region, which can contribute to a quality user experience and stimulate visitor spend;
- Access to unique and diverse experiences, ranging from arts and culture, as well as food and beverage, to history and heritage (particularly goldfields heritage). In addition, the area is rich with Indigenous cultural sites. These experiences could be leveraged to stimulate secondary investment opportunities in related product and infrastructure, which would support 'off-trail' experiences, increase dwell time and stimulate local consumption; and
- Accessibility to the trail via multiple transport options, including road and rail – via train stations in Castlemaine and Maryborough – which increases access to cycling markets.

Key themes

To support the user experience, the trail themes and interpretation should relate to the existing product strengths and attributes of the region (outlined in the Regional Context section), including:

- Railway history;
- Nature-based product;
- European and goldrush heritage; and
- Product and production including arts, food and dining, and agritourism.

In particular, capitalising on the goldrush heritage product (including historic sites, Maryborough Railway Station, etc.), as well as the region's arts and culture, can help support the broader Goldfields World Heritage listing bid.

While most of these relate to the Experience Victoria 2033 product priorities (nature, arts & culture, wellness, food and drink, First Peoples'), there is a clear opportunity not only to grow investment in these existing product categories, but also develop more First Peoples' products and experiences. This should consider the integration of Indigenous stories, interpretation and cultural expression into the trail (in consultation with Traditional Owners).

Project Development and Staging

- In terms of trail surface, a comparison with other rail trails indicate that sealed paths are becoming increasingly common and are viewed by the market as the 'premium product'. Sealed paths appeal to a wider range of cycling markets (inc. road cyclists) and are more easily accessible for less experienced riders, families as well as people with disabilities. This will support the provision of a safe, accessible transport route connecting key towns across the region.
- Sealed paths, although requiring a higher initial capital budget, require significantly less maintenance over time, making the trail easier for stakeholders to maintain.
- The proposed benefits outlined in this report are based on the development of a full, continuous trail from Castlemaine to Maryborough. While staging might be beneficial from a funding point of view, the full suite of market, financial, economic and community impacts will not be realised until trail development is complete. The implications of staged versus non-staged construction are explored further in this report.
- Should staged construction be undertaken, due to lack of available funds, the greatest benefits will be realised by anchoring the trail to the Castlemaine end during initial stages. This is because the Castlemaine region attracts around 75% of total visitors to the project study area and is a more established tourism market with existing visitor amenity and infrastructure to support trail users. Therefore, this would enable the project to increase exposure to visitor and population markets during development.



7. Project Impact Assessment

The following examines the impacts and benefits of the proposed Rail Trail, including market, economic, financial and social/community benefits. This assessment considers the net (i.e. additional) benefits of the project, focusing on the impact of new visitors and additional expenditure in the region over a 10-year period of operation.

For this reason, quantitative impacts from residents and existing visitors are not included in the economic or financial analysis.

In addition, unless otherwise indicated, this section assumes **continuous** trail development (i.e. non-staged construction), whereby the benefits outlined below will be fully realised following project completion.

Note: the market, economic and financial information presented in this report is indicative only, subject to further investigation and market testing.

7.1 KEY FINDINGS

The Rail Trail will support increases in visitation visitor spend, which will generate flow-on economic benefits in terms of job creation, additional output and increased sales for local businesses. An analysis of project benefits (over project development and first five years of operation), demonstrated the following market and financial impacts:

- Average additional visitation of 57,266 p.a.
- Average additional visitor expenditure of \$9.8 million p.a.; and
- A positive return on investment, which, depending on trail surface (and subsequent development costs), could range from a net present value of \$44.2 million to \$50.5 million, as well as a BCR of 2.2 to 2.6.

The development and operation of the rail trail will also generate significant flow-on economic benefits to the region, including the following direct and indirect benefits:

- Additional output ranging from \$65.9 million to \$79.7 million, as well as an additional 168 to 203 jobs during the short-term construction phase (depending on trail surface); and
- Additional ongoing output of \$24.6 million p.a. and an additional 157 jobs p.a. during the operation of the trail.

The Rail Trail will also provide substantial community and social benefits, including:

- Strengthening the region's brand as a premier cycling and walking destination;
- Encouraging a greater dispersal of visitation across the region;
- Stimulate private investment and activate visitor destinations; and
- Increased health and wellbeing benefits.

7.2 VISITOR IMPACT PROJECTIONS

7.2.1 Assumptions

The following outlines the approach undertaken to estimate the rail trail’s impact on visitation, which is used to identify the subsequent financial and economic impacts. This analysis considers the project’s impact on the **recreational cycling visitor market** only, based on the following assumptions:

- As mentioned above, the Rail Trail will be a primary motivator for the cycling market, whilst other users (i.e. walking market) are considered to be existing visitors in the region and will undertake incidental usage only. As such, this product is considered a value-add for non-cycling users (rather than a destination driver);
- Although there is likely to be local utilisation of the Rail Trail (including cyclists and walkers), the impacts of locals are not considered to be additional for the region and are excluded from the projections; and
- The visitor impacts are assumed to be consistent across both surface types (gravel and sealed). Note: the market research did not specify any impacts trail surface has on visitation. Therefore, this was not considered as part of the analysis.

7.2.2 Visitor Scenarios

The demand impacts of the Rail Trail have been calculated using the following visitor impact scenarios, which are based on the information presented in this report.

Scenario 1 (Market Research Analysis)

This visitor impact scenario draws on the market research findings examined in chapter 5. As shown in table T7.1, the market impact represents the difference between the potential market size and the existing cycling visitor market.

Under this scenario, by year 5 of operation the total additional cycling visitors are estimated at 58,551 (note: this reflects Year 5 as the primary research results that examine the likelihood of visitation over the next five years).

T7.1 Visitor Impact Scenario 1

Cycling Visitor Market Size	
Daytrip recreational cycling market size	81,686
LESS current cycling market size	23,135
Additional Cycling Visitors (uplift)	+58,551

Source: Tourism Research Australia (TRA) National Visitor Survey (NVS), 2015-2019 5-year average; Urban Enterprise, 2023


Scenario 2 (Capture Rate Analysis).

Drawing on the case studies examined in Section 5, this scenario applies the average capture rates of cycling visitors to other significant Rail Trails as a proportion of total visitation to the relevant tourism region.

In Table T7.2, applying the average case study capture rate (2.7%) to the Bendigo Loddon tourism region results in a total cycling market size of 105,591 – representing an uplift of 55,343 additional cycling visitors

T7.2 Visitor Impact Scenario 2

Cycling Visitor Market Size	
Bendigo Loddon Total Visitation	3,858,318
Current Cycling Market Size (@ 1.3% capture rate)	50,248
Potential Cycling Market Size (@ 2.7% average capture rate)	105,591



55,343
additional cycling visitors

Source: Tourism Research Australia (TRA) National Visitor Survey (NVS), 2015-2019 5-year average

7.2.3 Visitor Scenarios

Full Trail Development

Using these two visitor impact scenarios, which provide similar estimates, a mid-point (or average) uplift was applied to calculate the visitor impacts as a result of the Rail Trail. As shown in Table 7.3, this represents additional cycling visitors of 51,303 in Year 1, increasing to 83,065 in year 5. This assumes the following:

- Visitation growth is assumed to escalate at historic regional visitation growth rates (5.5% p.a.); and
- The current proportions of regional daytrip (71%) and overnight (29%) visitors (*Tourism Research Australia, NVS and IVS 2015 to 2019, YE Dec. represents an average for both Central Goldfields and Mount Alexander Shires*) were applied to the total visitation estimate, representing the high prevalence of daytrips due to the proximity to Melbourne

T7.3 Visitor Projections (Mid-Point)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Scenario 1	47,263	49,863	52,605	55,498	58,551	61,771	65,169	68,753	72,534	76,524
Scenario 2	55,343	58,387	61,598	64,986	68,560	72,331	76,309	80,506	84,934	89,606
Mid-point	51,303	54,125	57,102	60,242	63,556	67,051	70,739	74,630	78,734	83,065
Daytrip (71%)	36,669	38,686	40,814	43,059	45,427	47,925	50,561	53,342	56,276	59,371
Overnight (29%)	14,634	15,439	16,288	17,184	18,129	19,126	20,178	21,288	22,458	23,694

Source: Urban Enterprise, 2023

The purpose of examining visitor scenarios and applying an average rate is to reduce the key area of project risk, specifically the visitation impacts of the Rail Trail. This helps to validate the market impacts of the project, which influences the economic and financial benefits (and overall feasibility).

Staging Implications

The above projections reflect full continuous trail development. Should a staged approach be adopted, overall demand would be impacted as this would affect the overall trail experience. Anchoring the trail stage to either the Castlemaine or Maryborough bookends could influence visitation as follows:

- **Castlemaine (73% of total visitation)**. Based on existing visitor proportions across the Shires, staging the trail from the Mount Alexander point is estimated to attract an initial 37,500 additional cycling visitors from Year 1; and
- **Maryborough (27%)**. Staging the trail from Maryborough, which is a less developed visitor destination, is estimated to attract a lower proportion of cycling visitors, estimated at 13,803 in Year 1.

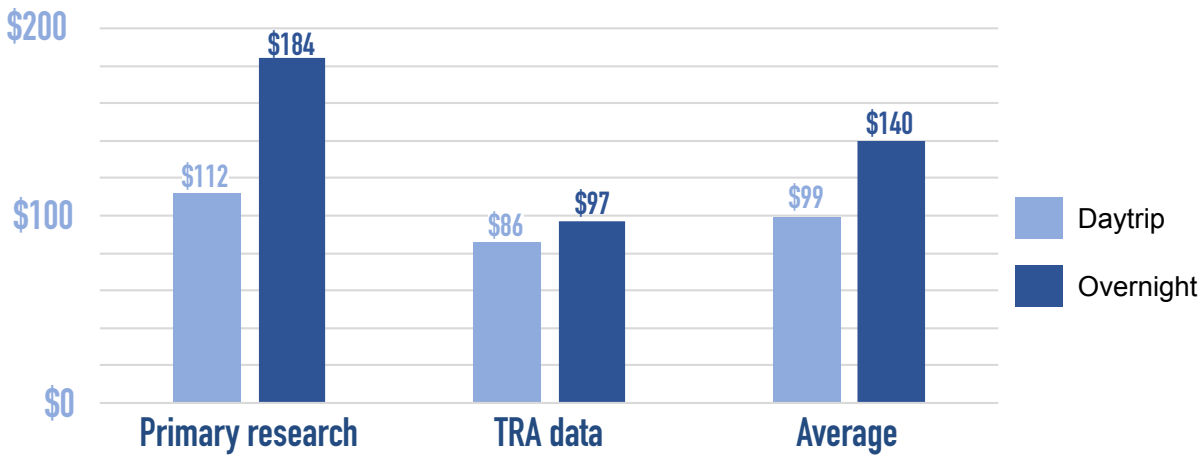
However, it is worth noting that a staged rollout – whether construction commencing at Castlemaine, Maryborough or both simultaneously – would significantly impact demand for recreational cyclists seeking a daytrip experience (as well as residential users seeking a safe, connected path between Castlemaine and Maryborough).

As such, the benefits would be incremental subject to the staging process. Due to the limited nature of a staged product during construction – which involves shorter trail lengths – overall utilisation would decrease, which is assumed to increase to full estimated projections following complete development of the continuous trail.

Given the market research does not factor in shorter rides (less than a daytrip), it is not possible to quantify the impacts of the staged approach, other than that it will be significantly reduced.

7.3 VISITOR EXPENDITURE

The following details the projected impacts of rail trail visitation on visitor expenditure in the region. This applies an average visitor spend of \$99 per daytrip and \$140 per overnight visitor (per night), which is an average of the expenditure levels identified in the primary research and TRA data for the region (see Figure 7.1).



F7.1 Average Visitor Expenditure

Source: Urban Enterprise, 2023

Based on this information – as well as the above visitor estimates – additional visitor expenditure is projected at \$8.2 million in Year 1, increasing to \$17.3 million in Year 10.

It is important to note that these figures only consider Rail Trail users. Given the average travel party size is 3.9 people per group (based on the primary research), the actual impact on visitor spend in the region is expected to be significantly greater, ranging from an additional \$32 million in Year 1 to \$67.6 million in Year 10.

However, for the purposes of this report, the economic impact and cost-benefit analysis will only consider the direct expenditure impacts from rail trail users (which is a more conservative estimate).

T7.4 Rail Trail Visitor Expenditure Projections

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Day trip	\$3,621,101	\$3,934,869	\$4,275,826	\$4,646,326	\$5,048,930	\$5,486,420	\$5,961,818	\$6,478,410	\$7,039,764	\$7,649,759
O/N	\$4,587,779	\$4,985,310	\$5,417,287	\$5,886,695	\$6,396,777	\$6,951,058	\$7,553,367	\$8,207,866	\$8,919,078	\$9,691,916
Total	\$8,208,880	\$8,920,179	\$9,693,113	\$10,533,021	\$11,445,707	\$12,437,477	\$13,515,185	\$14,686,276	\$15,958,841	\$17,341,675

Source: Urban Enterprise, 2023

Note 1: Average visitor spend is indexed at 3% p.a.

Note 2: The average length of stay for overnight visitors is 2.2 nights, which is consistent with regional averages and assumes that overnight markets will stay in the region beyond the rail trail utilisation.

7.4 ECONOMIC IMPACT

The net economic impacts of the Rail Trail are assessed for the short-term construction phase, as well as the ongoing operational phase, that will be delivered once the project is complete and functional (i.e. full trail development).

This assessment adopts the input-output method of analysis (I-O). The I-O method is based on the interdependencies and relationship between industry sectors and is widely used across the public and private sector to estimate the direct and flow on economic impacts of a project or activity to an economy.

The Productivity Commission of Australia states that “*input-output tables can be used to compute output, employment and income multipliers. These multipliers take account of one form of interdependence between industries — that relating to the supply and use of products. The numbers add up the direct and indirect impacts of a change in final output of a designated industry on economic activity and employment across all industries in an economy.*”

Impacts are expressed in terms of additional economic output and job creation supported in the region (the analysis uses industry multipliers relevant to the Bendigo Loddon Region, which is the broader region for the Central Goldfields and Mount Alexander Shires). Definitions of economic terms are provided in the glossary of terms.

Construction Phase (Short-Term)

The following demonstrates the short-term impacts generated by the development of the trail. This includes the impacts of developing both a sealed trail and gravel trail, which requires different levels of investment. As shown in the table below, the economic impacts are estimated as follows:

- Option 1 (Sealed) – supports additional output of \$79.7 million and 203 additional jobs in the economy.
- Option 2 (Gravel) – supports additional output of \$65.9 million and 168 additional jobs.

The flow-on economic benefits of the gravel surface are slightly less given the lower capital requirements.

T7.5 Construction phase impact

		Direct Impact	Indirect Impact	Total Impact
Option 1 (sealed)	Additional Output (\$M)	\$37.7	\$42.0	\$79.7
	Additional Employment (jobs)	78	125	203
Option 2 (gravel)	Additional Output (\$M)	\$31.1	\$34.7	\$65.9
	Additional Employment (jobs)	65	103	168

Source: Urban Enterprise, 2023

Operational Phase (Ongoing)

The ongoing net economic benefits generated by the project, in terms of output and job creation, will be realised through additional cycling visitation and associated expenditure impacts. This expenditure will have flow-on economic benefits as it flows through the economy via increased consumption on local goods and services, as well as increased activity across the supply chain (i.e. businesses servicing visitors).

The average additional expenditure estimates over the first ten years of operation (\$12.4 million p.a) were used to calculate the average (ongoing) economic impact. Using the average figure helps account for variation in visitation and spend year on year, reflecting a ‘steady state’ of operation.

Therefore, as shown in Table T7.6, the additional expenditure will create ongoing (direct and indirect) economic benefits to the regional economy as follows:

- Additional output of \$24.6 million p.a.; and
- An additional 157 jobs in the economy.

Based on the analysis below, the project is likely to generate economic benefit to the region through additional visitation, expenditure and commercial activity.

T7.6 Operational Phase Net Economic Impact

	Direct Impact	Indirect Impact	Total Impact
Additional Output (\$M)	\$12.3	\$12.3	\$24.6
Additional Employment (jobs)	119	38	157

Source: Urban Enterprise, 2023

Note 1: Spend is assumed to occur across the accommodation, retail, food and beverage and transport industries.

Note 2: Assumes visitation (and spend) is consistent for each trail development option. As visitation and spend increases over time, subsequent economic output and job creation will also increase.

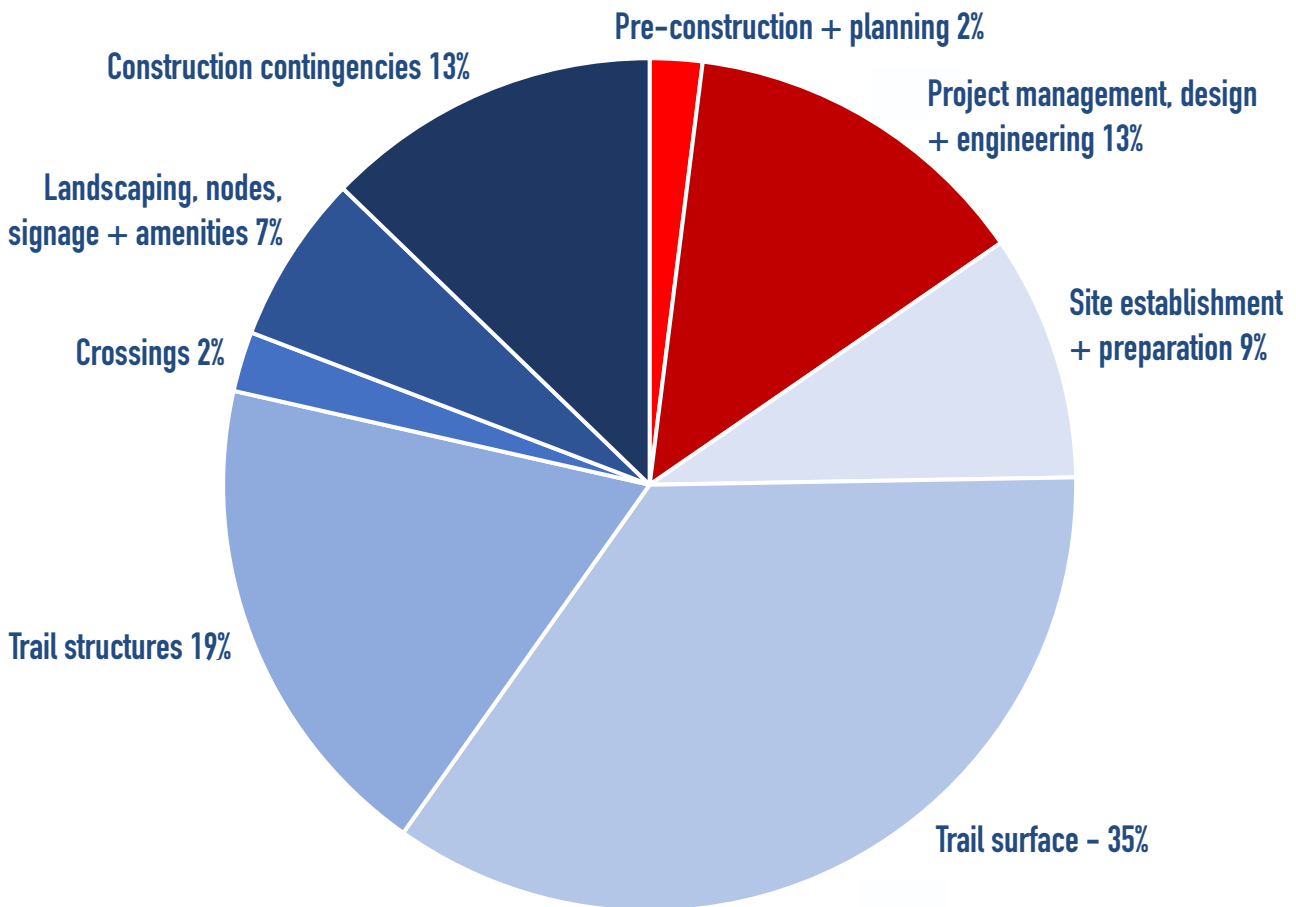
7.5 SUMMARY OF COSTS

A cost plan for the proposed rail trail was undertaken by Newton Kerr and Partners Quantity Surveyors for the purpose of this study. The projected overall cost for planning, designing, project managing and constructing an asphalt rail trail, incorporating the connections to each of the townships is estimated at \$37.6M. Costs relating to the physical construction of the trail (ie. excluding planning/design/management costs and contingencies) are estimated at \$23.5M.



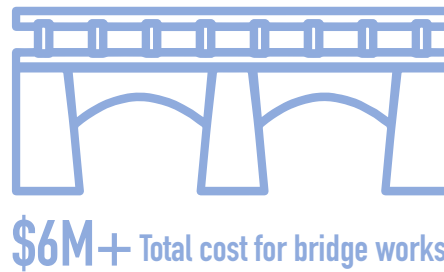
It is important to note that the costs presented in this report are based on 2023 prices. Given the expected timeframes for trail delivery, it is crucial that additional cost planning is undertaken to ensure that estimates are updated in order to effectively inform subsequent phases of the project.

A breakdown of the estimated costs is outlined below in figure 7.2. For a full breakdown of costs, refer to Cost Plan A in the appendix.

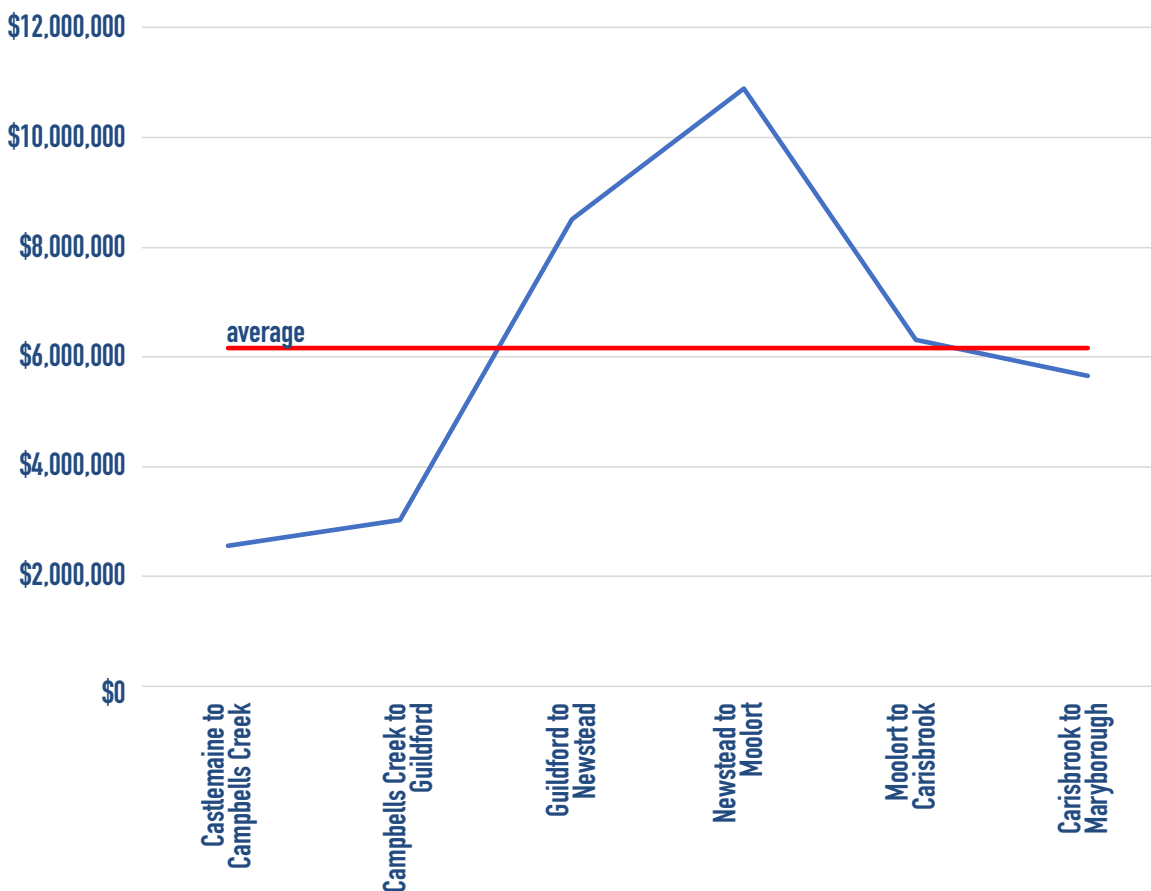


F7.2 Breakdown of cost estimate

Trail surface and structures are the two highest proportions of the overall cost of the rail trail coming in at around \$13M and \$7M respectively.

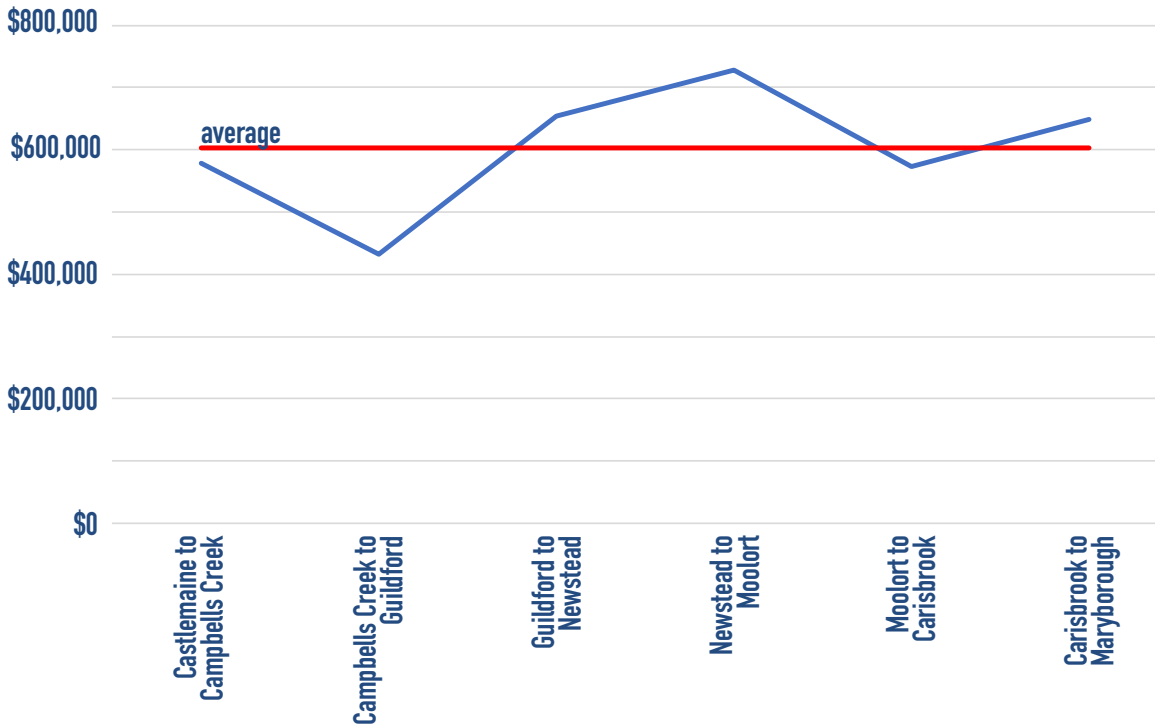


The costs associated with each stage of the project vary significantly, with an average cost slightly exceeding \$6 million as shown in Figure 7.3. Stage 1 incurs the lowest cost as it is the shortest in length and encompasses only two minor bridges. Stage 4 represents the highest cost stage due to its length and the inclusion of features such as the Joyces Creek Railway Bridge, and a proposed new amenity node and trailhead.



F7.3 Estimated cost per section

The figure provided below shows the per-kilometre construction cost per stage. Based on the data presented, the average cost per kilometer amounts to approximately \$600,000. Stage 2 has the lowest cost per kilometer as it incorporates only two minor bridges along its length. Conversely, Stage 4 has the highest cost per kilometer due to the works associated with the longest bridge along the route (at Joyces Creek), and the addition of a new amenity node and trail head.



F7.4 Estimated cost per kilometre per stage

7.6 COST-BENEFIT ASSESSMENT

The following provides a high-level cost-benefit analysis for the Rail Trail, which is designed to demonstrate the projected net impact and Return On Investment (ROI), which is assessed via the Net Present Value (NPV) and Benefit Cost Ratio (BCR). Definitions of cost-benefit terms can be found in the glossary, and the detailed cost-benefit assumptions can be found in the appendices.

A cost-benefit model was developed over a 10-year period of operation for development option (i.e. sealed and gravel surface). The following inputs and assumptions were applied to the model:

- Capital expenditure estimates range from \$31.1 million to \$37.7 million;
- Operating expenditure, which includes trail maintenance, varies according to surface type. Based on the existing research, the ongoing costs range from an annual average of \$1,000/km for a sealed surface to \$1,500/km for an unsealed surface (indexed at a rate of 3% p.a.), (*TRC Tourism, Guidelines for trail planning, design and management*, 2019; The research suggests costs for sealed surfaces fall at the lower end of this scale)
- Visitation is expected to increase in line with historical growth rates (average of 5.5% p.a.);
- Average visitor spend levels, which is used to calculate visitor expenditure, is indexed at a rate of 3% p.a.; and
- The ROI results were calculated using a discount rate of 7%, which is consistent with the Victorian Department of Treasury and Finance guidelines.

7.7 Cost-benefit results (10-year average)

	Option 1 (sealed)	Option 2 (gravel)
Additional Visitation - Year 1	51,303	51,303
Additional Visitation - Year 10	83,065	83,065
Additional Visitor Expenditure - Year 1	\$8,208,880	\$8,208,880
Additional Visitor Expenditure - Year 10	\$17,341,675	\$17,341,675
Additional Operating Expenditure - Year 1	\$54,800	\$82,200
Additional Operating Expenditure - Year 10	\$71,502	\$107,252
CAPEX	\$37,684,000	\$31,138,000
NPV	\$44,201,645	\$50,530,623
BCR	2.2	2.6

Source: Urban Enterprise, 2023

Based on these inputs and assumptions, the cost-benefit results demonstrates a positive ROI for each development option. Key points to note include:

- Option 1 – positive NPV of \$44.2 million, as well as a BCR (greater than 1) of 2.2; and
- Option 2 – positive NPV of \$50.5 million, as well as a BCR (greater than 1) of 2.6.

The Net Present Value and Benefit Cost Ratio results are both comparable with other feasibility studies undertaken for similar rail trail products in Regional Victoria and Australia

This analysis demonstrates that both options provide a positive ROI, with variations in the results dependent on trail development and subsequent operating costs. While the sealed surface option has higher capital costs – and a lower ROI – it does result in a reduction in ongoing maintenance costs for the managing body (which may make this a more lucrative product to manage).

The entities responsible for the ongoing costs will be determined by the trail’s operating model, which is discussed in the next section of this report.

7.6.1 Sensitivity testing

The following includes sensitivity testing of the cost-benefit assessment at a discount rate of 4% and 10%, which aligns with Infrastructure Australia guidelines. At these discount rates, the ROI remains positive for both the sealed and gravel options, which further demonstrates the financial viability of the project.

T7.8 cost-benefit results (sensitivity analysis)

		Option 1 (sealed)	Option 2 (gravel)
4% Discount Rate	NPV	\$58,738,962	\$65,032,613
	BCR	2.5	3.0
10% Discount Rate	NPV	\$32,618,483	\$38,975,868
	BCR	1.9	2.2

Source: Urban Enterprise, 2023

7.7 SOCIAL AND COMMUNITY IMPACT (QUALITATIVE)

In addition to the quantifiable economic and financial benefits generated by the project, the following describes the suite of key qualitative benefits that will be delivered to the region, including social and community benefits.

Strengthening the region's brand as a premier cycling and walking destination



The development of a continuous trail network connecting Castlemaine and Maryborough will deliver greater trail product for locals and visitors in the region. This will subsequently increase the appeal of the region as a trail destination, helping to capitalise on the recent growth in cycle tourism.

The appeal of the trail is expected to attract a broad range of visitor markets, including adult couples, groups and families. Importantly, the trail will be a motivating factor in attracting these different markets to the region.

The product will also appeal to the existing visitor markets, particularly those that participate in recreational walks during a trip. It is more likely, however, that the walking market will undertake incidental usage of the trail during visits, particularly around the key destinations and towns that the trail passes through.

Therefore, trail development will strengthen the region's brand as a premier cycling and walking destination, diversifying the region's tourism product strengths and meeting different walking and cycling market preferences. This would stimulate increased visitation and help activate the smaller destinations along the trail route (e.g. Guildford, Newstead, Carisbrook), which is a critical step to improving the area's profile for tourists.

Encouraging a greater dispersal of visitation across the region

Visitation to the region is concentrated around the key town of Castlemaine, given the prevalence of infrastructure, accommodation visitor amenity. However, by linking smaller destinations along the route, the trail could encourage a greater dispersal of

visitation via walking and cycling. Achieving visitor dispersal across the region could generate more sustainable growth in the visitor economy, as it would:

- Reduce congestion in the more popular visitor destinations;
- Lead to greater tourist exposure in the less populated and frequented areas (i.e. Maryborough); and
- Creating economic benefits for local businesses around the region as they capture a greater share of visitor expenditure.



Stimulate private investment and activate visitor destinations

The increased dispersal to smaller visitor destinations across the region, particularly in rural areas will increase economic activity for local businesses. As such, this could promote additional business investment (e.g. accommodation, hospitality, tours, etc.) and help activate the destinations into key trail nodes.

The revitalisation of these areas, facilitated by business investment and increased visitation, could also help encourage a longer length of stay for visitors. This presents the long-term opportunity to convert daytrips into high-yielding overnight visitors. However, this would require additional investment into accommodation and supporting visitor amenity in strategic locations.

Increased health and wellbeing benefits

There are significant benefits associated with increased levels of walking and cycling. Various studies have been conducted into the health, environmental and economic benefits associated with walking and cycling. Benefits include:



- Health and health cost savings through an increase in activity (or reduction in inactivity);
- Reduced traffic congestion, road provision costs, vehicle ownership, operating and parking costs;
- Reduced environmental pollution and traffic noise;
- Improved physical and cognitive health for children and seniors in particular; and
- Increase in social connection and civic pride.

The development of the Rail Trail will strengthen the region's recreational assets, which locals and visitors can utilise for exercise and leisure purposes.

It has been acknowledged that greater access to recreation and leisure infrastructure results in improved physical health and wellbeing. Regular physical activity has been shown to improve overall health and reduce the risk of a wide range of diseases, including cardiovascular diseases, hypertension, diabetes and some types of cancers (*The Victorian Open Space Planning and Design Guide, Parks and Leisure Australia 2013*). This is a result of an increase in activity (or reduction in inactivity).



8. Next Steps

8.1 OPERATING MODEL ANALYSIS

This section identifies and examines a range of operating models to be considered for the Rail Trail. This takes into account the proposed trail concept, alignment, relevant stakeholder groups and strategic objectives of the trail. The information included in this section is drawn from a combination of stakeholder consultation, case studies as well as existing industry and government reports.

Please note the information included in this section is subject to further investigation and collaboration between stakeholders.

8.1.1 Key Findings

Based on case study analysis, stakeholder consultation and the project requirements, a **Partnership Agreement Model** is the most appropriate operating model for the Castlemaine to Maryborough Rail Trail. As illustrated below, three partnership agreement model options have been identified, which involves collaboration between Councils and other stakeholders (i.e. CMRT), to support trail development and operations.

T8.1 Partnership Agreement Model Options

Option	1. Direct Council Partnership	2. Council and CMRT Partnership	3. Staged Approach	
			3a. Trail Development	3b. Trail Operation
Overview	Council manages operations of its own sections via a shared agreement	Equal responsibility and decision-making power through a formal agreement	Outsource to Project Management Office	Transition to Partnership Model
Members	<ul style="list-style-type: none"> Mount Alexander Central Goldfields (Informal support from CMRT) 	<ul style="list-style-type: none"> Mount Alexander Central Goldfields CMRT 	<ul style="list-style-type: none"> Councils and CMRT support as required External project manager 	Refer options 1 and 2
Functions	<ul style="list-style-type: none"> Trail development and planning Trail operation 	<ul style="list-style-type: none"> Trail development and planning Trail operation 	Trail development and planning	Trail operation

There are significant benefits in managing and operating the trail through a partnership agreement, where multiple stakeholders collaborate, pool resources and share risk in order to deliver project objectives.

However, the type of model and partnership agreement will have a significant bearing on trail development and operation. The implications of each option should be considered by relevant parties (including Council and CMRT) to determine the 'best fit' and alignment to stakeholder preferences and expectations.

8.1.2 Management Functions

Good trail governance is essential to the successful trail operation, decision making and financial performance of the trail destination (*TRC, Recreational Trail Planning, Design and Management Guidelines, 2020*).

To successfully develop and operate the Rail Trail, the managing body should be responsible for the delivery of the following key activities/functions.

The delivery of these activities could be the responsibility of one or more stakeholders responsible for trail operation.

T8.2 Management roles and responsibilities

Activity/Function	Description
Trail construction and maintenance	Developing trail infrastructure and ensuring the preservation, protection, maintenance and safety of assets.
Strategic planning and governance	Includes setting the governance arrangements, decision-making roles, accountability requirements, long-term planning, business objectives and KPIs.
Administrative support	Providing support functions including finance, HR, data collection (e.g. exit surveys) etc.
Marketing and Communications	Marketing of the trail and promotion to attract visitation.
Outreach and partnerships	Engaging with key stakeholders and user groups (e.g. volunteers, local businesses, schools, etc.) to promote awareness of the trail and obtain community buy-in.
Signage and wayfinding	Providing a consistent brand and linking interpretive elements to develop the trail as a single, cohesive product.
User experience and activation	Ensuring a high-quality user experience through activation of key areas and delivery of localised events.
Advocacy and funding support	Identifying and pursuing internal and external funding opportunities, including grants, private and public sponsorships, donations, etc.

Source: *TRC, Governance and Business Model for Recreational Trails 2017; adapted by Urban Enterprise, 2023.*

8.1.3 Operating Model Options

The research indicates that there is no single model that universally applies to trail governance and management, as there are a variety of possible structures that depend on a range of factors, including:

- The specific circumstances of each trail (e.g. land tenure, stakeholders, etc.);
- The operating environment (e.g. government policy, tourism and industry engagement, etc.); and
- Proposed products and experiences to be delivered, including project outcomes.

A review of existing governance arrangements for trails across Australia identified a range of models that are typically applied. Using this research, the following operating model categories were identified: Single Agency, Partnership Agreement and Private Operation (refer table overleaf for further information).

Based on this information, as well as the outcomes of the case study analysis and consultation, the Partnership Agreement Model is the most appropriate operating model for the Castlemaine to Maryborough Rail Trail for the following reasons:

- The Rail Trail travels across multiple municipalities, making it difficult for a single Local Government to exclusively manage the product. As detailed in the case studies, most existing (and successful) trails operate under a partnership model managed by multiple stakeholders.
- This project is being driven by an existing volunteer community group – CMRT – which has expressed a keen willingness and desire to be involved in trail development and operation.
- In a constrained funding environment, having multiple organisations that can share funding responsibilities and source external funding support will promote trail sustainability (and ensure funding risks are shared).

Overall, there are clear advantages in managing and operating the trail through a partnership agreement, where multiple stakeholders collaborate, pool resources and share risk in order to deliver project objectives. In this context, it would benefit both Central Goldfields and Mount Alexander Shires if they were to work together on this project, given their similarities as central Victorian municipalities within the Goldfields region. However, the type of model and partnership agreement will have a significant bearing on trail development and operation. A range of partnership options are explored below, highlighting the key issues and opportunities for further consideration.

T8.3 Types of Operating Models

	Single Agency	Partnership Agreement	Private Operation
Overview	A single government agency exclusively manages the trail	Multiple stakeholders – including government agencies and user groups – agree to jointly manage trail (via a partnership agreement)	Outsourcing governance to a private or commercial operator (without political interference)
Applicable scenarios	<ul style="list-style-type: none"> • Mostly public land within a single municipality. • Limited involvement from other stakeholders, including volunteers, user groups or local community. 	<ul style="list-style-type: none"> • Located on a mix of land tenure, including across public/private land and multiple municipalities. • Interest from community groups. 	<ul style="list-style-type: none"> • Trail mostly covers private land • No willingness from government or community groups to engage
Advantages	<ul style="list-style-type: none"> • Clear management roles and responsibilities • Can enable quick decision making • Easier to apply consistent service standards although not guarantee 	<ul style="list-style-type: none"> • Sharing roles and responsibilities • Sharing resources and risk • Forces stakeholders to enter into agreements so that roles and responsibilities are clear 	<ul style="list-style-type: none"> • Can respond quickly to market preferences • Incentivised to deliver high-quality products and experiences to generate revenue. • Flexibility and efficiency in decision making
Disadvantages	<ul style="list-style-type: none"> • Consumer and tourism industry vulnerable to agency performance • Limited ability to leverage funding and broader community support • Funding burden and financial risk to Council 	<ul style="list-style-type: none"> • Effectiveness depends on the way the partnership operates and its access to resources • Requires a strong agreement with stakeholder commitment • Different organisational cultures between partners can create coordination issues • Risk of some partners not performing can increase burden on other partners 	<ul style="list-style-type: none"> • Lack of community engagement and involvement • Council and other land managers will have limited control over operations • The organisation may fail to meet legislative requirements • There are limited commercial opportunities associated with walking trails. • May result in cost barriers and reduce visitor and resident access
Examples	<ul style="list-style-type: none"> • Great Ocean Walk • Overland Track • Larapinta Trail 	<ul style="list-style-type: none"> • Refer case studies Section 5.4. • Bellarine Rail Trail • Munda Biddi Trail • Bibbulman Track 	<ul style="list-style-type: none"> • Banks Peninsula Track (NZ) • Tora Walk (NZ)

Source: TRC, Guidelines for trail planning, design and management; adapted by Urban Enterprise, 2023.

8.1.4 Partnership Agreement Model Options

Drawing on the consultation, case studies and industry research, Urban Enterprise identified the following partnership models for assessment. An overview of these models, as well as relative strengths and weaknesses, are summarised below.

Please note: these are subject to further discussion/investigation by stakeholders, including a review of legislative and policy requirements.

1. Direct Council Partnership Model

Under this model, both Councils (Central Goldfields and Mount Alexander) agree to share trail management functions (outlined above). Each Council would be jointly responsible for overall operations and will likely maintain specific trail sections within its jurisdiction.

This model could be developed through a variety of mechanisms, including (for example):

- A Memorandum of Understanding (MoU). A non-legally binding agreement between two or more parties. The agreement allows government departments and agencies to clarify roles, responsibilities and funding obligations (via a service agreement) for a working relationship; or
- A Joint Committee. Council committees, which can include ‘Advisory’ or ‘Steering’ committees, can be put in place by council to provide advice and decision-making with regards to the development and implementation of specific projects. These committees, while not a legal entity, are typically established via a Terms of Reference (ToR), which “establishes a particular committee and details the specific authority to oversee a delegated area of responsibility.”

T8.4 Direct Council Partnership

Overview	Council jointly manages operations via a shared agreement
Members	<ul style="list-style-type: none"> • Mount Alexander • Central Goldfields (Informal support from CMRT)
Type/s of Legal Agreement	Memorandum of Understanding (MoU)/Terms of Reference (ToR)
Operating Model Functions	<ul style="list-style-type: none"> • Trail Development and Planning • Trail Operation
Advantages	<ul style="list-style-type: none"> • Clear management and decision-making roles (subject to a strong agreement) • Council management allows for economies of scale to be achieved as Council can utilise existing skills, contracts and resources to assist in trail development and operation
Disadvantages	<ul style="list-style-type: none"> • Council is responsible for providing staff resources and funding (for operations) • Minimal/informal assistance from volunteer groups • Different Council priorities may affect resource availability

As the partnership does not formally involve any community or user groups (such as the CMRT), any external assistance is usually provided on an ad-hoc basis. While funding remains the sole responsibility of Council. In addition, would be responsible for ongoing maintenance costs relevant to the trail sections within the municipal boundaries. Based on the proportion of trail within each LGA, Mount Alexander would be responsible for around 54% of ongoing costs, and Central Goldfields 46%.

2. Council and CMRT Partnership Model

Under this model, Councils formally enter into a partnership with a community/user group (in this case the existing CMRT entity), with all parties sharing responsibilities and decision-making powers.

The mechanics of this model would be subject to the type of legal/partnership agreement established, which can include the following:

- An MoU. See previous;
- A Joint Committee (via ToR). Similar to the above, with the exception of having CMRT representatives within the committee; or
- A Community Asset Committee (CAM) . Community Asset Committees – which are established by the Local Government Act 2020 – are formed “for the purpose of managing a community asset. ” These committees, which are established via an instrument of delegation, include Councillors, Council staff and members of the community (appointed by Council). In this instance, CMRT representatives would be included within the Committee, alongside both councils.

While Council would remain ultimately responsible for the outcomes of a partnership arrangement, the inclusion of a third party would provide broader community and industry assistance (in terms of governance and leveraging funding support). As such, this can potentially reduce the resourcing burden on Council.

T8.5 Council and CMRT Partnership

Overview	Equal responsibility and decision-making power through a formal agreement
Members	<ul style="list-style-type: none"> • Mount Alexander • Central Goldfields • CMRT
Type/s of Legal Agreement	MoU/ToR/CoM
Operating Model Functions	<ul style="list-style-type: none"> • Trail Development and Planning • Trail Operation
Advantages	<ul style="list-style-type: none"> • Sharing roles and responsibilities • Sharing resources and risk • Leverage broader base for funding and industry support
Disadvantages	<ul style="list-style-type: none"> • Effectiveness depends on how the partnership operates and its access to resources • Requires a strong agreement with stakeholder commitment • Requires a strict agreement and monitoring to ensure all parties are meeting stated obligations.

3. Staged Approach

Given the different stages associated with the project – including trail development/ planning and trail operation – having a staged approach to management could assist with meeting the specific requirements of each stage (i.e. a ‘best fit’ model depending).

The following outlines this potential approach to have a dedicated operating model during trail construction, to be followed by a management transition during trail operation.

3a. Project Management Office (Trail Construction)

A Project Management Office (PMO) model involved an additional funded position that typically oversees the successful coordination and delivery of council projects. This position can be insourced or outsourced as follows:

- Employed internally by Council as a contractor (over a fixed term contract for the duration of the project); or
- Outsourced to an external organisation (working independently but under Council guidance via a contract).

This approach has become increasingly important across government agencies, given the recent influx of government funding that requires coordination (e.g. COVID and flood recovery grants), coupled with the workforce shortages experienced across Councils. As such, having a PMO can free up Council resources and help focus on achieving project outcomes.

However, as this is a funded position/contract, it would typically depend on the ability of Council to utilise grant funding for project management purposes (to avoid using internal Council resources).

Given there are multiple councils involved, PMO oversight would need consideration in terms of joint Council oversight versus nominating a lead Council.

Following successful construction, trail management would need to transition to an appropriate partnership structure to support trail operation.

3b. Partnership Model (Trail Operation)

Under this staged approach, the trail operation (including responsibility for the identified management functions) transitions to one of the following partnership options (as detailed above):

- Direct Council Partnership Model; or
- Council and CMRT Partnership Model.

The efficacy of this model is dependent on the transition between trail development and operation.

T8.6 Project Management Office (Trail Construction)

Overview	Equal responsibility and decision-making power through a formal agreement
Members	<ul style="list-style-type: none"> • Mount Alexander • Central Goldfields • External Project Manager (PM) or Contracted Internal PM
Type/s of Legal Agreement	PMO Contract
Operating Model Functions	Trail Development and Planning
Advantages	<ul style="list-style-type: none"> • Use proportion of grant funding for an external PM • Frees up Council and other resources • Utilises operational expertise from a dedicated company/resource
Disadvantages	<ul style="list-style-type: none"> • PMO funding depends on grant program guidelines • Requires clear contract which outlines roles and responsibilities • Could be issues with transition to a partnership model during operation

8.2 OPERATING MODEL ASSESSMENT

The assessment of each identified partnership model option was rated against several criteria covering relevant categories, including financial/resource capacity, expertise, implementation and risks. For each criterion, there is an allocated response and corresponding score for the identified options. The scoring system is shown adjacent, with the overall highest score determining the preferred operating model (the criteria are weighted equally).

Rating	Score
Meets the criteria	2
Partially meets the criteria	1
Does not meet the criteria	0

The assessment matrix is detailed in the following table, which includes a description of the criteria, as well as the score and response.

This assessment is qualitative and subjective; based on local knowledge, stakeholder consultation, professional experience, and a general assessment of perceived benefits.

In addition, the assessment also considers the expectations of key stakeholders – Council and CMRT – based on ongoing discussions.

The results of this assessment matrix shows that there is no single ‘best fit’ option without risks. Rather, the available choices (and trade-offs) need to be considered for trail development and operation. These are explored below.

T8.7 Operating model Assessment

Criteria	Description	Partnership Model Options		
		1. Direct Council Partnership	2. Council and CMRT Partnership	3. Staged Approach: PMO (Construction) + Partnership Model (Operation)
Clear governance & accountability	The model provides a clear governance structure and clear lines of accountability.	Council control will support a clear governance structure, as well as accountability, via Council processes	Clarity of roles, responsibilities and decision-making depends on robustness of agreement across Council and CMRT	Clarity of roles, responsibilities and decision-making depends on effectiveness of contract and Council oversight
		2	1	1
Access to alternative funding sources and commercial opportunities	The structure has the ability to access resources (or alternative funding options) to effectively manage and operate the trail	Limited ability for Council to source funding from the community or realise commercial opportunities	Role of CMRT as a key stakeholder will enhance the ability to access funding support from the community	<ul style="list-style-type: none"> - A specialist PMO would have greater insight into funding and commercial opportunities (during development) - During operation, dependent on option undertaken (assumes option 2)
		0	2	2
Organisational expertise and operational effectiveness	The structure has the relevant skills, knowledge and experience to successfully manage the trail and deliver the identified roles and responsibilities	Council can draw on existing resources to undertake management functions, but would have limited access to specialty community/user groups associated with the trail (i.e. CMRT)	<ul style="list-style-type: none"> - A formal partnership with CMRT can support Council staff and provide specialised assistance, strategic advice and expertise - CMRT can help expand the product awareness and reach to community and industry 	<ul style="list-style-type: none"> - A PMO (either internal or external) would have operational expertise in trail delivery and planning. - During operation, dependent on option undertaken (assumes option 2)
		0	2	2
Stakeholder engagement and support (industry, community)	Key community and business stakeholders are engaged and contribute to the decision-making process.	Limited partnership with community and user groups will reduce the level of overall engagement	Formal partnership with CMRT will ensure the trail is supported by industry and community representatives, which helps involve other stakeholders in decision-making process	<ul style="list-style-type: none"> - Limited stakeholder engagement during trail construction. - During operation, the level of engagement is dependent on option undertaken (assumes option 2)
		1	2	2
Implementation efficiency and sustainability	The model can be implemented quickly and efficiently (and operate sustainably)	Establishing a joint committee and agreement will require some lead time, however, the model can utilise existing Council resources	Setting up a partnership between Councils and CMRT requires further lead time to prepare a formal agreement and recruit representatives	<ul style="list-style-type: none"> - On-boarding a PMO will require several steps and approvals for implementation - Transitioning management to a partnership model will require additional lead time
		2	1	0
Decreases risk levels	The operating model has a low level of risk to Council and other stakeholders	The key risk is the ability of Councils to collaborate and use existing resources to operate the trail	The key risk is ensuring a robust agreement to provide clear roles and responsibilities (as well as aligning organisational priorities)	<ul style="list-style-type: none"> - The establishment of a PMO is heavily dependent on external grant funding - The transition from a PMO to a partnership model could result in implementation issues
		1	0	1
Total Score		6	8	8
Ranking		3	=1	=1

8.3 OPERATING MODEL RECOMMENDATIONS AND CONSIDERATIONS

8.3.1 Recommended Operating Model

Based on the assessment matrix, the joint recommended model for further consideration includes either:

- Council and CMRT Partnership (for development and operation); or
- A staged approach, involving:
 - PMO for trail construction; and
 - Transitioning to Council and CMRT Partnership for operation.

As highlighted in the options assessment, as well as considering the various trade-offs, these models are jointly preferred for various key reasons. Having a staged approach could benefit the project (and stakeholders) through enlisting a specialist PMO – while alleviating resource strain on Councils. However, the trade-offs from staging (and transitioning) structures during operation would need to be considered against establishing a single operating model throughout the process.

Irrespective of the structure during development, trail operation should utilise the existing (and engaged) CMRT organisations. This provides an excellent opportunity for Council to receive ongoing project support (inc. alternative funding avenues), as well as ensure that industry and community are represented to obtain broader stakeholder buy-in.

8.4 TRAIL IMPLEMENTATION PROCESS

Upon the decision to proceed with the project following the feasibility study, the implementation of the trail can be divided into three stages: pre-construction, construction, and post-construction. These stages are summarised in Table 8.9.

8.4.1 Pre-construction

Establishing a Operating Model

Prior to work beginning on the trail development, an operating model must first be agreed upon and implemented by the governing members. The implementation of the preferred model requires consideration of the following steps to facilitate implementation (please note these are high-level only and subject to further planning and investigation):

T8.8 Implementation considerations

Operating Model	Considerations
PMO	<ul style="list-style-type: none"> • Obtaining relevant grant funding to resource a PMO position • Developing a PMO contract outlining roles and responsibilities • Outsourcing to an external PMO or contracting a PMO internally • Determining the level of Council oversight/coordination – whether joint or a lead Council
Council and CMRT Partnership	<p>Establishing the appropriate partnership structure and agreement (such as an MoU, Committee/ToR or CAM) that is the ‘best fit’ for stakeholder preferences and expectations as follows:</p> <ul style="list-style-type: none"> • Council – having a resource-efficient structure, with well-defined roles and responsibilities, as well as utilising organisational expertise; and • CMRT – having equal representation (and decision-making power) with Council, as well as a clear governance structure with defined delineation of responsibilities

These considerations will help determine the agreed model (and partnership structure) to be undertaken by Council and CMRT stakeholders. It is envisaged that the operating model will be selected following negotiations between relevant parties and investigations into the pros and cons (and potential outcomes) of each. However, it is critical that members first agree on a partnership structure to achieve stated project goals. Obtaining project buy-in across all entities will help to solidify future partnership arrangements.

Cultural Heritage Management Plan

As the proposed trail is in close proximity to a number of waterways, a Cultural Heritage Management Plan (CHMP) is required to assess the potential impact the trail may have on Indigenous Cultural Heritage. It will also determine the measures that are required to be taken before, during and after trail construction to ensure that any cultural heritage is protected.

As a starting point, a qualified heritage advisor is required to be appointed to undertake a Preliminary Cultural Heritage Study (PCHS) which is likely to include:

- **a desktop assessment** including a review of relevant cultural heritage databases and literature (such as Victorian statutory heritage databases, The Australian Government's Protected Matters Search Tool for Places, non-statutory heritage registers, recent aerial photography, relevant literature, and a review of current land use)
- **fieldwork** including a site inspection to visually record the area, assess the likelihood of Aboriginal and/or historical heritage being present and to identify the extent of ground disturbance
- **consultation** with the Dja Dja Wurrung

The outcomes of the PCHS will be collated into a report which will include the detailed desktop assessment, the methodology and results of the fieldwork, descriptions, mapping, significance and extent of any cultural places identified, management policies that align with the findings.

However, it is important to note that there are three tiers of cultural heritage assessments. The PCHS is a desktop assessment which is the first tier CHMP. At the completion of the PCHS, further assessment might be required.

If the PCHS reports that it is likely that Aboriginal cultural heritage is present along the trail, a Standard Assessment is required, the second tier CHMP, which requires a ground survey of all or part of the site.

If the Standard Assessment does not adequately identify the extent, nature and significance of the cultural heritage, then a Complex Assessment is required, the third tier CHMP. A Complex Assessment is the disturbance or excavation of all or part of the site in order to uncover or discover cultural heritage. This must be carried out in consultation with the Dja Dja Wurrung and in accordance with proper archaeological practice.

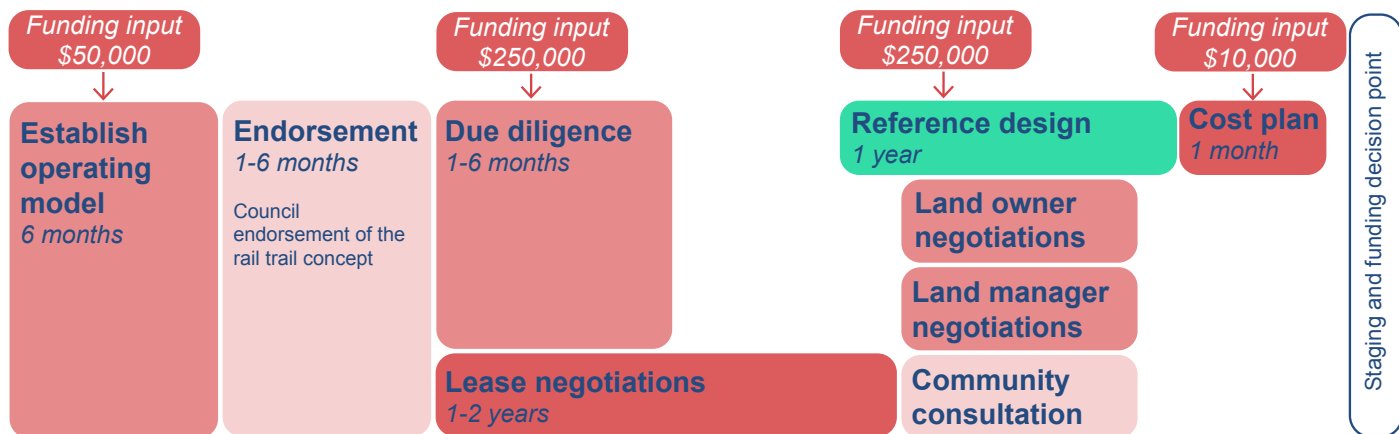
Following the completion of the CHMP, the plan must be submitted to relevant authorities with any associated payments that may be required. The plan is then evaluated and the authorities either grant or refuse to grant a CHMP.

There are a number of risks associated with this process, primarily in relation to project timelines and cost. Firstly, if a Standard or Complex Assessment is required, there is a potential risk to the project timelines, as well as the additional costs these studies will incur. Secondly, if the granting of a CHMP is refused, then the dispute and resolution process will again require additional time and costs to resolve. Resolving any issues may require realigning the trail to better protect cultural heritage or alternative design solutions to be addressed during detail design.

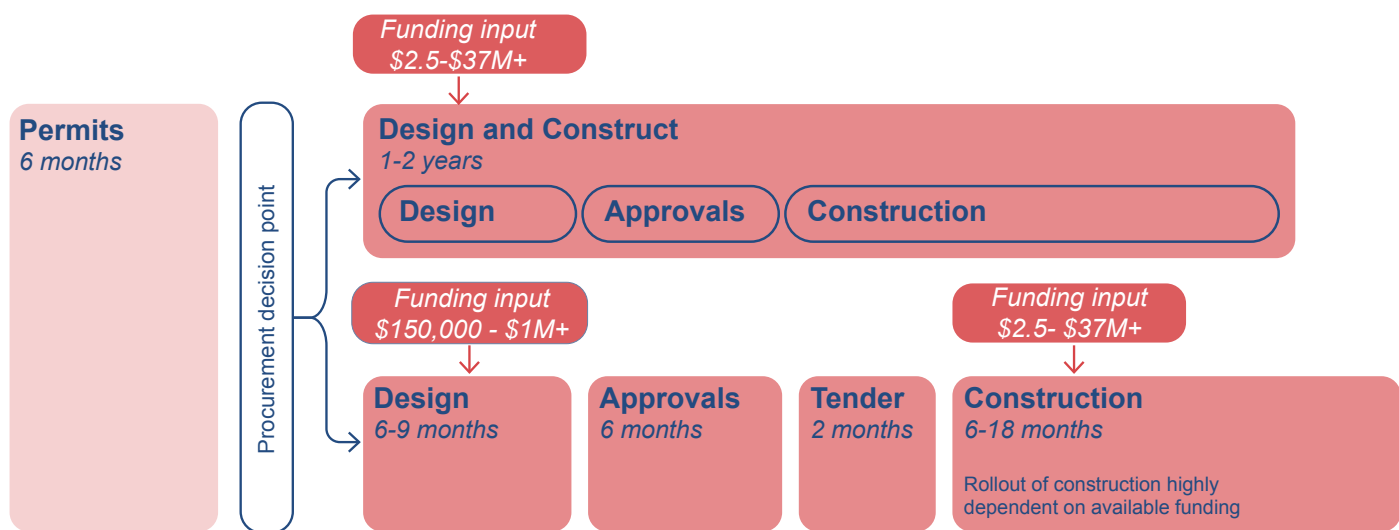
However, given the site of the proposed rail trail will be located on land that is already highly disturbed, and the proposed connection into the townships are mostly located along road reserves, it is unlikely that a second or third tier assessment will be required.

T8.9 Trail implementation process

Pre-construction



Construction



Post-construction



Ecological due diligence

An ecological study is likely to be required to ensure that the environmental values of the site do not pose an unacceptable risk to implementation. The study will result in a report outlining the opportunities and constraints associated with the proposed rail trail.

The study would involve a desktop assessment to review the relevant flora and fauna databases and literature such as:

- modelling the extent of existing and pre-1750 Ecological Vegetation Classes
- reviewing records of significant flora and fauna within the rail line or close to
- reviewing the Commonwealth's Protected Matters Search Tool for the location or predicated location of matters of National Environmental Significance
- investigating bioregional descriptions for EVCs with potential to occur in the rail corridor
- reviewing relevant planning overlays
- understanding the implications of any relevant literature, legislation and policy.
- examining recent aerial photography

On the completion of the assessment a report will be compiled to include:

- the results of the desktop assessment
- the likelihood of significant flora and fauna species within the rail corridor
- Identification and description of measures which may be undertaken to avoid and/or mitigate potential adverse impacts on flora and fauna values
- planning permit triggers
- calculation of potential offset requirements
- identification of potential legislative implications
- recommendation of any additional surveys likely to be required (e.g. targeted surveys for significant species)

The results of the ecological study do pose some potential risks to the timeframe and projected costs. For example:

- Significant flora may be found on the site and require offsets to compensate for the unavoidable impact due to trail implementation.
- The study may recommend that additional surveys or studies are undertaken to further assess the potential environmental impact of the rail trail.
- The trail may require realignment if the study identifies significant sites that require protecting.

However, as noted previously, the rail corridor is already disturbed and therefore the environmental impact of converting the rail bed into a trail is expected to be minimal.

Lease negotiations

The majority of the trail is located along the former rail line which is land owned by VicTrack and as such, a lease with VicTrack is required to be negotiated. To add further complexity, the section of the rail corridor between Maryborough and Carisbrook is leased by VicTrack to VLine. However, VLine no longer uses this section of the rail corridor (and the rails have been removed from large sections of this trail preventing any use by VLine) and has no reason to retain the lease. Prior to delivering the trail there are two main items to be addressed:

- Encourage VLine to handing over management to VicTrack; and
- Negotiate a lease with VicTrack in order to deliver the trail.

This is typically a lengthy process and as such, a significant amount of time should be allowed for to reduce the potential risk to project timeframes.

Reference Design

It is recommended that a reference design be completed to guide design and cost planning, gain required town planning approvals, and as a tool to assist community consultation. It will serve as a useful guide for developing the rail trail, providing a recommended approach, structure, and specifications that can be used as a starting point for subsequent stages of the project.

The reference design should include the following components:

- A high-level visual representation of the trail alignment and locations of key features such as trail heads, rest stops, and artwork
- Example of typical construction details including trail surface, bridge and balustrade design, trail surface, rest stops, trail heads, road crossings, maintenance and emergency vehicle access and entry points, signage, landscaping, and equestrian trails
- Approach to addressing common challenges such as drainage, road crossings, culverts and level changes (i.e. steep sides to rail bed)

Consultation

With a Reference Design in hand, consultation with adjoining land owners, land managers and the community can be undertaken. A rigorous consultation process will identify levels of support from stakeholders and highlight any potential risks to the project. Undertaking consultation prior to progressing to design and construction allows for early identification and mitigation of risks thereby minimising potential impacts to time and budget.

There are three main stakeholder groups that need to be engaged:

- **Land owners** - consultation with landowners adjoining the trail is a crucial step in the pre-construction phase. The consultation should communicate the project's objectives, benefits, and potential impacts and to address any concerns land owners may have. This may involve negotiations relating to safety, privacy, access, bio-security and fencing. Resolving any issues land owners may have prior to proceeding with trail implementation will reduce risks posed by potential conflict.
- **Land managers and authorities** - engagement and collaboration with land managers and relevant authorities is essential to ensure the design adheres to required standards and obtains necessary approvals and support. Stakeholders that should be engaged include VicRoads, VicTrack, Rail Safety Authority, North Central CMA, and DEECA. Ensuring the reference design fulfills all the necessary requirements, reduces the risk associated with the design and construction phases.
- **Community** - Community consultation allows the community to share their thoughts whilst also promoting a sense of ownership of the trail. Effective engagement involves understanding the community's point of view, identifying their level of support for the project, and addressing any concerns they may have. By incorporating community input, the project becomes well-informed and more likely to achieve positive outcomes reducing potential risks to the project.

Following the consultation process, it is likely that the Reference Design will need to be revised in order to reflect the outcomes and decisions made during the consultation phase before proceeding to the detailed design stage. This procedure aims to mitigate risks, thereby reducing potential impacts on the timeline and budget

Cost Plan B

Following the completion of the reference design, a 'Stage B' Cost Plan (noting that a 'Stage A' Cost Plan has been completed as part of this project) can be undertaken given the available detailed information regarding trail design and construction. This Cost Plan will assist in establishing the estimated construction cost and allow the governing body to make decisions regarding project staging and funding.

There is a potential risk for the cost plan to exceed expected estimates. If so, the governing members may consider breaking the trail delivery down into smaller more manageable stages to improve cost management. This allows for any cost overruns or modifications to be identified early on, enabling timely adjustments and avoiding excessive financial burden.

8.4.2 Construction

Upon conclusion of the pre-construction phase, decisions regarding staging and funding are required in order to proceed with the construction phase. These decisions involve determining the order and breakdown of construction stages and securing the necessary funding to support the implementation of the trail.

The construction phase is relevant for each stage of construction and includes:

- **Planning permit application** - planning approvals have been included in this section because of the time limits placed on them and therefore, it is recommended that planning permits (if they are required) are obtained just before design and construction commences to ensure work is completed whilst the permit is live. Reviewing the applicable planning schemes, local regulations, and planning policies will assist in determining the need for a permit. If a planning permit is indeed necessary, it is expected that the Reference Design, along with the CHMP and Ecological Study, will need to be submitted to the local councils and other relevant authorities.
- **Procurement** - the next step in the process is to decide on the procurement method. There are two available options:
 - Tendering a design and construct contract based on a reference design
 - Tendering separate design and construction tenders

The steps for each of these options are outlined in Table 8.9.

- **Design** - regardless of the procurement method selected a detailed design for the trail must be undertaken. This process will require specialist inputs such as structural and civil engineering, an Environmental Management Plan, a Geotechnical Assessment, an accessibility review and a Bushfire Hazard Management Plan
- **Approvals** - following the design phase, necessary approvals required by relevant authorities such as building permits of those from VicRoads, North Central CMA, Rail Safety Authority, can be obtained. Applied outcomes from the land manager consultation will help ensure a streamlined process with minimal risks involved.

8.4.3 Post-construction

Given the timeframes for the pre-construction and construction phases, it is not beneficial to predict potential post-construction tasks. Additionally, it is likely that post-construction activities will only become evident upon completion of the preceding phases. However, post construction activities are likely to include ongoing tasks such as:

- **Maintenance** - including periodic maintenance of bridges and structures, regular inspection regime, weeding, vegetation clearing and pruning.
- **Marketing** - including a launch event, development and distribution of maps and other collateral, ongoing advertising and content creation.

8.5 TRAIL IMPLEMENTATION RISKS

There are risks associated with each of these phases. As discussed in Table 8.10 and Table 8.11, it is expected that the biggest risks to the project are funding and timing.

The expected risk level are highlighted in the colour coding of both tables, refer to key.

KEY

Risk level ↓

	No expected risk
	Low risk
	Medium risk
	High risk

T8.10 Pre-construction risks

Implementation phase	Example of risk	External stakeholders	Likelihood	Severity	Response/ option/ alternatives
Endorsement	One or both Councils do not endorse rail trail concept	Mount Alexander Shire Council and Central Goldfields Shire Council	Low	Low	Revisit feasibility study to address concerns
Funding due diligence	Unable to obtain required funding		Low	High	- Find additional/alternative funding sources. - Stage the works (i.e. undertake one assessment at a time)
Due diligence	Specialists reveal unexpected/ unacceptable risks (eg. presence of protected species, etc.)	VicTrack (access to land)	Medium	Medium	- Review design response to respond to found conditions to ensure safety of construction and users. - Consider an alternative alignment
Lease negotiations	Handover between VLine and VicTrack exceeds expected timeline	VLine and VicTrack	Medium	Medium	- Consider starting construction at Castlemaine end of trail to allow maximum time for negotiations - Use alternative existing trails
	Lease negotiations with VicTrack exceeds expected timeline	VicTrack	Medium	High	Continue to facilitate negotiations
Funding reference design	Unable to obtain required funding		Medium	High	Find additional/alternative funding sources
Reference design	Land owner negotiations Land owners raise concerns regarding reference design	Neighbouring land owners	High	Low	Address land owner concerns in Reference Design
	Land manager negotiations Land managers raise concerns regarding reference design	VicRoads, North Central CMA, VicTrack, Rail Safety Authority, DEECA	High	Low	Address land manager concerns in Reference Design
	Community consultation Community raise concerns regarding reference design	Community	Medium	Low	Address community concerns in Reference Design
Cost Plan B	Estimate exceeds expected cost		Medium	High	- Consider staging the construction - Find additional/alternative funding sources
Permits	Planning permit denied	Mount Alexander Shire Council and Central Goldfields Shire Council	Low	Medium	Address Councils' concerns and re-apply

T8.11 Construction and post construction risks

Implementation phase	Example of risk	External stakeholders	Likelihood	Severity	Response/ option/ alternatives	
Design and Construct*	Funding Design and Construct	Unable to obtain required funding		High	High	- Find additional/alternative funding sources - Further refine works staging
	Tendering	Tender price exceed budget		Medium	Medium	- Find additional/alternative funding sources - Further stage the works
	Design	Specialists reveal unexpected/ unacceptable risks (i.e. unfavourable geotechnical conditions, presence of asbestos)		Medium	Medium	- Consider using an alternative alignment
	Approvals	Approvals required by relevant authorities denied	VicRoads, North Central CMA, VicTrack and Rail Safety Authority	Medium	Low	Address Authorities' concerns and re-apply
	Construction	Construction exceeds expected timeline		Medium	Medium	Use alternative existing trails where appropriate
		Construction exceeds expected costs		Medium	Medium	- Find additional funding sources - Consider staging the construction
Maintenance	Standards not maintained resulting in low usage rates		Low	Low	- Consider alternative maintenance provider - Engage volunteers (i.e. through CMRT networks) to undertake maintenance activities	
	Inadequate funding for required maintenance, resulting in a sub-optimal experience		Medium	Low	- Leverage support from alternative sources (i.e. community and industry members) to provide funds - Engage volunteers (i.e. through CMRT networks) to undertake maintenance activities	
Marketing	Low market awareness of product resulting in lower than estimated utilisation rates		Medium	Medium	Outreach and promotion can be undertaken through existing Council resources (i.e. destination marketing) as well as CMRT utilising current networks (i.e. cycling and community groups), in an effort to attract user groups and increase visitation.	
Governance	The agreed management structure does not support efficient and effective decision-making to meet the needs of stakeholders		Medium	Medium	- Consider reviewing (and amending) the partnership agreement to ensure stakeholder expectations and project needs are met. - Consider several KPIs and performance targets to monitor success of managing body. - Undertake regular management meetings to monitor performance, identify issues and options to achieve stated objectives	

**For separate design and construction tenders, the same risks apply as per 'Design and Construct', with increased risk around tendering, due to the requirement for two tender processes. This process, however does allow for greater control over the end product*

Refer to trail user experience matrix for safety and design risk analysis.