



**Yarra
Ranges
Council**



Warburton Mountain Bike Destination Revised Economic Impact Assessment

March 2018



MCa <Michael Connell & Assocs.>

Acknowledgements

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Executive Summary

This paper provides a revised economic impact assessment of the proposed Warburton Mountain Bike Destination. The modelling is based on estimates of annual trail users from the TRC Update of 2013 World Trail Report and revised assumptions due to a proposal to increase trail numbers in the draft master plan.¹

Two types of users are identified:

1. Day Users
2. Overnight Users (users who stay overnight in the region).

The economic impacts of the trail arise from spending by users in proximity to the mountain bike trail and other spending in the broader region covered by the trail.

Visitors from outside the region (day users and overnight users) generate significant expenditure covering food and beverage, accommodation (for overnight stayers), and recreation and other services.

The modelling of the trail users and their spending is based on several assumptions and estimates that are outlined in this report.

Summary

The development of the Warburton Mountain Bike Destination will generate substantial positive economic benefits for the region during the construction and operation phases.

Construction Phase Jobs

- ▶ A total of 23.4 FTE jobs (19.5 direct jobs and 3.9 indirect/induced jobs) would be generated during the construction period. These include 14.6 direct jobs in construction and 4.8 direct jobs in material supply (note small differences due to rounding in the modelling).

Operations Phase Jobs (annual)

- ▶ For the Base Case – trail users would generate 33.2 FTE jobs (29.2 direct jobs and 4.0 indirect/induced jobs).
- ▶ For the Mature Destination Case – trail users would generate 76.6 FTE jobs (67.4 direct jobs and 9.2 indirect/induced jobs).
- ▶ When the trail reaches Full Potential - trail users would generate 99.5 FTE jobs (87.6 direct jobs and 11.9 indirect/induced jobs).
- ▶ On a sector basis, the jobs (FTE – direct and indirect) generated by trail users are mainly concentrated in accommodation, food and beverage, recreational services and other visitor services including retail.

Benefit/Cost Analysis

The development of the trail generates benefits that are substantially above costs. For a trail project, a 7% discount rate is appropriate, and the project yields a BCR of 2.58.

¹ Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017; Warburton Mountain Bike Feasibility Study - World Trail, November 2013

1 The Brief

TRC Tourism and MCA have been commissioned to undertake an updated economic impact assessment of the Warburton Mountain Biking Destination (WMBD). In undertaking the work, the assumptions and spending data will be derived from previous reports including the World Trails Feasibility Study² and the TRC updated Warburton Mountain Bike Destination Assessment and from the updated cost estimates of implementing the master plan for the destination.³⁴

The output of this report is a rigorous and achievable assessment and will help inform not only the projects economic benefits and costs, but the benefits by sector in the regional economy.

1.1 Background

In April 2013, Yarra Ranges Shire Council (YRC) sought tenders from consultants to investigate the feasibility of making Warburton a regional mountain biking destination in Victoria. Underpinning the investigation was (and still is) a driver to generate economic benefit to the region through increased visitor economy activity and visitor yield.

World Trail Pty Ltd, a specialist mountain bike company that undertakes mountain bike trail design, construction and consultancy services won the tender and completed a final draft in November 2013 that has been used as an input for this assessment.

Subsequent to that report, TRC Tourism updated the assumptions and data in the World Trails report, without altering the methodology. The intent was to bring the data to 2017-dollar equivalent, and retest some of the usage data, given the proposed cycling developments in the Yarra Valley.

This revised report represents an assessment of the evolving master plan for the Warburton Mountain Biking Destination. The revised assessment has a higher capital expenditure initially due to an increased trail development program. The outcome is a greater proportion of visitors staying overnight in and nearby Warburton to experience the greater diversity of trails.

² Warburton Mountain Bike Feasibility. Prepared for Yarra Ranges Council by World Trails. 2013. Final Draft

³ Warburton Mountain Bike Destination – Desktop Assessment Update (2017)

⁴ Cox Architects – Draft Master Plan for Warburton Mountain Biking Destination

2 Key Assumptions and Findings of the 2013 Report

The following visitor estimates (\$ are assumed to be 2013 value) were used to determine economic impact:

- ▶ 130,000 mountain bike visitors per annum of which 120,000 are day visitors and 10,000 are overnight visitors
- ▶ Based on official tourism data, the gross spend per person is \$77 per day for day visitors and \$130 per night for overnight visitors
- ▶ Planning and development costs of the trails estimated between \$3.13 million and \$4.46 million
- ▶ Annual trail maintenance costs estimated to be \$200,000 to \$270,000 per annum that will be shared between responsible land management agencies, with some revenue offset coming through commercial operations and fees.

Outputs estimated included the following derived benefits:

- ▶ A total of \$12.59 million per annum direct economic benefit
- ▶ An indirect economic benefit of \$11.08 million
- ▶ A total economic benefit of \$23.67 million
- ▶ The project supporting up to 175 jobs in the Warburton area.

3 Changes to the Supply since November 2013

Many regional areas in Australia continue to see mountain biking as a source of visitor economy growth and either have pursued, or continue to pursue the development of mountain bike trails and destinations. Of significance, the following areas have seen significant growth in trail development generating growth in use since 2013:

- ▶ North Eastern Tasmania including Derby and Blue Tier to the East Coast
- ▶ Mount Buller and Falls Creek in NE Victoria
- ▶ East Gippsland including several hubs
- ▶ The Otways in southwestern Victoria
- ▶ Canberra
- ▶ Multiple destinations in New Zealand.

As a late entrant into this competitive marketplace, and with careful analysis and consideration, the Yarra Ranges destination can learn from other competitors and modify/improve the offer to meet contemporary market needs. A strong marketing effort and clear positioning and point of difference will be required to compete.

4 Changes to Demand Since November 2013

Visitor number to the Yarra Ranges and Dandenong continue to grow. Tourism data⁵⁶⁷ shows that the period since 2013 has seen a significant increase in day visitors to the Upper Yarra area (not only cycling), while domestic and international visitor numbers to the Yarra Ranges continues to grow:

- ▶ International overnight visitor year on year increase at 19% in 2016
- ▶ Domestic daytrip visitor year on year increase at 6% in 2016
- ▶ Interstate visitor nights year on year increase of 33% in 2016.

It is important to note that mountain biking is a niche segment, and a subset of cycling. Within the mountain bike market segment riders are generally categorised by either the genre of riding (e.g. cross country, downhill, all mountain – these are not mutually exclusive) and/or their ability (e.g. beginner or advanced).

It is difficult to estimate numbers of mountain bikers directly from the increase in visitor numbers which is likely to be more related to food and wine as the predominant positioning of the region.

⁵ Yarra Valley and Dandenong Ranges Market Profile: Year Ending December 2014 – Tourism Victoria

⁶ Tourism Research Australia 2017 Website Tools

⁷ Yarra Ranges Tourism Snapshot as t August 2017 – yarrarangestourism.com.au

5 Revised Assumptions and Data

To achieve a world class mountain bike destination such as Derby (Tasmania) or Rotorua (New Zealand), you need more than the trail network. You need consolidated information, a range of services such as accommodation and cafes with bike friendly services, and strong and effective governance arrangements and marketing. While the Warburton area has increased its supply of these services, it will take time to reach the levels of other world class competitor destinations. Accordingly, visitor numbers quoted in the World Trail report should be the outcome once a full range of services and experiences are available at a point further in the maturity cycle than exists now.

Several factors are emerging which point to the ability of the destination to grow its mountain bike appeal over time:

- ▶ Melbourne continues to grow and expand its urban footprint, and this includes significant growth eastwards. The market is seeing considerable nature based tourism and high-quality experience based tourism.
- ▶ Growth in food and wine and other products within easy reach of a large market and
- ▶ A successful event program not only aimed at cycling is developing and evolving.

The Warburton to Lilydale Rail Trail provides a strong cycling drawcard for visitors. Current user numbers on this trail are likely to be in the order of 80,000 to 120,000 per annum⁸.

Accordingly, the World Trail report estimates of use, while potentially achievable, are thought to be at the destination's full potential when completed. TRC believes that applying a more conservative approach for the intermediate destination growth period is likely to provide a more realistic benefit. It is suggested that the most likely numbers to be achieved initially are those in other mountain bike destinations that are immature but that have potential given the right strategy, product and execution. Such destinations might include Makara Peak in New Zealand's capital city of Wellington and Adelaide Hills mountain biking area.

The consumer price index has risen approximately 8%⁹ over the period from the World Trail report until this review. Revising the costs by CPI on the reported costs would mean \$3.38 million and \$4.82 million.

World Trail expertise in construction of mountain bike trails is well recognised. Given the sensitive nature of the area, and the non-reliance on using volunteer labour, TRC believes the figures could be increased in recognition of the area which includes National Parks, Water Catchment areas, sensitive flora and fauna species and possible cultural heritage sites of importance. Accordingly, a 10% increase is applied to the planning and construction costs as a contingency.

Further trail development proposed in the draft master plan will bring the revised capital required to complete the trail network to close to \$6 million.

⁸ Yarra Ranges Shire Council Rail Traker Readings – unpublished data - August 2017

⁹ August 2017 - Trading Economics.com Australia Consumer Price Index

Average spend per person will be adjusted for CPI on a similar basis to the costs applying an 8% increase providing \$140 per night and \$83 per day visit. These figures are felt to be on the low side considering most overnight stay would involve a motel, food and entertainment but for the purposes of this update, they are used given original report was based on them.

In preparing the three cases presented below, estimating the number of riders that would use the trails is based on 40 weeks of use per year (allowing for bad weather in the middle of winter, closures due to fire or other environmental conditions that may present).

The mature destination case of 108,000-day users would see 2700 riders per week use the trails on 40 weeks of the year. Given weekends are the most likely to be heavily used, half of those users would ride on weekends providing close to 675 riders per day on weekends and approximately 270 on week days. While some weeks may not see these numbers of users, large events and allowance for busy periods such as Easter and Christmas holiday period will boost the averages over the 40 weeks. This scenario is certainly achievable based on the experience at other world class destinations.

5.1 Scenarios

Three scenarios are presented to consider a range of benefits that might be created throughout the project:

1. A high probability base case during the development and growth phase of the project (Conservative Base Case)
2. A likely scenario when the destination and product has reached maturity and the supporting businesses and infrastructure are all operational (Mature Destination Case)
3. A stretch case that sees the Yarra Valley Trail complete, the destination fully capturing the potential of the infrastructure and the market continuing to grow (Full Potential Case).

6 Trail Users & Spending

6.1 Trail Users

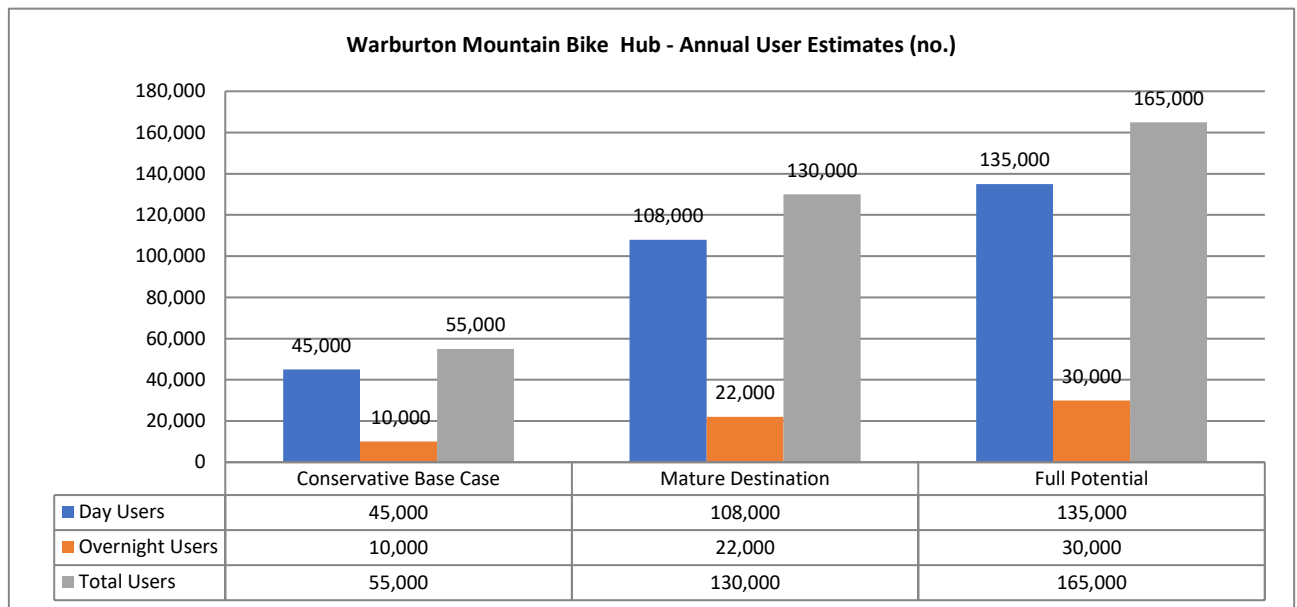
Annual trail user numbers are estimates from the World Trail 2013 Report and the August 2017 update by TRC¹⁰. Three cases are outlined: Conservative Base Case; Mature Destination; and Full Potential. These cases represent the potential long-term evolution of the Destination. Total annual users range from 55,000 for the Base Case to 165,000 for the Full Potential.¹¹

Table 1 Warburton MTB Destination - Estimated Users by Type (Annual)

| Warburton Users | Day Users | Overnight Users | Total Users |
|--------------------------------------------|----------------|-----------------|----------------|
| Conservative Base Case | 45,000 | 10,000 | 55,000 |
| Average Users per Week (based on 40 weeks) | 1,125 | 250 | 1,375 |
| Mature Destination | 108,000 | 22,000 | 130,000 |
| Average Users per Week (based on 40 weeks) | 2,700 | 550 | 3,250 |
| Full Potential | 135,000 | 30,000 | 165,000 |
| Average Users per Week (based on 40 weeks) | 3,375 | 750 | 4,125 |

Source: Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7 and revised due to increased trail development projections.

Figure 1 Warburton MTB Destination – Estimated Users by Type (Annual)



Source: Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7, and revised due to increased trail development projections.

¹⁰ Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7

¹¹ Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7

6.2 Spending in the Region

Spending in the Region was estimated using data from the World Trail 2013 report and the TRC August 2017 update.

Table 2 Spending Assumptions - Average Expenditure by Trail Users

| Trail User Spending in Region | Day Users (per trip) | Overnight Users (per night) | Source |
|---------------------------------|----------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Average expenditure per visitor | \$83 | \$140 | Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 2017 |
| Ave stay (overnights) | 0 | 2.2 | Domestic Overnight Night Travel- Travel to Yarra Valley & Dandenong Ranges - July 2016 to June 2017, Yarra Ranges Tourism |

Source: Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7

The combination of user numbers by type, average spending and average length of stay is used to estimate annual spending in the region. The following chart shows annual spending for each of the user types.

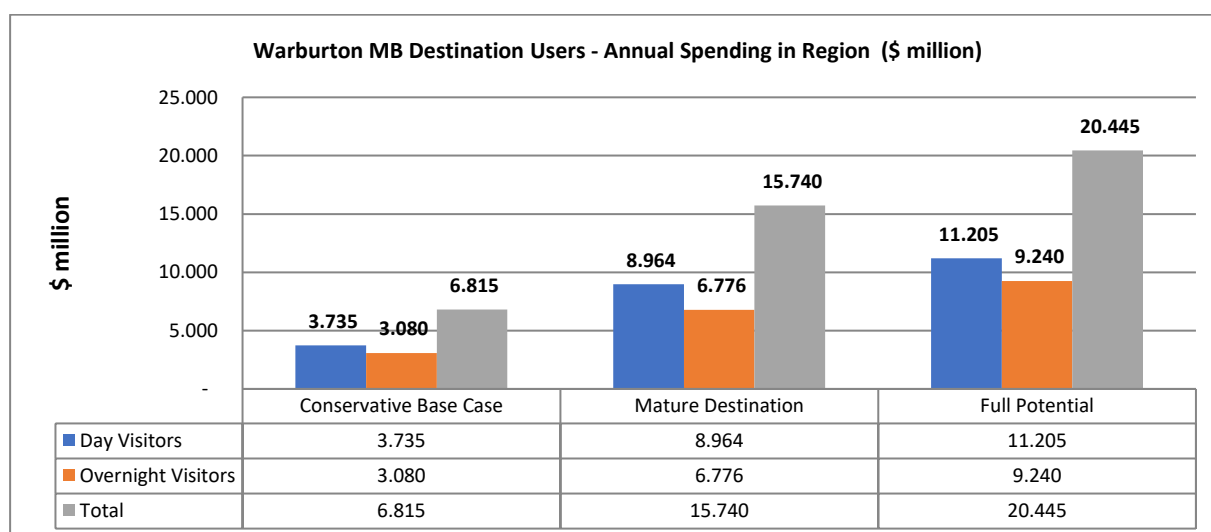
Total annual spending in the region by trail users was estimated at:

1. **\$6.81 million for the Conservative Base Case**
2. **\$15.74 million for the Mature Destination**
3. **\$20.44 million for the Full Potential**

Total expenditure comprises:

- ▶ Spending on trail linked activities (spending on bike related expenses and - food and beverage etc.)
- ▶ Spending on other accommodation (for overnight stayers) and meals during their stay
- ▶ Spending on other recreational and tourism services, and other retail.

Figure 2 Warburton Mountain Bike Destination Annual Spending in 3 Scenarios



Source: MCa analysis December 2017

Table 3 Total Annual spending by Warburton MTB Destination Users (\$)

| User Type | Conservative Base Case | Mature Destination | Full Potential |
|--------------------|------------------------|---------------------|---------------------|
| Day Visitors | 3,735,000 | 8,964,000 | 11,205,000 |
| Overnight Visitors | 3,080,000 | 6,776,000 | 9,240,000 |
| Total | \$6,815,000 | \$15,740,000 | \$20,445,000 |

Source: MCA analysis, December 2017. Spend data from Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P5 Average length of stay Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P6-7 and revised due to increased trail development leading to a small increase in overnight visitors.

7 Economic Impacts of Warburton Mountain Bike Trail

The economic impacts of the trail (on the region covered by the trail) were modelled for both the construction phase and the operations phase. The impacts are measured in terms of full time equivalent jobs, and the increase in regional income that is generated by trail users and their spending in the Region. ¹²

7.1 Construction Phase

Jobs and an increase in regional income will be generated during the construction phase of the project.

7.1.1 Construction Costs

The cost estimates in the tables below cover trail construction and other infrastructure.

Table 4 Warburton MTB Destination - Construction Costs

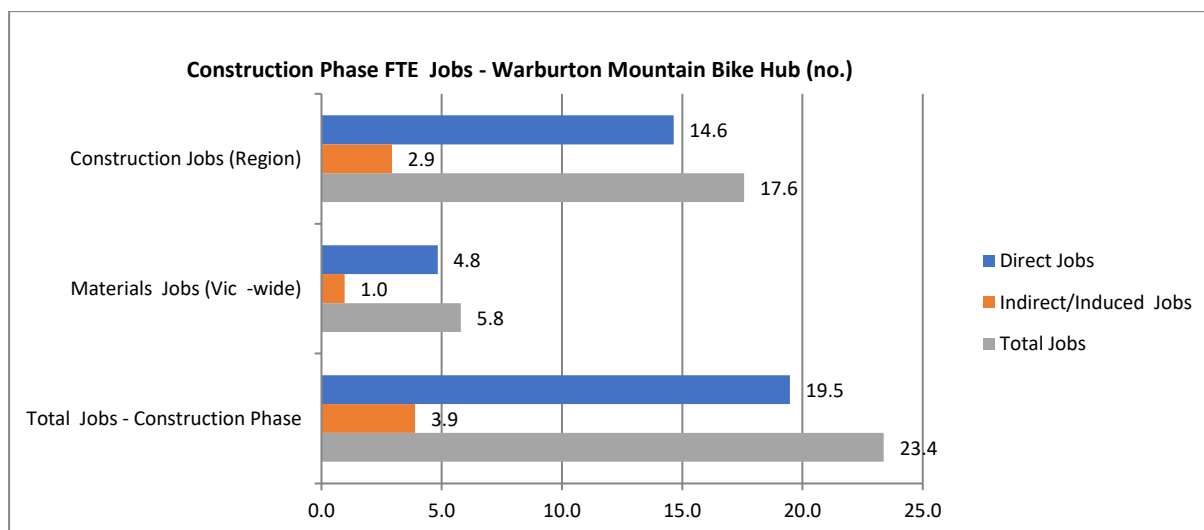
| Warburton Trails Construction | Cost\$ |
|-------------------------------|-------------|
| Total Construction Costs | \$5,858,000 |

Source: Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P3, and revised cost plan – Cox architects.

7.1.2 Economic Impacts – Construction

For the trail development, a total of 23.4 FTE jobs (19.5 direct jobs and 3.9 indirect/induced jobs) would be generated during the construction period. These comprise 14.6 direct jobs in construction and 4.8 jobs in material supply.

Figure 3 Construction phase jobs generated in the Yarra Valley and beyond.



Source: MCA modelling and estimates, December 2017. Note – some differences to rounding within formulas

¹² Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated, income tax and GST on spending, are both treated as leakages from the region.

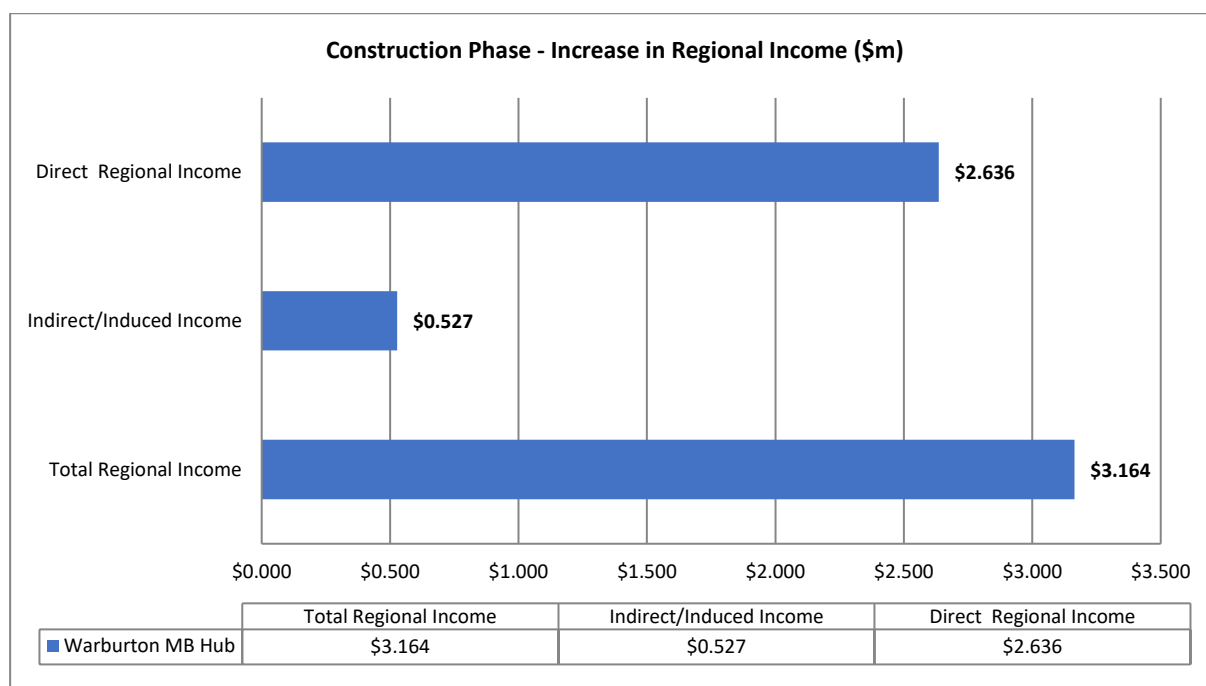
Table 5 Construction Phase - FTE Jobs Generated (no)

| Construction Phase FTE Jobs | Direct Jobs | Indirect/ Induced Jobs | Total Jobs |
|----------------------------------------|-------------|------------------------|-------------|
| Construction Jobs (Region) | 14.6 | 2.9 | 17.6 |
| Materials Jobs (Vic wide) | 4.8 | 1.0 | 5.8 |
| Total Jobs - Construction Phase | 19.5 | 3.9 | 23.4 |

Source: MCA modelling and estimates, December 2017. Note some differences due to rounding within formulas.

The following chart shows the increase in regional income generated during the construction of the trail.¹³ During construction \$3.164 million in regional income would be generated (\$2.636 million direct and \$0.527 million indirect/induced).

Figure 4 Construction phase jobs generated



Source: MCA modelling and estimates, December 2017. Notes some differences due to rounding within formulas.

7.2 Operations Phase

The operations phase economic impacts of the trail are driven by expenditure by users in areas adjacent to the trails and in the region. TRC/MCA's economic model is used to estimate the regional employment and income impacts of the trails. The model allocates spending across relevant industry sectors and takes account of the significant shares of the gross spending by trail users, which leaks out of the region.¹⁴

¹³ This assumes the construction workforce would come from Yarra Ranges LGA and adjacent areas.

¹⁴ The spending by trail users is not the economic impact and does not represent the increase in regional income. There is a major leakage of this spending out of the region due to: the GST (10%); and a significant component of the value of services and products purchased by visitors comes from outside the region (e.g. food ingredients, soft drinks, beer, consumer products bought etc.). The model takes account of these leakages and estimates employment impacts and the increase in regional income.

7.2.1 Employment Impacts

The chart below shows the increase in regional jobs generated by each of the trail user groups:

► For the Base Case

- Trail users would generate 33.2 FTE jobs (29.2 direct jobs and 4.0 indirect/induced jobs).

► For the Mature Destination Case

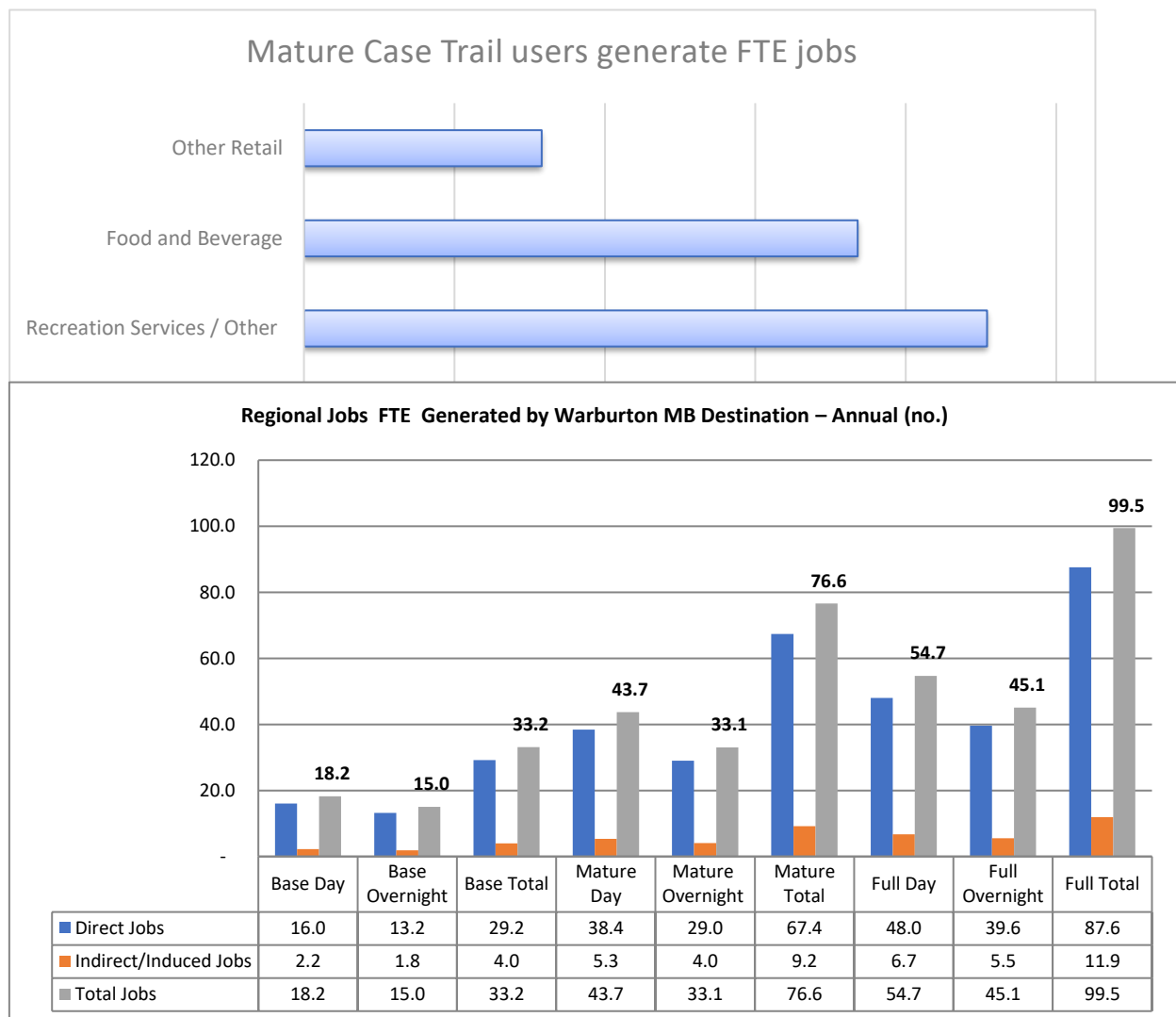
- Trail users would generate 76.6 FTE jobs (67.4 direct jobs and 9.2 indirect/induced jobs).

► When the trail reaches Full Potential

- Trail users would generate 99.5 FTE jobs (87.6 direct jobs and 11.9 indirect/induced jobs).

On a sector basis, the jobs (FTE – direct and indirect) generated by trail users are mainly concentrated in: accommodation; food and beverage; recreational services and other visitor services; and other retail.

For example, for the Mature Case trail users would generate the following total FTE jobs:



Source: MCA modelling and estimates, December 2017. Note – some differences due to rounding.

Table 6 Regional Jobs FTE Generated by Warburton MTB Destination - Annual (no.)

| Employment Impacts Jobs FTE | Conservative Base <Years 1-5> | | | Mature Case <Years 6-12> | | | Full Potential <Years 13-20> | | |
|--------------------------------|----------------------------------|-------------|-------------|-----------------------------|-------------|-------------|---------------------------------|-------------|-------------|
| | Day | Overnight | Total | Day | Overnight | Total | Day | Overnight | Total |
| Direct Jobs | 16.0 | 13.2 | 29.2 | 38.4 | 29.0 | 67.4 | 48.0 | 39.6 | 87.6 |
| Total Indirect/ Induced | 2.2 | 1.8 | 4.0 | 5.3 | 4.0 | 9.2 | 6.7 | 5.5 | 11.9 |
| Total Jobs | 18.2 | 15.0 | 33.2 | 48.6 | 15.0 | 63.4 | 54.7 | 45.1 | 99.5 |

Source: MCA modelling and estimates, December 2017. Note some differences due to rounding.

Table 7 Total Regional Jobs Generated by Warburton MTB Destination by Industry Sector Annual (no.)

| Total All Jobs | Conservative Base Case | Mature Case | Full Potential |
|------------------------------------|------------------------|------------------|------------------|
| Industry Sector | Total Jobs (FTE) | Total Jobs (FTE) | Total Jobs (FTE) |
| Accommodation | 10.1 | 23.2 | 30.2 |
| Food & Beverage | 7.9 | 18.4 | 23.8 |
| Recreation Services/Other Services | 9.8 | 22.7 | 29.5 |
| Other Retail | 3.4 | 7.9 | 10.3 |
| Housing | 0.2 | 0.6 | 0.7 |
| Health | 0.3 | 0.7 | 0.9 |
| Transportation | 0.7 | 1.6 | 2.1 |
| Communication | 0.0 | 0.1 | 0.1 |
| Education | 0.2 | 0.5 | 0.6 |
| Miscellaneous | 0.4 | 0.9 | 1.2 |
| Total | 33.2 | 76.6 | 99.5 |

Source: MCa modelling and estimates, December 2017. Note some differences due to rounding.

7.3 Regional Income Impacts

The increase in regional income generated annually by the operation of the trail and users' spending totals \$5.753 million for the Mature Case and \$7.472 million for the Full Potential with both day users and overnight users being major contributors.¹⁵

¹⁵ Regional income is the total net income generated from the activity and covers wages and salaries of employees and profits of businesses within the region. It includes income generated directly within the business and indirect income, which is generated in other regional businesses (wages and profits) from the multiplier impacts of employee spending on the region. In the modelling of income generated income tax and GST on spending, are both treated as leakages from the region.

Table 8 Increase in Annual Regional Income Generated by Warburton MTB Destination (\$Mil)

| Annual Increase – Regional Income \$ million | Conservative Base <55,000 users> | | | Mature Case <130,000 users> | | | Full Potential <165,000 users> | | |
|----------------------------------------------|----------------------------------|----------------|----------------|-----------------------------|----------------|----------------|--------------------------------|----------------|----------------|
| | Day | Overnight | Total | Day | Overnight | Total | Day | Overnight | Total |
| Direct Income | 1.210 | 0.998 | 2.208 | 2.904 | 2.195 | 5.100 | 3.630 | 2.994 | 6.624 |
| Indirect/Induced Income | 0.155 | 0.128 | 0.283 | 0.373 | 0.282 | 0.653 | 0.466 | 0.384 | 0.848 |
| Total Income (\$million) | \$1.365 | \$1.126 | \$2.491 | \$3.277 | \$2.477 | \$5.753 | \$4.096 | \$3.378 | \$7.472 |

Source: MCA modelling and estimates, December 2017. Note some differences due to rounding.

7.4 Trail Benefits and Costs

7.4.1 Trail Analysis

For the benefit cost-analysis a 20-year period is examined. Assumptions were made about the development of the market and user numbers over three periods and these are outlined in the following table.

Table 9 Assumptions for 20-year Regional Income Estimation

| Assumptions | Increase in Regional Income Generated |
|---------------|---------------------------------------------------------------------------|
| Years | Description |
| Years 1-5 | Conservative Base Case = average over the 5 years (based on 55,000 users) |
| Years 6-12: | Mature Case = average over the 7 years (based on 130,000 users) |
| Years 13 -20: | Full Potential Case = average over the 8 years (based on 165,000 users) |

Source: MCA assumptions, December 2017

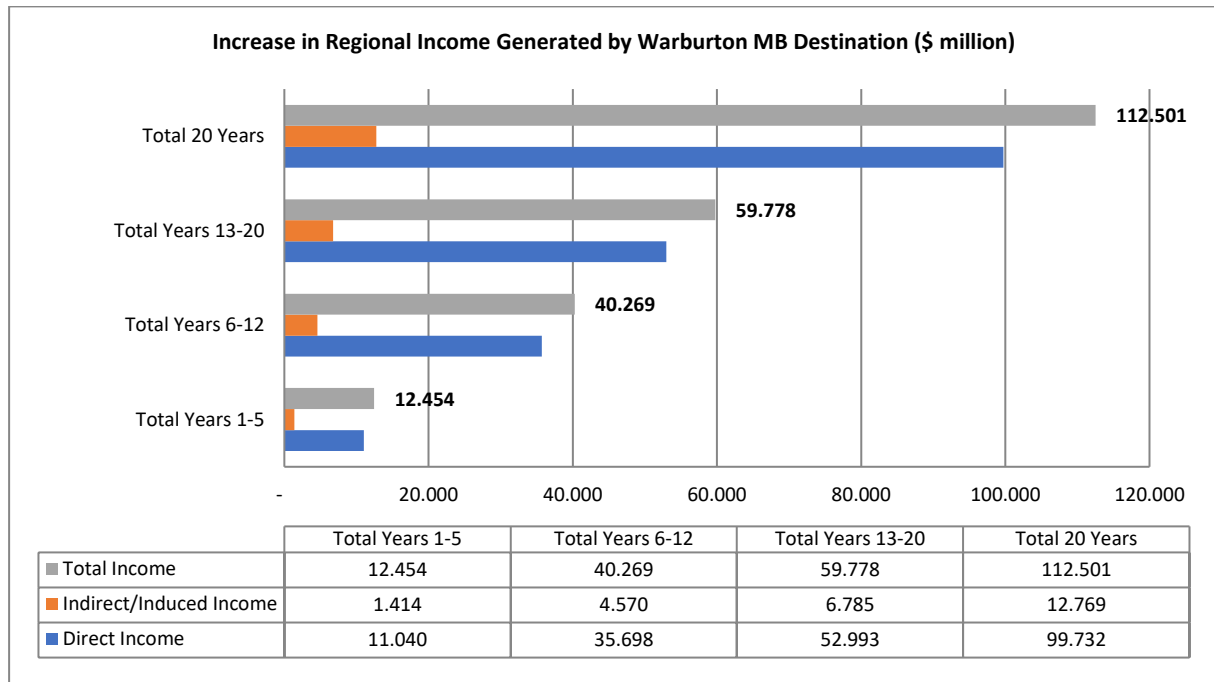
The measured benefits comprise the increase in regional income generated by trail users over a 20-year period and this totals \$112.501 million.

Table 10 Increase in Regional Income Generated – 20-year period

| Increase in Regional Income -20 Years | Total Years 1-5 | Total Years 6-12 | Total Years 13-20 | Total 20 Years |
|---------------------------------------|---------------------------------------|-----------------------------|-------------------------------------|----------------------|
| Direct Income | \$11,040,300 | \$35,698,320 | \$52,993,440 | \$99,732,060 |
| Indirect/Induced Income | \$1,413,501 | \$4,570,493 | \$6,784,806 | \$12,768,801 |
| Total Income | \$12,453,801 | \$40,268,813 | \$59,778,246 | \$112,500,861 |
| | Conservative Base Case <55,000 users> | Mature Case <130,000 users> | Full Potential Case <165,000 users> | |

Source: MCA modelling and estimates, December 2017

Figure 6. Increase in Regional Income Generated by Warburton Mountain Bike Destination



Source: MCA modelling and estimates, December 2017. Note some differences to rounding.

The estimated construction cost of the trail is \$5.859 million, and it has a 20-year maintenance cost of \$5.400 million (assumed to be \$270,000 per year over 20 years) – making a 20-year cost of \$11.259 million.¹⁶

Table 11 Costs of Warburton MTB Destination

| Route Options | Costs\$ |
|--------------------------------------------------------|---------------------|
| Total Construction Costs | |
| Planning & Development Costs | \$5,858,885 |
| Total Maintenance Cost | |
| Trail Maintenance Cost (\$270,000 per year x 20 years) | \$5,400,000 |
| Total Trail Costs | |
| Total Cost (20 Years) | \$11,258,885 |

Source: Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P3, and revised cost estimates from Cox architecture draft master plan.

¹⁶ Warburton Mountain Bike Destination – Updated Desktop Assessment, Draft Report – TRC, August 7 2017, P3

7.4.2 Benefit Cost Analysis

The following table and chart show the benefits and costs of Warburton Mountain Bike trail development. The benefits are measured by the increase in regional income generated by trail users over a 20-year period. For the comparison, the present value of the benefits is calculated using 3 discount rates (4%, 7% and 10%).

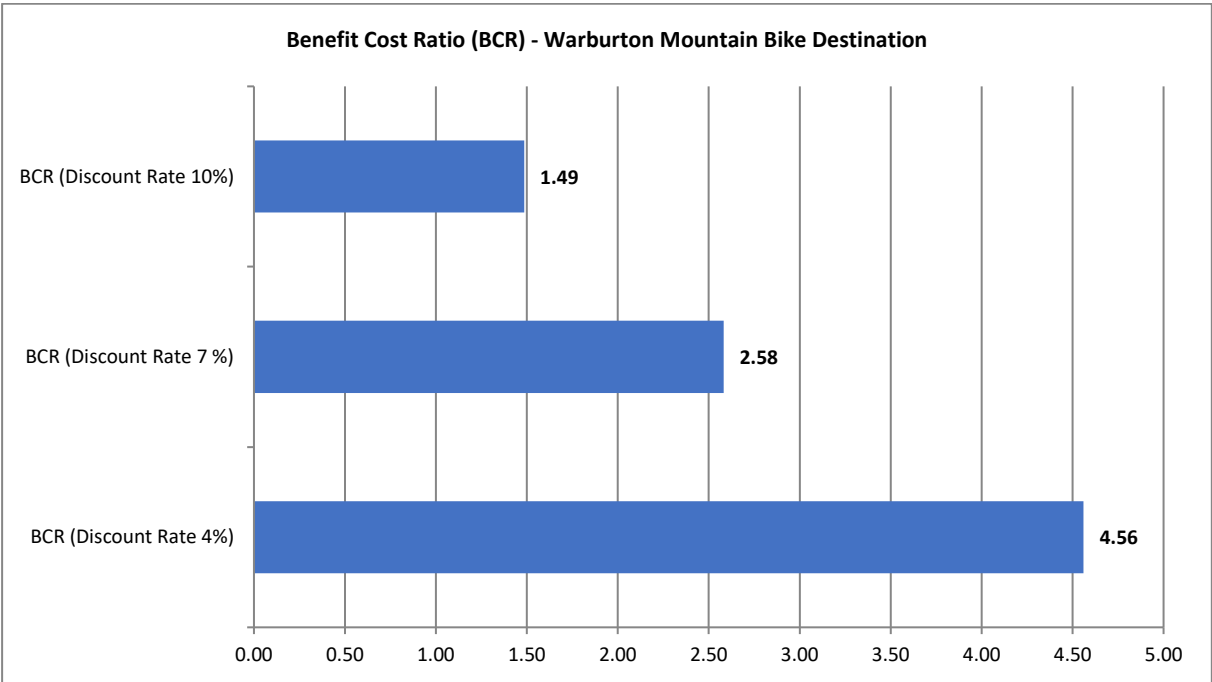
Table 12 Benefits and Cost Analysis Warburton MTB Destination – 20-year period

| Warburton Mountain Bike Destination | Nominal | Nominal | Nominal |
|------------------------------------------------------------------|----------------------|----------------------|----------------------|
| 20 Year Operations Period | Discount Rate | Discount Rate | Discount Rate |
| | 4% | 7% | 10% |
| Trail Route A Sections 1-3 | | | |
| Costs | | | |
| Capital Costs 2018 (\$) (Present Value) | \$5,858,885 | \$5,858,885 | \$5,858,885 |
| Costs - Asset Replacement/Maintenance | \$5,400,000 | \$5,400,000 | \$5,400,000 |
| Total Capital Costs | \$11,258,885 | \$11,258,885 | \$11,258,885 |
| Benefits | | | |
| Direct Benefits (users) | | | |
| Regional income (regional income generated) | \$112,500,861 | \$112,500,861 | \$112,500,861 |
| Total Benefits | \$112,500,861 | \$112,500,861 | \$112,500,861 |
| Total Benefits (\$) Present Value | \$51,343,924 | \$29,072,360 | \$16,722,536 |
| Net Present Value (\$) | \$40,085,039 | \$17,813,475 | \$5,463,651 |
| NPV/Capital Costs | 3.56 | 1.58 | 0.49 |
| Benefit Cost Ratio (BCR) | 4.56 | 2.58 | 1.49 |
| <Total Benefits -Present Value/Total Capital Costs> | | | |

Source: MCA modelling and estimates, December 2017. Note: Direct benefits are the value to users of a facility; usually this is measure by user payments. In this case it is assumed that there are no user charges for the trail, therefore benefits are the increase in regional income generated by visitor spending.

The chart below shows the Benefit Cost Ratios (BCR) for the 3 discount rates. For a trail project a 7% discount rate is appropriate, and the project yields a BCR of 2.58, which is substantially above 1. The present value of total benefits (\$29.072 million) generated by the investment exceed the costs of the project (\$11.258 million) over a 20-year period by a factor of 2.58.

Figure 7. Benefit Cost Ratio Using Different Discount Rates



MCa modelling and estimates, December 2017

8 Conclusion

This analysis provides strong evidence, based on achievable and relatively conservative estimates, that the proposed Warburton Mountain Bike Destination has a strong net economic benefit to the region.

The proposal, if implemented, will see a significant increase in regional income, and importantly regional employment as a consequence of the investment in the trail destination.

On the mid case presented in the report, where the destination and product has reached full capacity over a 20-year period, the region enjoys an increase in regional income of \$112.500 million and has an increase in total of an additional 99.5 EFT jobs.

With a benefit cost ratio (BCR) using a standard 7 % discount rate of 2.58, the project is strongly viable.



AUSTRALIA

Suite 5, 3/4 Gippsland Street
PO Box 837, Jindabyne NSW 2627

Phone: +61 2 64562722

Email: enquiries@trctourism.com

NEW ZEALAND

Level 5, EMC Building, 5-7 Willeston Street
PO Box 2515, Wellington 6140

Phone : +64 4 4723114

Email: info@trctourism.com

www.trctourism.com



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