

RMCG

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Warburton Mountain Bike Destination Project: economic assessment of health and recreation benefits

Final Report

Yarra Ranges Council

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Executive Summary

INTRODUCTION

This report quantifies in economic terms the health and recreation benefits of the proposed Warburton Mountain Bike Destination.

The Warburton Mountain Bike Destination involves the construction of 110km of trail around the town of Warburton, with a planned expansion of the network to over 160km. The council's long-term goal is to create a network of trails that provides an experience that exceeds the current set of Gold-Level Ride Centres and puts Warburton on the national and international tourism radar.

HEALTH IMPACTS

Exercise is proven to reduce the risk of numerous chronic health conditions, reduce disease, increase life expectancy and increase productivity. Members of the local and broader community can be expected to exercise more and become healthier as a result of the construction of the trails.

Health benefits were estimated using the Australian Transport Assessment and Planning Guidelines, which values health benefits per kilometre of cycling to be \$1.53 per kilometre, and \$3.03 per kilometre for walking (adjusted using CPI to 2018 dollars).

We assume that the average trip length will be 18km. This is based on analysis of Strava – a widely used cycling app - conducted by Yarra Ranges Council.

The number of trail uses is drawn from another study commissioned by the Yarra Ranges Council, and is estimated to be 55,000 in the first year of use, increasing to 165,000 per year in the 10th year. We estimate that for 26% of users, a trip on the mountain bike trail represents additional exercise.

Based on the assumptions above, the present value of the health benefits is estimated to be \$15m over a 25 year period.

RECREATION IMPACTS

People are willing to pay for attractive recreational activities, both active and passive. Both local and broader community members will have new recreational opportunities due to the trail investments. In economic terms this is known as 'willingness to pay'.

We estimate that the willingness to pay for the trail will be \$3.64 per use. This is reduced by 25% from the original estimate to ensure there is no overlap with the estimated health impacts.

The recreation benefit for the Warburton Mountain Bike Destination is estimated to be \$8m over a 25 year period.

IMPROVING OUTCOMES

RMCG gathered evidence regarding how other trail managers have improved trail usage and consequently health and recreation outcomes. To achieve this goal, we recommend:

- Avoid displacement of other beneficial activities
- Provide trail access to other user groups
- Design trails to appeal to a broad range of users (from occasional through to committed mountain bikers)
- Support community events that encourage local people to use the trails.

SUMMARY

The health and recreation benefits have been estimated so that they can be:

- Added together, that is, there is no overlap between the estimates, and
- Compared with the capital and ongoing costs of the trails (outside the scope of this report).

The summed benefits over a 25 year period are estimated to be \$23m.

1 Introduction

1.1 BACKGROUND

Yarra Ranges Council is planning several major cycle trail construction projects: the Warburton Mountain Bike Destination, an extension to the Yarra Valley Trail, as well as numerous connecting trails from the Yarra Valley Trail.

The Warburton Mountain Bike Destination (WMBD) involves the construction of 110km of trails, with a planned expansion to 160km, around the town of Warburton. The goal of the council is to create a Gold-Level Ride Centre under the International Mountain Bicycling Association's classification. There are currently six Gold-Level Ride Centres, two in New Zealand and four in the USA. The council's long-term goal is to create a network of trails that provides an experience that exceeds the current set of Gold-Level Ride Centres and puts Warburton on the national and international tourism radar.

The trails will benefit riders who use the trail by providing an enjoyable experience, as well as exercise and associated health benefits. This report aims to quantify these benefits in economic terms, in a form that can be compared with the costs of developing and maintaining the trails.

1.2 WARBURTON AND SURROUNDING AREAS

Warburton is a town of just over 2,000 people, located in the Yarra Valley 70 kilometres from the centre of Melbourne (Figure 1-1). The Yarra River runs through the town, which is situated between the Yarra Ranges National Park to the north and Yarra State Forest to the south. The town supports a range of shops, cafes and other local businesses, and is already a popular destination for visitors to the Yarra Valley. Features like the scenic redwood forest close to the town and the Warburton-Lilydale rail trail draw tourists from within the region and further afield. The proposed new cycling trails will be through bushland on both sides of the town, which place Warburton at the epicentre of the proposed Mountain Bike Destination project.

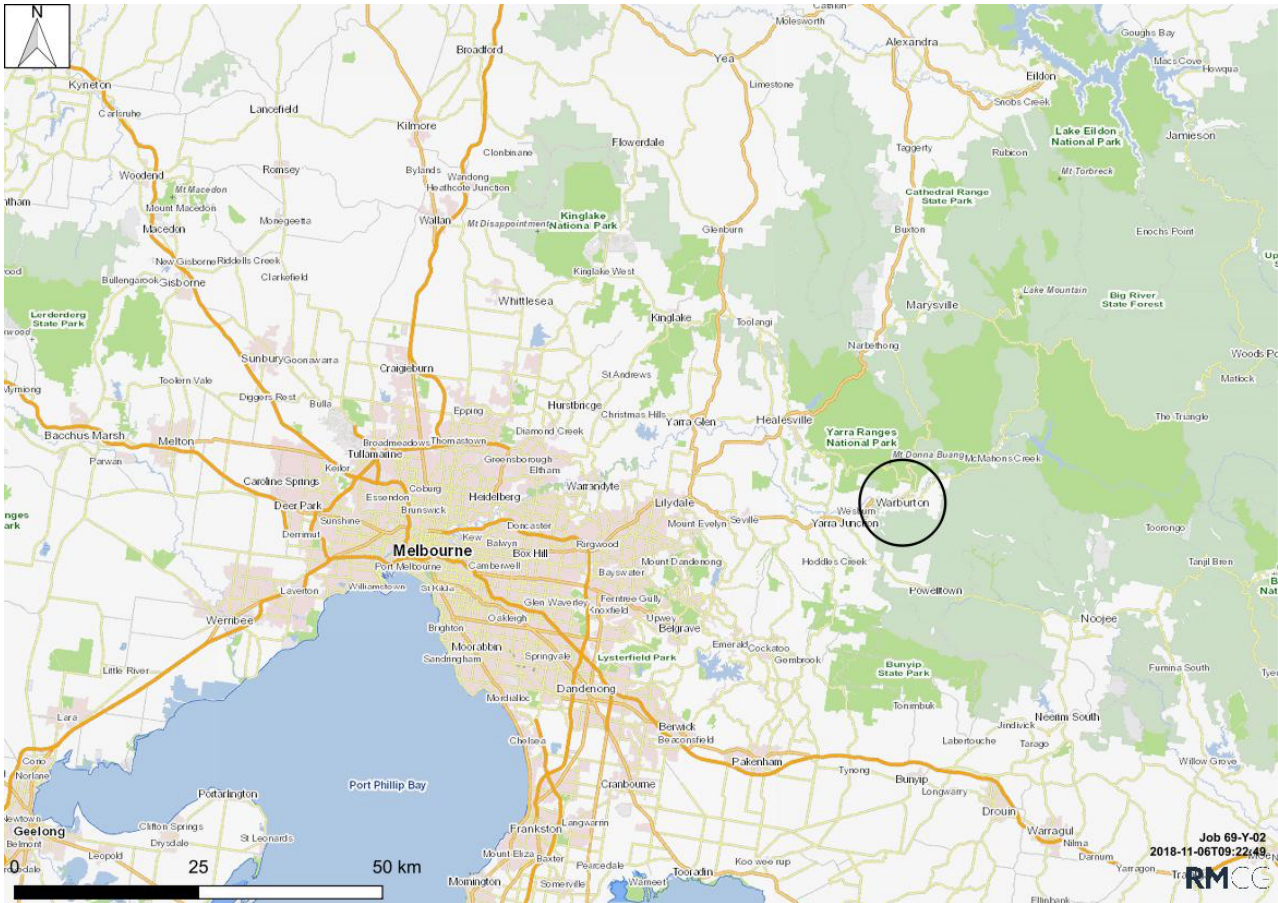


Figure 1-1: Location of Warburton in the Yarra Valley close to Melbourne

1.3 PROPOSED MOUNTAIN BIKE TRAILS

The aim of creating a world class mountain bike destination in the Yarra Ranges sits alongside a wider plan to extend and connect the existing Warburton-Lilydale rail trail to other towns in the surrounding area. This report focuses specifically on the mountain bike trails. The rail trail expansion is addressed in a companion report.

The WMBD development aims to capitalise on the increasing popularity of mountain biking, and the existing popularity of the Yarra Valley as a destination for tourism and outdoor recreation. An economic impact assessment, undertaken as part of the project development, estimates that between 55,000 and 165,000 annual visitors will travel to the WMBD annually, including 10,000-30,000 overnight visitors using the trails across multiple days.

The project involves the construction of 110km of trails in the area surrounding Warburton – on both the north (National Park) side of Warburton and on the south (State Forest) side of town (see Figure 1-2 and Figure 1-3). An expansion of the network to over 160km is also planned. These include a combination of all mountain and cross-country trails, ranging in difficulty from beginner to expert.

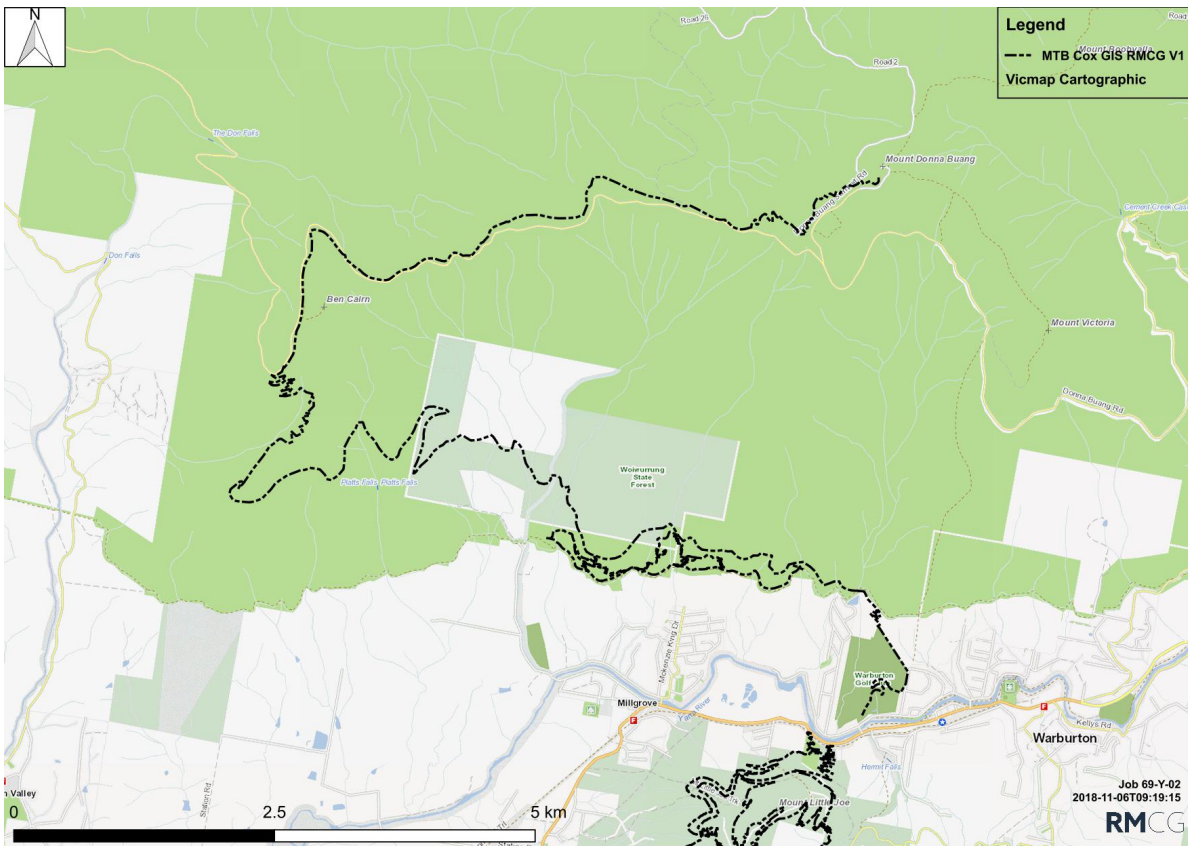


Figure 1-2: Proposed trail locations, north of Warburton

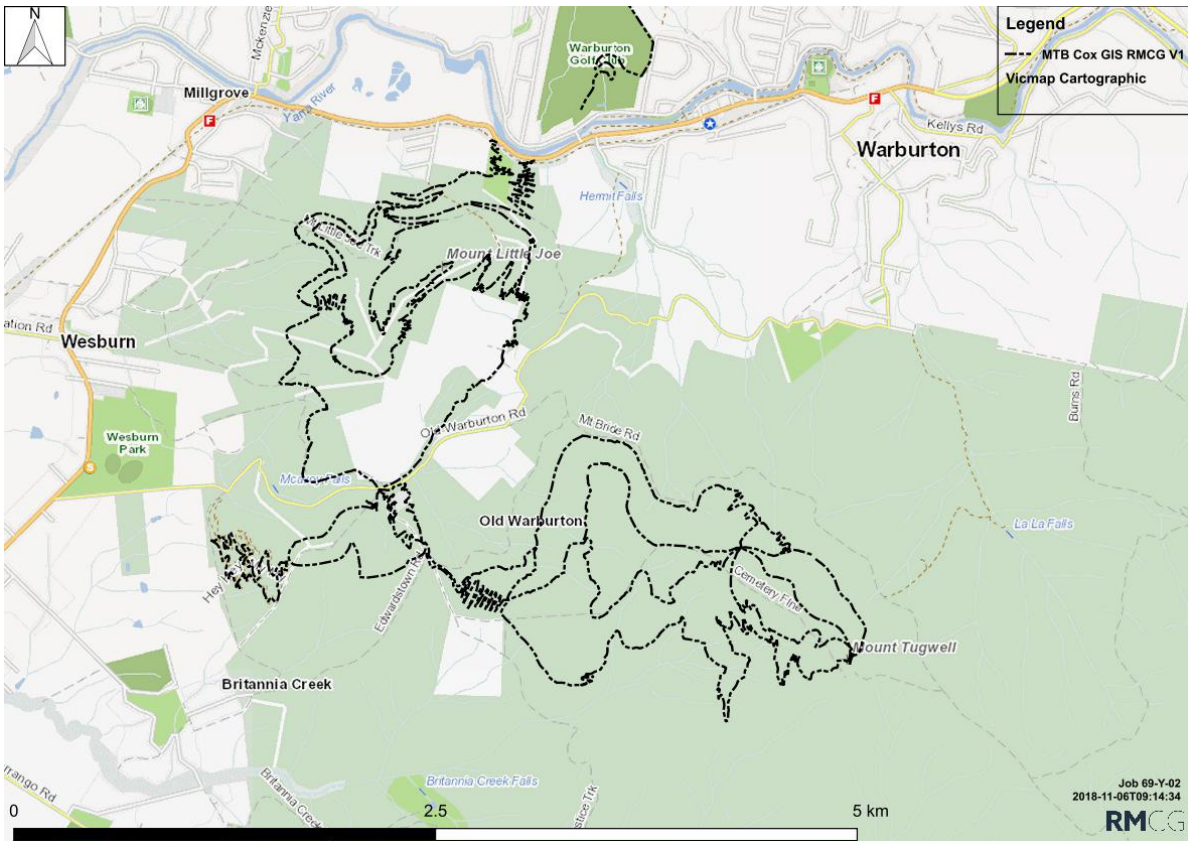


Figure 1-3 Proposed trail locations, south of Warburton

1.4 CASE STUDY TOWNS

Existing mountain biking (MTB) destinations can provide some insight into the potential impacts that such projects can have on regional towns and communities. This report looks broadly across existing MTB park developments as well as other tourist destinations, but will focus primarily on three case study towns:

- Derby, in north eastern Tasmania
- Forrest, in the Otways, Victoria
- Bright, in Alpine Victoria.

DERBY

Situated in north eastern Tasmania, roughly 100km from the city of Launceston, the town of Derby is home to the Blue Derby mountain bike park. Derby was once a thriving mining and forestry town, but the loss of industry from the area had led to declining population and low house prices.

The Blue Derby mountain bike park - initially a network of 85km of trails - opened in 2014 at a cost of \$3.1M. Further trails are under development. The park has around 30,000 visitors per year and adds an estimated \$30M to the regional economy annually. The park has hosted major international events, including the Enduro World Series, and has won major awards including Specialised Trail of the Year in 2017. The standard of trails ranges from beginner to expert, offering broad appeal.

FORREST

Forrest is a small rural town located on the edge of the Otway Ranges, Victoria. In some ways, its story is similar to Derby – the town was formerly an important forestry hub in the region, but the collapse of the industry left the town struggling. One of the earlier MTB parks to be developed in Australia, government investment in the early 2000s enabled a network of informal local trails to be transformed into a major destination for mountain bikers at the time. The network includes trails ranging from easy to difficult.

In its early years, the trails appealed to committed mountain bike enthusiasts and hosted a number of major events which placed it firmly on the mountain biking map. Over time, as the sport has matured and gained wider appeal, and a number of other MTB destinations have been developed in Victoria and wider Australia, the trail's appeal has broadened to include families and less experienced riders.

BRIGHT

Located in the Alpine region of north east Victoria, Bright is a larger town than the other case studies with a population of 2,406. Slightly larger than Warburton, the town has a long history of tourism – particularly due to its proximity to the ski resorts of the Victorian Alps, and the scenic appeal of the picturesque trees in autumn. The Bright Autumn Festival is a major cultural event in the town, but the area is also busy during weekends and holidays throughout the year.

The area has long been popular for outdoor recreation, and the development of the Mystic Mountain Bike Park added to that offering. The park includes a network of cross-country and downhill trails, with a total length of 109km of graded trails¹, most of which were hand built. Trails range in difficulty from beginner to expert, with 70 per cent of trails at intermediate level.²

¹ <https://www.trailforks.com/region/mystic-park/>

² <https://www.visitbright.com.au/bright-mountain-biking-mtb/>

COMPARISON TO WARBURTON

These case studies can provide useful insight into the experiences of other MTB destinations in terms of the recreation, health and wider social impacts of the trails. That said, no two examples are exactly the same, and Warburton is distinctive in a number of ways:

- Its proximity to Melbourne – a city of well over four million people
- Its location at the centre of a region that is already popular for tourism
- The level of ambition of the trails, in terms of scale, visitor numbers and objective to host major events.

It is therefore important to note that the case studies can only tell us so much about the potential impacts of the proposed Warburton development. A key focus of this report is to ground those comparisons in a solid understanding of the unique characteristics of Warburton and the surrounding area. For information, a summary setting out the some of the key characteristics of Warburton and the case study MTB destinations is provided in Table 1-1.

Table 1-1: Characteristics of Warburton and case study MTB destinations

CASE STUDY	POPULATION OF TOWN	NEAREST MAJOR CITY	LEVEL OF TOURISM PRE-TRAILS	TRAIL LENGTH	HOSTS MAJOR EVENTS?
Derby	173	Launceston, Tas. Approx. 95km	None	110km	Yes
Forrest	230	Geelong, Vic. Approx. 90km	Low, but close to Great Ocean Road and the Great Otways NP	65km	Yes
Bright	2,406	Melbourne, Vic. Approx. 325km	Medium-high, within popular destination for skiing, outdoor rec and other tourism	109km	Yes
<i>Proposed Warburton trails (for comparison)</i>	<i>2,012</i>	<i>Melbourne, Vic. Approx. 70km</i>	<i>Medium and increasing; within Yarra Valley – popular tourist destination</i>	<i>110km</i>	<i>Yes</i>

1.5 ASSESSMENT APPROACH

The assessment of the health and recreation benefits of the proposed mountain bike trails is based on three key components, as described below.

Desktop assessment

We reviewed studies provided by Yarra Ranges Council on trails and patronage estimates.

Economic Assessment

An economic model has been developed in order to estimate the economic benefits of the proposed trails. The underlying Excel model is provided to accompany this report.

The economic inputs into the model include:

1. Estimates of activity levels (in time or distance covered).
2. Patronage estimates (stratified by user groups), sourced from complimentary analysis provided by the Yarra Ranges Council
3. Estimates of additionality in activity as a result of the new trails
4. Evidence on the benefits per additional use (recreation and health/wellbeing), quantified in economic terms.

Further detail on the economic modelling is provided in the relevant sections of the report.

Case study interviews

Experiences from other towns with prominent trails provide valuable evidence and insights for the potential social impacts that might occur. Semi-structured interviews with local community members and other stakeholders were undertaken to gain insight into trail usage in those case studies. This included interviews with:

- Local council staff
- Tourist information staff
- Local real estate agents
- Local businesses (including e.g. cafes, shops, accommodation)
- Local mountain biking association and/or other target user groups
- Local residents

Case study interviews followed a semi-structured format, with questions covering all relevant areas of social/health impacts. The guidelines interview structure is provided in Appendix 1.

2 Health Impacts

2.1 INTRODUCTION

Exercise is proven to reduce the risk of numerous chronic health conditions. There is also evidence that suggests people who live in environments that support walking and cycling have better health than those in neighbourhoods without active transport options. Active transport can reduce disease, increase life expectancy and increase productivity³.

With the increased active recreational opportunities, members of the local and broader community can be expected to exercise more and become healthier.

Within the Yarra Ranges area, 50 per cent of people were characterised as 'Pre-Obese' or 'Obese' in a health survey of residents in 2014⁴. Fifty-six per cent of residents did 'insufficient' levels of weekly exercise (less than 150 minutes of moderate exercise per week), including 3 per cent who were classified as 'sedentary'.

This section assesses the extent to which the Warburton MTB park will improve the health of people in the local community and wider group of users.

2.2 WARBURTON NOW

The existing recreational options in Warburton may influence the degree to which locals use the new trails. There is already a wide range of recreational opportunities available in and around Warburton. This includes a range of sporting clubs and facilities, including:

- Warburton Tennis Club
- Warburton Bowls club
- Warburton Golf Club
- Warburton-Millgrove Cricket, Football & Sports Club

In addition to these clubs and facilities, a range of classes and personal trainers in the town target fitness, health and wellbeing.

Alongside the opportunities to pursue sports in the town itself, there are a wide range of outdoor recreational activities that can be pursued in the surrounding Yarra Valley region, including

- Cycling (on roads and rail trails)
- Running and hiking
- Horse riding
- Canoeing and kayaking
- Rock climbing and caving.

The availability of a wide range of alternative opportunities for exercise and recreation could indicate that a proportion of the local community are already engaged in activities to maintain and improve their health. In turn, this could mean that the relative impact of the mountain bike trails on health may be smaller than if a new

³ Genter, Donovan, Petrenas and Badland (2008) *Valuing the health benefits of active transport modes* (New Zealand Transport Agency Research Report 359; Wellington)

⁴ Department of Health and Human Services (2016), Victorian Population Health Survey 2014.

opportunity were provided in a location that lacked such opportunities. It could also mean that targeted effort may be required to stimulate those members of the local community and wider region that do not currently exercise to take up the new opportunity that the MTB trails present. This is discussed further in the 'Management and mitigation' section below.

2.3 VICTORIA MTB TRAILS

Many of the users on the trail are likely to be Melbourne residents. Warburton is within one hour of much of the eastern side of Melbourne and for this population it will be feasible to make a day trip to ride the trails.

The main MTB parks in Victoria are shown in Figure 2-1. While there are other MTB parks within reach of Melbourne, they are small in number. Warburton will offer another option for Melbourne residents, particularly those on the eastern side of the city.

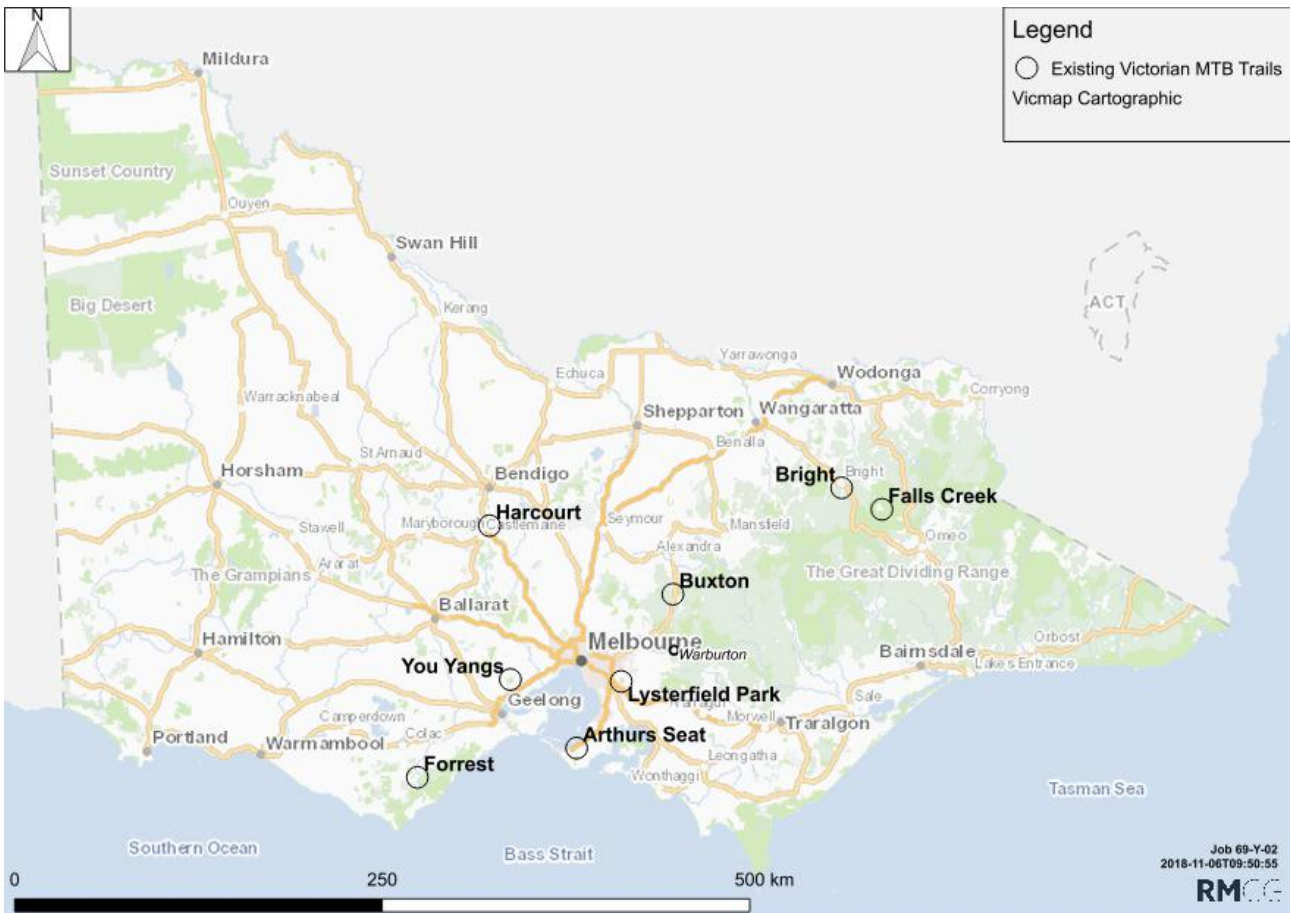


Figure 2-1: Selection of MTB sites in Victoria

2.4 ESTIMATED IMPACTS

HEALTH BENEFITS PER KILOMETRE

In the economic literature for active transport, the most important benefit produced from a recreational trail is the health benefit to the user from physical activity.

The Australian Government has produced guidance on health benefits from active transport in the form of Australian Transport Assessment and Planning Guidelines (M4 Active Travel), considering both benefits to walkers and cyclers.⁵ The analysis considers benefits to different categories of people: previously inactive, insufficiently active and sufficiently active people. The benefits include savings to the public health system, and reduced morbidity of active transport.

It finds total health benefits per kilometre of use (adjusted using CPI to 2018 dollars) are estimated to be \$1.53 per kilometre.

This estimate was generated for cycling in urban environments. Mountain biking is significantly more strenuous per km than cycling on sealed level paths that dominate in urban environments. Therefore, this is an underestimate of the benefit provided by mountain biking.

Most of the proposed trails are designed for intermediate riders. Yarra Ranges Council has interrogated mountain biking data from Strava and market research undertaken by Dirt Art in 2014 and 2016 to estimate the average length of a ride. This was found to be 18km, and this is the average ride length we have used.

ORIGIN OF USERS

To establish the health benefits for a cost benefit analysis, it is necessary to estimate the origin of users between the local area (Yarra Ranges), Victoria, Australia and other countries. The existing split of visitors is shown in Table 2-1. Visitor numbers are expressed in days (for day visitors) or nights (for overnight visitors) spent in the region, as this is more indicative of their presence in the region, and the amount of times they could use the trails. Use of the trails is measured in *uses* not *users*; a single user may ride the trails multiple times a year.

Two thirds of visitor days/nights are domestic day visitors, most of whom would be Melbourne residents. One quarter are overnight domestic visitors, which would be a split between Victorians and interstate visitors. International visitors make up 8 per cent of the visitor days in the Yarra Valley.

Table 2-1: Existing visitor profile, Yarra Valley, 2017⁶

TRA CLASSIFICATION	ORIGIN	DAYS/NIGHTS	PROPORTION
Domestic day	Victoria	2,507,294	66%
Domestic overnight	Interstate	1,000,870	26%
International	International	303,837	8%
Total		3,812,001	100%

We use the figures above to estimate the origin of the users, assuming that 25 per cent of users are locals.

Table 2-2: Origin of users⁷

ORIGIN OF USERS	USERS
Yarra Ranges Shire	25%
Other Victoria	49%
Interstate	20%
International	6%
Total	100%

⁵ Source: https://atap.gov.au/mode-specific-guidance/active-travel/files/m4_active_travel.pdf (access 16 May 2018)

⁶ Tourism Research Australia (2017) Local Government Area Profiles, Yarra Ranges

⁷ RMCG estimates

ADDITIONALITY

A trip to the MTB park will not represent additional exercise for all of its users. Some users might have cycled in the region previously on roads, and now have the opportunity to use trails. Others may use other MTB trails in the region or elsewhere in Victoria and could substitute the Warburton MTB for a ride elsewhere. These users will not gain additional health benefits from the Warburton trail because there is no net increase in exercise.

The ideal method to estimate additionality, the true increase in exercise (and therefore health benefits) due to the development, would be to measure the level of physical activity in the community before and after the introduction of a trail or recreational asset. To our knowledge there are no such studies on bicycling or other recreational infrastructure.

However, we have gathered some circumstantial evidence that points to the potential additionality that comes with MTB trails.

The Mystic Mountain Bike Park is next to the town of Bright in north east Victoria. Locals are frequent users of the park. There are 100 junior riders who participate each week in the junior mountain bike club. This level of activity also flows through to the use of transport. Anecdotally, the use of bicycles for transport is common in the town; the local primary school recently constructed an additional bicycle shed.

However, anecdotally, participation in other sports (particularly traditional team sports) is lower than it is in other towns. This might reflect the popularity of mountain bike trails, which divert people from other sports; as well as the culture of the town, which is bicycle-oriented and has attracted residents who are keen recreational cyclists.

The presence of the mountain bike park does not impede other trail users such as walkers and horse riders, and in fact is beneficial for those users. Prior to the opening of the park, mountain bike riders shared trails with these other users. This is not ideal due to the risk of high-speed collisions between mountain bikers and other users. The park now separates mountain bikers from other uses, increasing safety for all users.

The Forrest case study reflects a similar experience: local residents (particularly families) frequently use the trails and are engaged with the local mountain bike club. A range of family-friendly events have been held on the trails over the years which have helped to increase participation from local residents, particularly children. Whilst the town lacks much in terms of alternative sports clubs, other forms of outdoor recreation remain popular including hiking and horse riding.

In Derby, there does not appear to have been a history of mountain biking in the area, which could mean that most local use of the trails could be considered additional. However, there is little data available on the levels of local use of the trails, though anecdotally the development has attracted new residents to the area. A significant proportion of users to the trails have travelled from elsewhere – nationally and internationally. These users are unlikely to represent major additional use, rather they have travelled to Derby rather than another mountain biking destination.

Given the evidence above we assume the following about additionality by the origin of users:

- 50 per cent of trail uses by **shire residents** represent additional exercise. There is evidence that trails both encourage additional exercise, but also divert users from other activities. Having a wide range of recreational activities available is likely to increase physical activity as different preferences are catered for. Some people might prefer team sports, while others may prefer activities such as mountain bike riding that are (often) non-competitive and more individual in nature.

- 25 per cent of trail uses by residents from elsewhere in **Victoria** represent additional exercise. Many of the users who will visit the park will be existing mountain bike riders who would have ridden elsewhere anyway. However, there are several reasons to believe that it will stimulate additional exercise:
 - The trail will represent a new opportunity to go riding for experienced riders who have ridden the other trails near Melbourne. While there are several MTB parks accessible to Melbourne, they are relatively few in number and some riders may become bored of the existing trails.
 - Some people who would have visited Warburton anyway may decide to hire a bike and try the trails.
 - The presence of a new world class mountain bike park may stimulate some people to take up the sport.
- 5 per cent of **interstate** uses of the trail will be additional. Tourists from interstate using the trail are likely to be dedicated mountain bike riders who would certainly have gone mountain bike riding somewhere else if not for the trails. As with riders from Melbourne who are incidental users of the trail, there will be some people who are in Warburton anyway and decide to hire a bike to try out the trails.
- 0 per cent of international uses of the trail will be additional. For the purpose of the modelling we assume that none of the uses by international visitors represent additional exercise. This may not be strictly correct, however for the purposes of deciding whether the investment represents a good use of Australian Government funds, health of users from other countries is not a relevant consideration.

Table 2-3: Additionality assumptions

ORIGIN OF USERS	USERS	ADDITIONALITY
Yarra Ranges Shire	25%	50%
Other Victoria	49%	25%
Interstate	20%	5%
International	6%	0%
Total	100%	26%

RESULTS

The health benefits were modelled over 25 years and discounted to present value using a rate of 4 per cent. The present value of the health benefit was estimated to be \$15m for the Warburton component of the trails. The detailed results are shown in Table 2-4.

Table 2-4: Health benefits in economic terms

ORIGIN OF USERS	YEAR	WMBD
Discount rate	n/a	4%
Timeframe	n/a	25 years
Construction year	n/a	2020
First year of use	n/a	2021
Estimated uses	2021	65,998
Estimated uses	2030	165,000
Additional users	2021	17,039
Health benefits present value	2020 to 2045	\$15m

2.5 MANAGEMENT/MITIGATION OPTIONS

There are several factors which could impact the scale of the health benefits of the trails. These should be considered in both the design of the trails themselves, but also in the development of an ongoing health and fitness program with the trails at its heart. These include:

- **Avoid displacement of other beneficial activities:** the design of the trails should consider existing beneficial uses of the MTB park area, including trail running, hiking and horse riding. Displacement of these activities by MTB trails could reduce the net health benefits of the development, particularly among the existing users who are not inclined to take up mountain biking. If such users feel that their opportunity to exercise locally has been reduced, this could have knock-on impacts both on health and on community support for the trails. Whilst shared use of trails may present challenges in terms of safety, it will be important to ensure that sufficient alternative areas are made available for continuous use by other groups.
- **Provide trail access to other user groups:** related to the point above, whilst shared use of the trails may be problematic, making the trails available for other groups to use for events could increase the health benefits of the trails, particularly where this encourages local people to try a new sport close to home, or where it raises awareness about the trails on offer amongst user groups that may subsequently try mountain biking. This could include competitive trail running events, fun runs, charity walks, or other outdoor events including orienteering, night hikes etc.
- **Design trails to appeal to a broad range of users:** the health benefits of the trails will be maximised if the trails are accessible to riders from across a full spectrum of experience/ability. Given that the most significant additional health benefits are likely to be achieved by encouraging people who do not currently exercise to use the trails frequently, particular emphasis should be placed on the provision of beginners' trails that are accessible to all. Providing intermediate trails that help users to build on their skills sequentially will also be beneficial.
- **Support community events that encourage local people to use the trails:** a number of barriers exist that may prevent local users engaging with mountain-biking. These include: lack of appropriate equipment; lack of experience/confidence; and social barriers (feeling out-of-place trying a new sport). All of these barriers could be reduced by developing a program of targeted events including providing 'trial days' with free/discounted equipment hire, training events, and events targeting particular groups (e.g. women, children, retired people).

3 Recreational Impacts

3.1 INTRODUCTION

It has been demonstrated in many studies that people are willing to pay for attractive recreational activities, both active and passive. Both local and broader community members will have new recreational opportunities due to the trail investments.

Access to the mountain bike park is provided free of charge. However, users derive a benefit from riding in the park that is not captured through a fee.

The willingness of users to pay for mountain biking is illustrated by Maydena Bike Park in Tasmania. Access to these trails costs \$15 per day, or \$199 for a year membership.

3.2 ESTIMATED IMPACTS

UNIT BENEFITS

A number of studies have estimated the economic value of recreation in Victorian parks and other sites, using the travel cost method.

Table 3-1 presents three consumer surplus values for recreation, which are suitable for use in cost benefit analysis⁸. These values have been updated to 2018 dollars, and an average has been used in this analysis. These estimates represent a 'willingness to pay' for recreational opportunities.

There will be some overlap between the willingness to pay estimates above and the health benefits estimated in the previous section, which included a component for increased life expectancy. To avoid the possibility of double-counting the recreation benefit should be reduced.

There are a number of reasons for people to go mountain biking:

- Thrill-seeking
- Spending time with friends
- Spending time in the outdoors and enjoying nature
- Exercise and health

For the purposes of this analysis, the recreation benefit should be tightly defined to exclude benefits that are included in the health category. In this category, recreation, those health benefits are increased life expectancy that flow to people from engaging in mountain biking. In the absence of solid evidence on the level this should be, we have reduced the benefit by 25 per cent to **\$3.64** per ride. This means that 75 per cent of the recreational benefits are due to the features other than health benefits noted above.

⁸ Read, M; Sinden, J.; Branson, J.; and Sturgess, N. (1999) *Recreational use values for Victoria's Parks* (Paper presented to 43rd Annual Conference of Australian Agricultural & Resource Economics Society, Christchurch, New Zealand, January 20 -22, 1999; <http://ageconsearch.umn.edu/bitstream/124541/2/Read.pdf> (access 16 May 2018))

Table 3-1: Economic value of recreation

VALUE ESTIMATES	YEAR	2018
\$2.91	1999	\$4.83
\$2.86	1999	\$4.75
\$3.00	2000	\$4.98
Average	2018	\$4.85
75% of the benefit	2018	\$3.64

Recreation benefits are applied to all users and represents an average across all users.

The total recreation benefits are valued at \$8m (Table 3-2).

Table 3-2: Recreation benefits (present values)

	YEAR	WMBD
Recreation benefits	2020 to 2045	\$8m

3.3 MANAGEMENT/MITIGATION OPTIONS

The management/mitigation options that apply to maximising the recreational value of the trails are the same as those that would maximise the health benefits. These are described in the previous chapter of this report.

4 Conclusions

The health and recreation benefits have been estimated so that they can be:

- Added together, that is, there is no overlap between the estimates
- Compared with the capital and ongoing costs of the trails (outside the scope of this report).

The summed benefits are provided in Table 4-1. The total economic benefit is estimated to be \$23m.

Table 4-1: Summary of the benefits (present value over 25 years)

	WMBD
Health benefits	\$15m
Recreation benefits	\$8m
Total benefits	\$23m

Appendix 1: Interview guide

To understand the economic and social impacts of existing trails in case study towns RMCG conducted semi-structured interviews with council staff, businesses, employment agencies, trail managers and representative bike groups. The following represents the guide used for the interviews.

1.1 GENERAL QUESTIONS:

- How would you have described this area before the trails opened? (e.g. tranquillity, demographic trends, local businesses, local community cohesion etc)
- How do you think it has changed since the trails opened?
- What have been the positive impacts? What have been the negative impacts?
- Would you describe the net impact of the trails as positive or negative for the local community? Why?

1.2 SPECIFIC IMPACTS:

1.2.1 RECREATION

- How many users are there per year?
- Are you seeing more people using the area for recreation as a result of the MTB trails?
- Are most of the users local or not local? Do local people use the trails?
- How much time do people spend using the trails on a visit?
- What would you identify as the main recreational benefits of the trails?
 - Exercise?
 - Physical challenges/thrill seeking?
 - Time outdoors/with nature?
 - Time as a family/friends?
 - Time alone?
 - Different landscapes?
 - Heritage sites?
 - Other attractions nearby?
- Do visitors engage in any other (non-MTB) activities when they come here? Examples?
- Has anything been done as part of the development of the trails to encourage (particularly local) people to use the trails for recreational purposes?
- What were the existing/alternative opportunities for exercise before the trails? Was the trail a significant addition to what was there already?
- Has the addition of the trail had any negative impacts in terms of recreational opportunities (e.g. access, competition etc)?

1.2.2 PUBLIC HEALTH AND WELLBEING

- Do you think the trails have contributed to any changes in local people's health and wellbeing? Can you provide any examples?
- Has the number of local people engaging in activities that may benefit their health and wellbeing changed as a result of the trails being developed? (e.g. numbers of people undertaking regular exercise, membership numbers for local cycling groups etc)
- Has anything been done as part of the project to encourage local people to use the trails for their health/wellbeing?
- What were the existing/alternative opportunities for exercise before the trails? Was the trail a significant addition to what was there already?

This report has been prepared by:

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