



Forrest Mountain Bike Trails

Economic Cost Benefit Analysis
FINAL REPORT

Prepared by MacroPlan Dimasi for
Colac Otway Shire

25 September 2018

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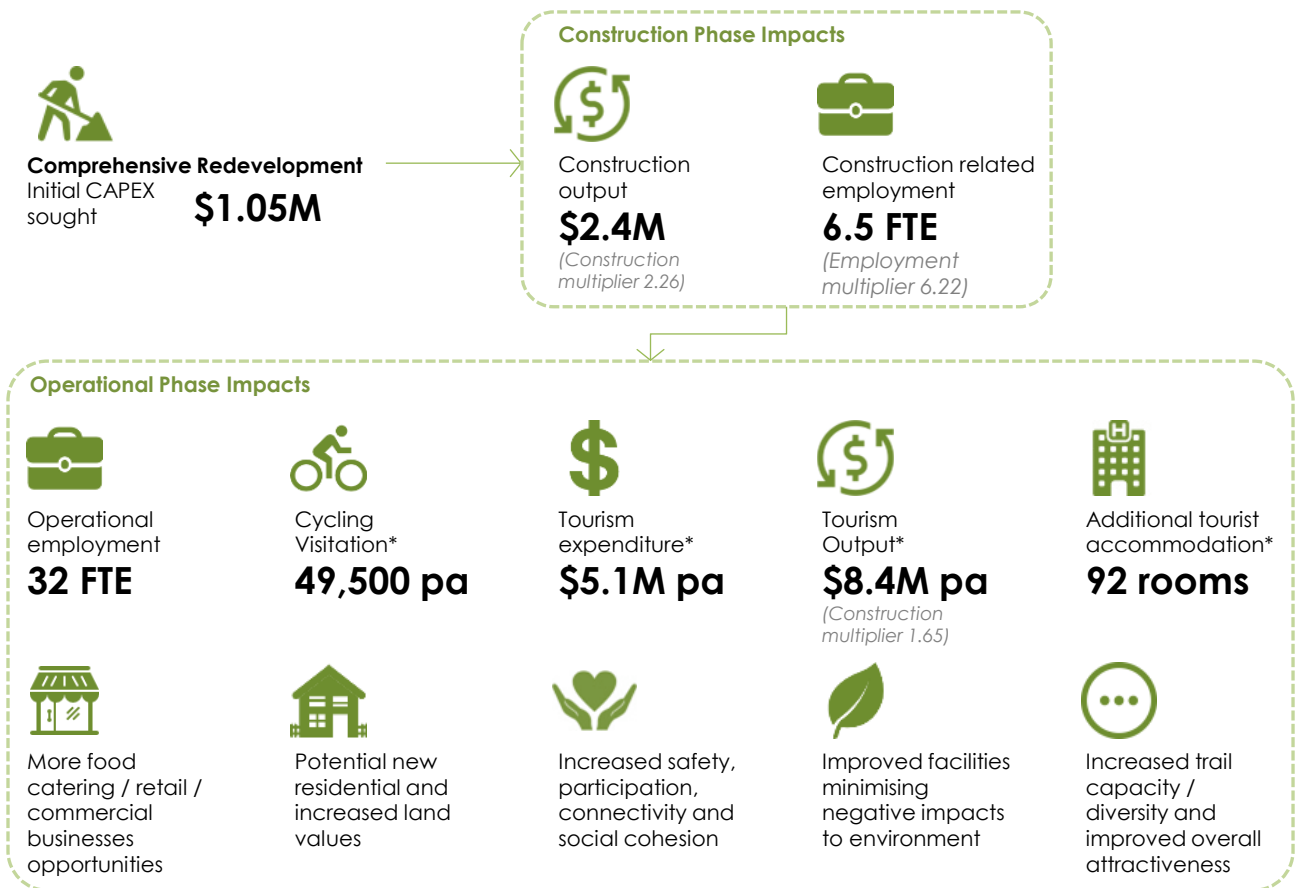
EXECUTIVE SUMMARY

This report is prepared by MacroPlan Dimasi and presents a high-level cost-benefit analysis relating to the Forrest Mountain Bike Trails project.

Council is seeking funding to implement the Forrest Mountain Bike Trails Strategic Plan. It requires evidence of costs and related economic, social and environmental benefits associated with the project to support its funding pitch and market call process.

MacroPlan was engaged by Council to test the potential economic, social and environmental benefits under three investment scenarios proposed by Council, from minimum intervention to comprehensive redevelopment.

This assessment indicates that **Council needs to seek the maximum amount of funding (up to \$1.05M) required to create critical mass in visitation and utilisation of the Forrest Mountain Bike Trails network and generate maximum multipliers and flow-on benefits to the local economy, employment growth and continuous development of the Forrest Township.** Minimum intervention totalling \$407,000 has limited potential to trigger growth in tourism visitation, enhance the area and create critical mass in local and regional investment.



Note: *Operational phase tourism impacts refer to impact to the Otway SA2 during stabilised operational phase in 5 years assumed.
Source: ABS, TRA, Remplan, Colac Otway Shire Council, MacroPlan Dimasi

_EXECUTIVE SUMMARY

An overview of the three Scenarios and key quantitative impacts are summarised in the table overleaf. The economic analysis indicates the following:

- **Scenario 1 (Business As Usual with initial capital cost at \$180,000)** is the minimum intervention to keep current trails safe and functional with ongoing maintenance. It is expected to have minimal impacts on local economy, employment, tourism and Township development. Given significant development and competition in MTB market across Australia, Forrest may lose its market share in the long term.
- **Scenario 2 (Partial / Staged Redevelopment at \$380,000)** has the moderate level of intervention to improve the current trail network at Forrest. The economic impact generated from the initial CAPEX is also expected to be limited. With improved facilities, it might trigger an increased level of visitation, tourism expenditure and small scale tourism development in the short to medium term. However there may be limited capacity to create critical mass in the area.
- **Scenario 3 (Comprehensive Redevelopment at \$1.05M)** includes both improvement of current trail networks and additions of a number of new facilities, which will significantly increase the trail capacity and diversity for MTB activities at Forrest. New and upgraded facilities may encourage the participation and diversification of MTB users including elite users, recreational users, families with children, and educational programs etc. It is expected to have the most significant impacts on local economy, employment and tourism out of all Scenarios. This Scenario is anticipated to become a catalyst to grow the tourism industry at Forrest, trigger one medium scale tourist accommodation in short to mid term and create opportunities for major developments in the Township and surrounds in the long term.

The opportunity-cost of not investing in Forrest MTB infrastructure and tourism faculties will be a reduction in the long-term sustainability of MTB and various tourist activities in the Forrest Township, as well as associated regional tourism expenditure and employment outcomes. Without a minimum level of intervention to maintain and improve the MTB trails infrastructure and tourism facilities, there are risks for Forrest to lose its market share and competitive positioning. Without major investment, the capacity of Forrest Township and its economic / tourism growth is expected to be constrained in the long term. The total estimated long-term direct and indirect negative impacts of not investing in Forrest MTB trails and tourism infrastructure may be significant and result in a reduction in total regional output of up to **\$3.3-\$4.5 million pa** and employment of at least **10-15 jobs**.

EXECUTIVE SUMMARY

All Scenarios & Key Quantitative Impacts Summary

Scenarios	Description	Construction Phase Impacts	Operational Phase Impacts
Scenario 1 BAU	<ul style="list-style-type: none"> To keep current trails safe and functional 	<ul style="list-style-type: none"> Initial CAPEX: \$180,000 Total construction output: \$407,000 Limited construction related employment 	<ul style="list-style-type: none"> Limited operational employment Cycling visitation: 34,100 pa* Total tourism output: \$5.8M pa* Limited additional tourist accommodation potential
Scenario 2 Partial / Staged Redevelopment	<ul style="list-style-type: none"> All User Skills Park and trailhead precinct New Barwon Flow Trail Current trails upgrades and enhancements 	<ul style="list-style-type: none"> Initial CAPEX: \$380,000 Total construction output: \$859,500 Limited construction related employment 	<ul style="list-style-type: none"> Total operational employment: 23 FTE Cycling visitation: 39,300 pa* Total tourism output: \$6.7M pa* Potential additional tourist accommodation required: 23 rooms*
Scenario 3 Comprehensive Redevelopment	<ul style="list-style-type: none"> Current trails upgrades and enhancements New Barwon Flow Trail and Boundary Rider off-road trail link New MTB Skills Development Park New underpass for trails connection Rebranding, new signage and brand positioning 	<ul style="list-style-type: none"> Initial CAPEX: \$1.05M Total construction output: \$2.4M Total construction related employment: 6.5 FTE 	<ul style="list-style-type: none"> Total operational employment: 32 FTE Cycling visitation: 49,500 pa* Total tourism output: \$8.4M pa* Potential additional tourist accommodation required: 92 rooms*
Negative Impact of Not Investing in MTB infrastructure	<ul style="list-style-type: none"> No further investment in MTB infrastructure 	<ul style="list-style-type: none"> Construction output: loss of at least \$407,000 	<ul style="list-style-type: none"> Cycling visitation: loss of 12,000-17,000 pa Visitor expenditure: loss of \$1.1-\$1.5M pa Tourism output: loss of \$1.8-\$2.6M pa

Note: *Operational phase tourism impacts refer to impact to the Otway SA2 during stabilised operational phase in 5 years assumed.

Source: ABS, TRA, Remplan, Colac Otway Shire Council, MacroPlan Dimasi

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1_Introduction

1.1_Purpose

MacroPlan Dimasi was engaged by the Colac Otway Shire Council (Council) to undertake an economic benefit cost analysis for the potential redevelopment project within the Colac Otway Shire (COS) – Forrest Mountain Bike Trails.

Council is seeking funding to implement the Forrest Mountain Bike Trails Strategic Plan. This requires evidence of costs and related economic, social and environmental benefits including multiplier impacts associated with the project to support its funding pitch and market call processes. Council has prepared a Regional Tourism Infrastructure Fund (RTIF) application for Forrest Mountain Bike Trails in 2016.

This report presents a high-level cost-benefit analysis relating the Forrest Mountain Bike Trails project, specifically focusing on a comparison of a 'business as usual scenario' versus the potential benefits arising from the project during and after implementation in line with Council's proposals. This report can be used to support for funding applications for the Forrest Mountain Bike Trails project.

1.2_Scope of Study

The following report draws on project cost data and information provided by Council, findings of consultation and technical studies prepared by others.

The scope of the assessment involves the following key elements:

- Regional and study context
 - The overview of regional context of Great Ocean Road (GOR) region and COS Local Government Area (LGA)
 - The situation analysis of Forrest including current context of the Forrest Township and surrounds, tourism visitation and particularly the Mountain Biking (MTB) market also drawing on stakeholder consultation
 - Issues, opportunities, challenges and risks
 - Investment Scenarios, including three Scenarios defined
 - Scenario 1 – BAU to keep current trails functional and safe (\$180,000)
 - Scenario 2 – Partial / Staged Redevelopment (\$380,000)
 - Scenario 3 – Comprehensive Redevelopment (\$1.05M)
- A high-level benefit cost analysis
 - Quantifiable impacts addressing the above three investment Scenarios defined, including construction outputs, construction phase employment growth, operational employment upon project completion, visitation growth, visitors expenditure and tourism outputs
 - Other impacts, including other economic, social / community and environmental benefits which are not quantifiable or valued but can be assessed qualitatively
 - Sensitivity analysis
 - Test of possible opportunity cost of not investing in MTB in Forrest as per Council's request
- Conclusions

1_Introduction

1.3_Methodology

The assessment has adopted the following methodologies in undertaking the economic benefit cost analysis.

1. Literature review. MacroPlan has reviewed a number of documents including the Forrest MTB Strategic Plan (2015), the RTIF application (2016), ABS Input-Output tables and multipliers, and a number of technical studies prepared by others. It is well documented that the tourism multiplier of 1.65 industry output for every dollar spent on tourism.
2. Stakeholder consultation and SWOT analysis. Council and MacroPlan have also undertaken stakeholder consultation involving internal participants from Council and external participants from other relevant organisations and local businesses such as DELWP, RDV, Great Ocean Road Regional Tourism Board, Forrest Guest Brewery, Forrest House and Platypi Chocolatier etc.
3. Scenario definition. Drawing on all reports / documents reviewed, outcomes of stakeholder consultation and market information etc., Council has proposed three investment Scenarios of interventions of different scales, including:
 - o Scenario 1 – BAU to keep current trails functional and safe (\$180,000)
 - o Scenario 2 – Partial / Staged Redevelopment (\$380,000)
 - o Scenario 3 – Comprehensive Redevelopment (\$1.05M)
4. Economic assessment. MacroPlan will undertake an economic assessment based on the three investment Scenarios defined using two economic assessment methodologies:
 - o Quantitative assessment using an economic impact assessment (EIA) approach; and
 - o Qualitative assessment using a triple bottom line (TBL) approach.

Economic Impact Assessment

An EIA examines the effect of an event / project on inputs and outputs to local economy in a specified area. It usually measures changes in economic outputs, jobs and other key indicators.

Initial investment will translate into a first round of benefits, realised as increased construction output and employment. ABS Input-Output (I-O) tables are used as a basis for calculating the economic benefits of initial capital expenditure upon local and wider economy in the construction sector both directly and indirectly.

ABS I-O tables are also used for estimating economic benefits upon project completion, i.e. tourism / recreational industry employment and outputs both directly and indirectly.

The EIA approach has been used for the quantifiable impact assessment.

Triple Bottom Line Assessment

A TBL of the proposed Scenarios is conducted producing outcomes across social, economic and environmental indicators.

To analyse a range of the benefits and costs associated with the proposed development Scenarios that cannot be assigned a value, a qualitative TBL approach has been adopted to provide an indicative measure of changes and impacts in a number of indicators. This analysis incorporates information collected and collated through consultation with relevant stakeholders and assessment of research.

The qualitative indicators used for this assessment involves a range of KPIs across economic, social and environmental aspects.

1_Introduction

Some of the key qualitative indicators are listed below.

Economic KPIs (non-quantifiable)

- Employment skills development, education and training
- Increased major events and associated investment and expenditure
- Tourist facility development in Forrest and surrounds, i.e. tourist accommodation, food catering, and the mix and diversity of facilities
- Retail / commercial development, i.e. increased retail offering and diversity, new business opportunities and investment in Forrest and the wider Otway region
- Residential development, increased investment and development within Forrest and surrounds, increased land values

Social KPIs

- Improved health, wellbeing and safety
- Community infrastructure, i.e. new community assets and amenity, improved physical space / places, enhanced access and connectivity
- Social inclusiveness, i.e. sense of inclusion, increased participation of MTB activities for all users, increased volunteerism
- Social cohesion, i.e. sense of belonging, sense of connection to nature, people and place

Environmental KPIs

- Improved public realm and open spaces
- Integration with the existing environment, i.e. biodiversity and habitat values
- Minimised disturbance to the natural environment, i.e. maintaining / enhancing natural environment, visual impacts
- Air and water quality

Both EIA and TBL approaches are used in examining all three investment Scenarios defined.

1.4 Limitations

An EIA only assesses a number of key indicators (i.e. outputs and employment) in a quantitative way using I-O multipliers. A significant number of other key indicators cannot be assessed quantitatively using an EIA but can be assessed quantitatively using a TBL approach.

Whilst EIA has included the calculation of direct and indirect expenditure flows, the key benefits for the local economy will primarily come from the direct increase in expenditure within the immediate area. The multiplier effect, whilst significant, will primarily tend to benefit the regional and national economy, although undoubtedly some of the multiplier effect will benefit local suppliers across a wide range of industries.

On the other hand, a TBL assessment does not have the same grounding in economic theory as an EIA. Because a TBL involves subjective judgments on values and impacts, consistency of analysis and like for like comparisons can be challenging.

1.5 References

The author has referred to the following literature and data in preparing this report.

- Australian Bureau of Statistics (ABS), Cat. 5209 Australian National Accounts: Input-Output Tables, 2014-15
- ABS Census 2011 & 2016
- ABS Cat. 4177 Participation in Sport and Physical Recreation, 2013-14
- Department of Economic Development, Jobs, Transport and Resources (DEDJTR), Guidance on Undertaking Economic Assessment
- Employment Density Guide, 2015
- Forrest MTB Strategic Plan, 2015
- Remplan, 2017
- Tourism Research Australia (TRA), 2017
- Tourism Victoria, 2017

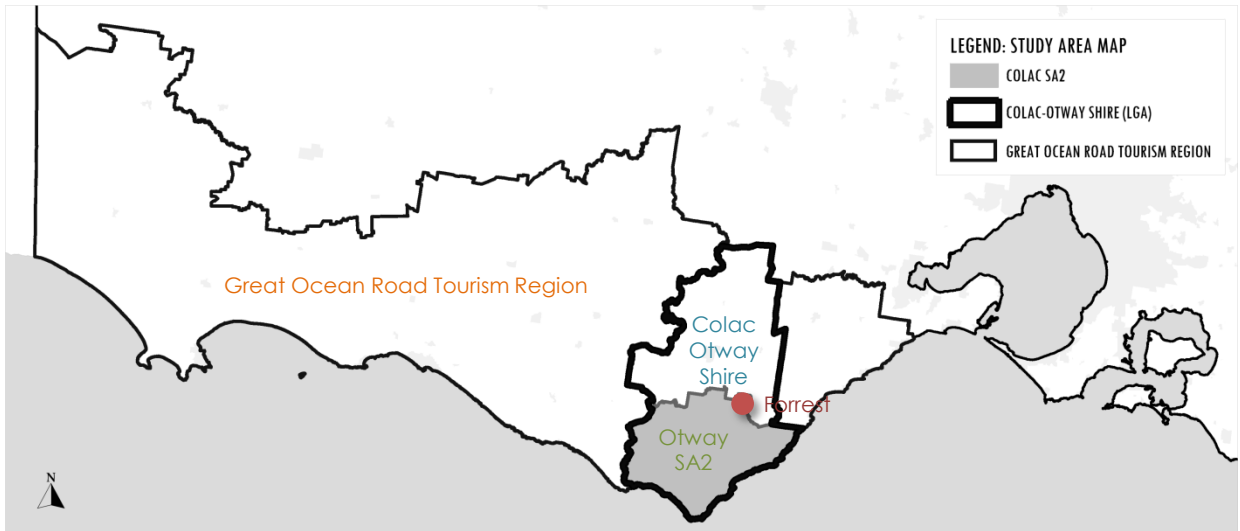
2_Regional & Study Context

2.1_Great Ocean Road & Colac Otway Shire (Current Situation)

The Great Ocean Road (GOR) is one of the most well known tourism destinations which is located very close to Melbourne.

The following infographic below presents an overview of the current tourism economy in the GOR Tourism Region (TR, as defined by TRA) as well as the context of Colac Otway LGA.

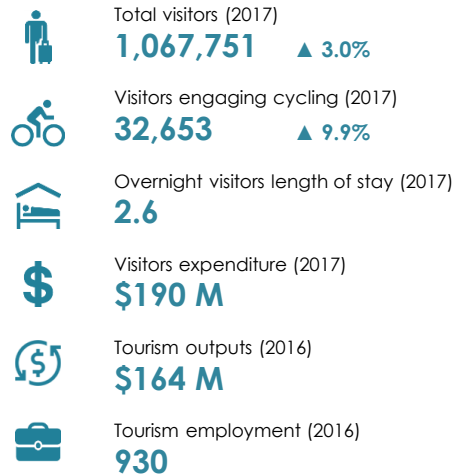
Regional Context & Current Situation



Great Ocean Road Tourism Region



Colac Otway Shire



Source: TRA, Tourism Victoria, Remplan, MacroPlan Dimasi
Note: Growth represents long-term average annual growth

2_Regional & Study Context

2.2_Forrest

Forrest is a small rural township located in the Otway Ranges of Victoria approximately 160km south-west from Melbourne, 30kms south east of Colac and 36kms from Apollo Bay. It is on one of the major tourist routes connecting the Princes Highway with the Great Ocean Road.

The town has been undergoing economic and social transformation resulting from reduction in logging and agricultural activities and increase in visitation and tourist activities in the Otway region and the wider GOR region. This particularly includes the key focus on the significant growth of the MTB industry.

The current Forrest mountain bike trails are a network of 16 trails ranging from 'easy' to 'very difficult' levels with a total length of approximately 66km. The trails are located on Crown Land to the north and south of the Forrest Township, with the trails network crossing a number of land tenures including the Otway Forrest Park, Great Otway Forest Park and land managed by Barwon Water. There are two trail heads with car parks, signs, toilets and shelter facilities.

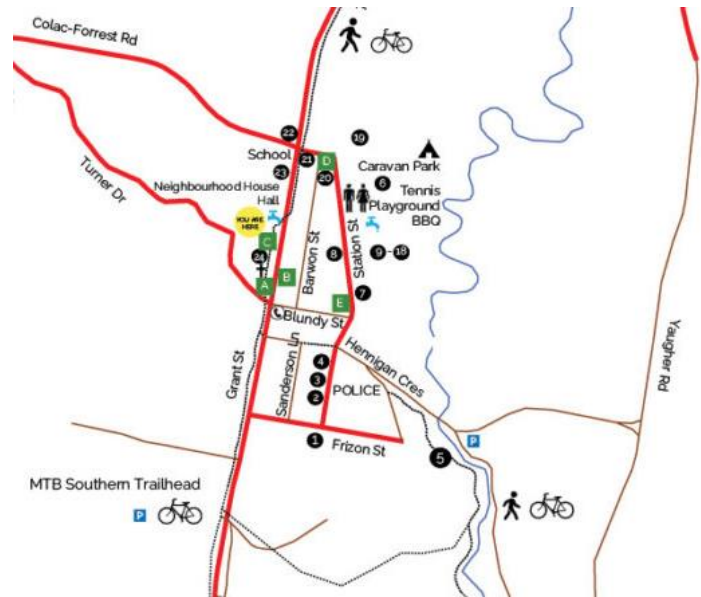
Other supporting facilities in the Township and surrounds include:

- Food offering – Platypi Chocolatier, 'pub', gourmet deli, Bespoke Harvest, and Forrest Brewing;
- Retail – general store;
- Gallery;
- Accommodation – limited provision of holiday houses / guesthouses / cottages and caravan parks;
- MTB Support – Forrest MTB Hire.

It is noted that Forrest is unsewered, which may impact the capacity of public toilet amenities and other potential developments.

The key economic indicators of Forrest and the Otway SA2 are present in the adjacent infographics and the current trails network context indicated in the Forrest MTB Strategic Plan (2015) is presented in the map overleaf. A number of detailed maps are contained in the Annexure A1_Maps of Area.

Local Context & Current Situation



Otway SA2



Total visitors (2017)

742,885 ▲ 3.3%



Visitors engaging cycling (2017)

24,469 ▲ 6.9%



Overnight visitors length of stay (2017)

1.0

Forrest



Total residents (2016)

230 ▼ 0.7%



Total Private dwellings (2016)

148 ▼ 2.8%

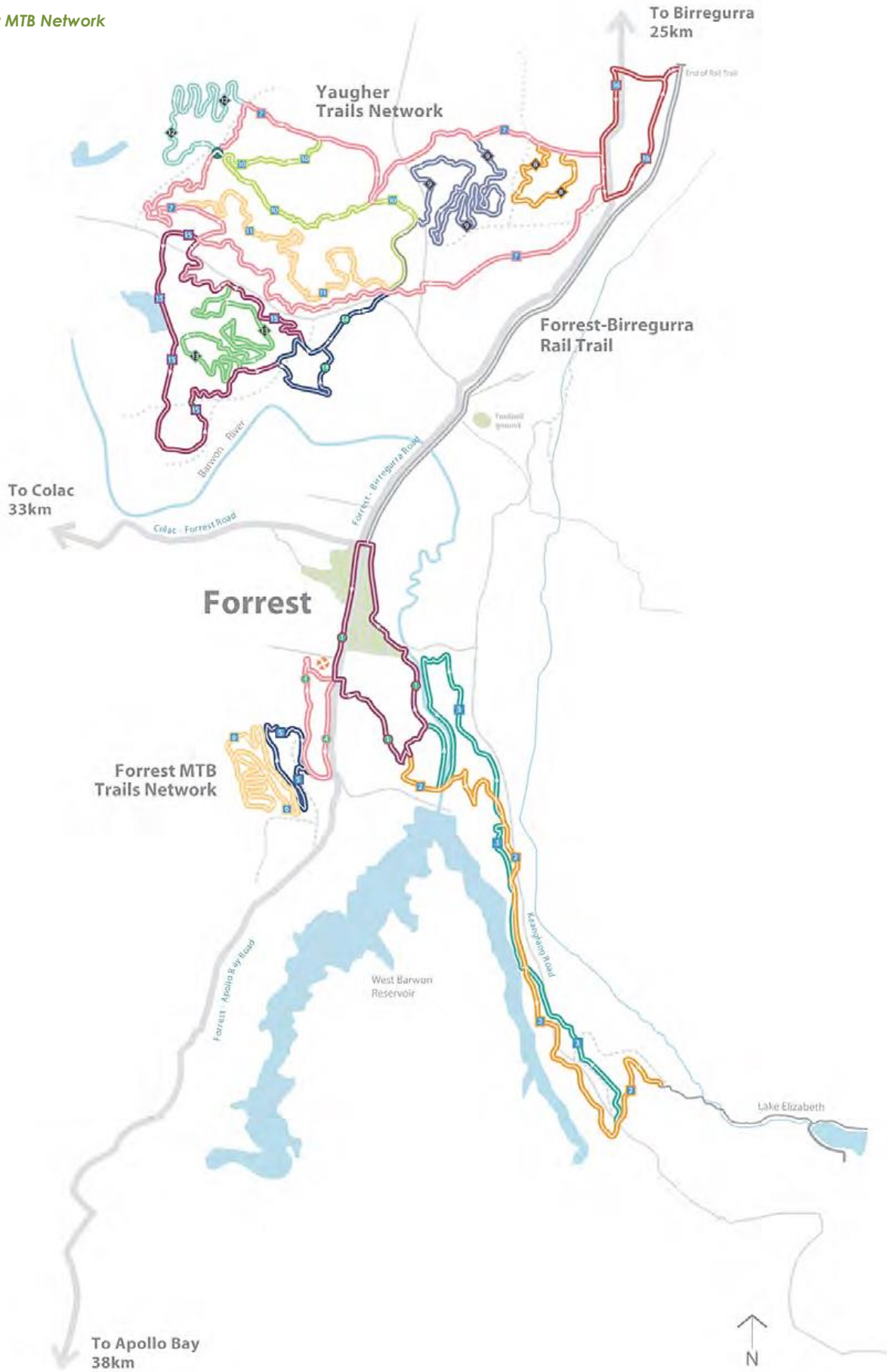


Total employment (2016)

109 ▼ 1.7%

Source: TRA, ABS Census 2011 & 2016

Note: Growth represents long-term average annual growth



2_Regional & Study Context

2.3_Issues, Opportunities, Challenges & Risks (Summary)

A number of key issues, opportunities, challenges and risks are identified based on the outcome of stakeholder consultation, the current situation of the Forrest Township and the context growing MTB market in the area and the wider region.

MacroPlan have attempted to document a comprehensive list of issues, opportunities and risks which are informed by stakeholder feedback. More comprehensive file note of feedback can be prepared in future draft.

Issues

- Unsewered Township which may impact the capacity of public toilet amenities and other potential investment / developments.
- Outdated trails infrastructure and insufficient supporting facilities compared to current advanced trail building and bike technology, environment protection standards, and growing and diverse demand from MTB users.
- Growing tourism market but limited length of stay with overnight visitors average length of stay at around 1.0 night at Forrest.
- Reduction of major events.
- Limited private and public investment / development in tourist facilities including accommodation, food catering, cultural and recreational facilities and other amenities.
- With shrinking residents, aging population and reducing employment, the Township is losing competitive edge.

Opportunities

- The MTB market has been growing rapidly in Australia within approximately 1.15 million people across the country engaging in cycling activities, representing a participation rate of 6.2% on national level. This presents significant opportunities for Forrest to reposition as a 'State MTB hub' building on its existing trails network and cycling visitation.

- There are also key opportunities in investment / development in tourist accommodation facilities in order to increase visitors length of stay at Forrest, including a mix of diverse accommodation types i.e. caravan parks, relocatable / manufactured trailers / cabins, permanent accommodation of hotels, motels, bed & breakfast, AirBnB, and niche market such as farm stay etc.
- Capture of major events, including business conference / events, group / school / education related outdoor recreation, programmable spaces and event, and associated catering etc.
- A range of food and beverage (F&B) opportunities, including those tied in with catering events, and rebranding and marketing of current food offerings and local produce.
- By providing a diverse mix of facilities such accommodation, F&B, MTB support facilities, and other cultural / recreational facilities, there is potential to attract more visitation, diversify the level of activities, increase length of stay and generate more expenditure.

Challenges

- Seasonality of tourist visitation with busy summers and quiet winters remains one of the ongoing challenges for Forrest.
- With the growing MTB market, a number of places across Australia have been investing and developing MTB trails networks, such as Creswick, Derby, The Hill and You Yangs. One successful example is Derby in Tasmania – with the \$3.1M investment in the Blue Derby mountain bike trails stage 1, it estimated up to 30,000 visitors and a total of \$30M economic return per annum. In absence of public and private investment, Forrest might lose its competitiveness and market share in the Australian MTB market.
- The land of Forrest MTB trails network is managed by multiple land managers including DELWP, PV and Barwon Water.

Risks

- Lack of critical mass of use of the area.
- Stagnant development of MTB assets in the area.
- Constrained investment appetite / pipeline.
- Long term loss of market share.
- Township loses competitive edge.

2_Regional & Study Context

2.4_Investment Scenarios

Based on the previous RTIF application, the current situation in Forrest, current MTB market in the region, stakeholder consultation, and issues and opportunities presented to Forrest, the Council has proposed the following investment scenarios:

- **Scenario 1 – Business As Usual (\$180,000)** to keep current trails functional;
- **Scenario 2 – Partial / Staged Redevelopment (\$380,000)** which includes part of the Forrest Mountain Bike Trails Strategic Plan;
- **Scenario 3 – Comprehensive Redevelopment (\$1.05M)** which includes most of the Forrest Mountain Bike Trails Strategic Plan.

The economic impacts / benefits of the three scenarios will be tested both quantitatively and qualitatively.

Details of all Scenarios are presented in the table below.

All Scenarios

Scenarios	Description	Cost Estimates
Scenario 1	Business As Usual To keep current trails functional	CAPEX \$180,000 plus \$130,000 capital expenditure in the past OPEX \$20,000 pa plus \$110,000 pa on staff wages
Scenario 2	Partial / Staged Redevelopment To gain maximum benefit <ul style="list-style-type: none"> • All User Skills Park and trailhead precinct • New Barwon Flow Trail • Red Carpet, Rollercoaster and Follow the Dog Trails upgrades and enhancements 	CAPEX \$380,000 Plus OPEX
Scenario 3	Comprehensive Redevelopment Potentially including Township development <ul style="list-style-type: none"> • Red Carpet, Rollercoaster, Follow the Dog and Yaughar Trails upgrades and enhancements • New Barwon Flow Trail and Boundary Rider off-road trail link • New MTB Skills Development Park • New underpass for trails connection • Rebranding, new signage and brand positioning • Associated assessment and design works plus contingency 	CAPEX \$1,050,500 Plus OPEX

Source: Colac Otway Shire Council

3_Benefit Cost Analysis

3.1_Overview of Benefits

This section presents an assessment of benefits potentially generated from the three investment Scenarios as defined in Section 2.4_Investment Scenarios. The benefit assessment conducted in this section have adopted both EIA and TBL approaches as outlined in Section 1.3_Methodology.

The following table presents a high-level framework of the benefit assessment, noting some of the indicators can be quantifiable and the others cannot. A detailed assessment framework is contained in the Annexure A2_Assessment Framework.

Assessment Framework

Investigation Themes	Measure
1. Capital works	Quantitative <ul style="list-style-type: none">• Capital works \$AUD• Economic output \$AUD
2. Employment	Quantitative <ul style="list-style-type: none">• Full Time Equivalent (FTE) both construction phase and operational phase
3. Tourism visitation	Quantitative <ul style="list-style-type: none">• Total visitation• Visitor expenditure \$AUD• Tourism output \$AUD
4. Tourism accommodation	Qualitative
5. Retail / commercial development	Qualitative
6. Residential development	Qualitative
7. Social	Qualitative
8. Environmental	Qualitative
9. Other	Qualitative

3_Benefit Cost Analysis

3.2_Quantifiable Impacts

The EIA approach and I-O multipliers are used to estimate the quantifiable impacts including the following key indicators:

- Economic output including construction related and tourism related output;
- Employment growth generated from the initial capital expenditure.

Construction Output

The ABS I-O multipliers indicate every \$1 million of construction investment may generate another \$1.3 million economic output (production induced) during the construction cycle.

Construction Employment

The ABS I-O multipliers also indicate every \$1 million of construction investment may generate 2.4 construction full time equivalent (FTE) jobs plus another 3.8 production induced indirect FTE jobs elsewhere in the economy during the construction cycle.

Operational Employment

Average employment density has also been referred to estimate the direct operational employment on site upon project completion.

For indirect employment off site generated during the operational phase, the ABS I-O multipliers indicate that every 1 FTE job on site at the upgraded / new Forrest mountain bike trails facilities may induce another indirect 0.5 indirect supporting FTE jobs elsewhere in the economy.

Visitation & Tourism Impact

In terms of cycling visitation growth, three scenarios of growth rate have been assumed within a 5-year period upon project completion in order to compare different levels of impacts on visitation from three proposed investment scenarios.

It is noted in absence of detailed visitation data on a small area level (i.e. Forrest), this assessment has adopted the number of visitors who engaged in cycling during their trip within the Otway SA2 which is the lowest level as published by TRA to approximate the MTB market at Forrest and surrounds. This may include visitors who engaged in cycling in anywhere within the Otway SA2 including Forrest, Great Ocean Road, a number of National Parks within the Otway SA2 and others.

The increased level of visitation is expected to generate increasing direct tourism expenditure to the Forrest Township and surrounds. *It is noted that given the current lack of tourist accommodation at Forrest and it is not reflected in the investment Scenarios, the assumption of per capita visitor expenditure is based on day-tripper's expenditure in the Otway SA2 when estimating direct tourism expenditure.*

Tourism multipliers indicate that for every \$1 tourism expenditure, approximately 62.3% is expected to go to the accommodation and food services. This means that investments that encourage F&B and accommodation may generate the highest direct and indirect impacts for the town and the wider region.

This direct tourism expenditure will also generate a flow-on impact through the economy in the wider region. It is well documented that the tourism multiplier of 1.65 industry output for every dollar spent on tourism. This indicates that every \$1 direct tourism expenditure may induce another \$0.65 indirect output elsewhere in the economy, which is a total multiplier of 1.65 tourism output both directly and indirectly.













Other Assumptions

For analysing purposes, a 2-year construction cycle has been assumed. Operation is assumed to be stabilised in 5 years.

The key quantifiable impacts are presented in the table overleaf.

3_Benefit Cost Analysis

Quantifiable Impacts, All Scenarios

Scenarios	Construction Phase Impacts	Operational Phase Impacts
Scenario 1 BAU	 Construction output <ul style="list-style-type: none"> • Direct: \$180,000 (initial CAPEX) • Indirect: \$277,000 • Total: \$407,000  Construction related employment <ul style="list-style-type: none"> • Limited 	 Operational employment <ul style="list-style-type: none"> • Limited  Tourism impacts (in 5 years) <ul style="list-style-type: none"> • Cycling visitation: 34,100 pa (trend growth) • Visitors expenditure: \$3.5M pa • Indirect tourism output: \$2.3M pa • Total tourism output: \$5.8M pa
Scenario 2 Partial / Staged Redevelopment	 Construction output <ul style="list-style-type: none"> • Direct: \$380,000 (initial CAPEX) • Indirect: \$479,500 • Total: \$859,500  Construction related employment <ul style="list-style-type: none"> • Limited 	 Operational employment <ul style="list-style-type: none"> • Direct: approx. 15 FTE • Indirect: approx. 8 FTE • Total: approx. 23 FTE  Tourism impacts (in 5 years) <ul style="list-style-type: none"> • Cycling visitation: 39,300 pa (on par with regional growth) • Visitors expenditure: \$4.0M pa • Indirect tourism output: \$2.6M pa • Total tourism output: \$6.7M pa
Scenario 3 Comprehensive Redevelopment	 Construction output <ul style="list-style-type: none"> • Direct: \$1.05M (initial CAPEX) • Indirect: \$1.3M • Total: \$2.4M  Construction related employment <ul style="list-style-type: none"> • Direct: approx. 2.5 FTE • Indirect: approx. 4.0 FTE • Total: approx. 6.5 FTE 	 Operational employment <ul style="list-style-type: none"> • Direct: approx. 21 FTE • Indirect: approx. 11 FTE • Total: approx. 32 FTE  Tourism impacts (in 5 years) <ul style="list-style-type: none"> • Cycling visitation: 49,500 pa (high growth) • Visitors expenditure: \$5.1M pa • Indirect tourism output: \$3.3M pa • Total tourism output: \$8.4M pa

Source: ABS, TRA, Remplan, Employment Density Guide 2015, Colac Otway Shire Council, MacroPlan Dimasi

3_Benefit Cost Analysis

3.3_Other Impacts

For those impacts which are not quantifiable, the TBL approach as outlined in Section 1.3_Methodology has been adopted to set out the qualitative evaluation of all investment Scenarios defined.










Key qualitative impacts are presented in the following tables.

Other Impacts, Scenario 1

Scenarios	Investigation Themes	Impact Assessment
Scenario 1 BAU	 Capital works \$180,000	<ul style="list-style-type: none"> Minimum intervention to keep current trails safe and functional with ongoing maintenance. Limited construction output induced from initial capital works.
	 Employment	<ul style="list-style-type: none"> Limited construction related and operational employment generated from initial capital works.
	 Tourism visitation	<ul style="list-style-type: none"> Minimum intervention in maintaining current tourism / cycling visitation. Tourism visitation and expenditure growth is expected to remain on trend in the short terms. However, considering significant competition in MTB market across Australia, Forrest may possibly lose its market share in the long term.
	 Tourism accommodation	<ul style="list-style-type: none"> Limited impact in stimulating new tourism accommodation development. Continued loss of accommodation night outside of the region.
	 Retail / commercial development	<ul style="list-style-type: none"> Limited impact in stimulating new retail / commercial development. Limited impact in attracting new businesses.
	 Residential development	<ul style="list-style-type: none"> Limited impact in stimulating new residential development.
	 Social	<ul style="list-style-type: none"> Maintain existing community assets and amenities. Maintain current MTB participation level.
	 Environmental	<ul style="list-style-type: none"> Preserve current local environmental assets. Ongoing trail management will limit erosion impacts.
	 Other	<ul style="list-style-type: none"> Forgone opportunity cost. Township may lose competitive edge.







3_Benefit Cost Analysis

Other Impacts, Scenario 2

Scenarios	Investigation Themes	Impact Assessment
Scenario 2 Partial / Staged Redevelopment	 Capital works \$380,000	<ul style="list-style-type: none"> Partial / staged intervention to upgrade and enhance current trails and add new facilities including an All User Skills Park, trailhead precinct and Barwon Flow Trail. Low level of construction output induced from initial capital works.
	 Employment	<ul style="list-style-type: none"> Limited construction related employment and a small number of operational employment generated from initial capital works.
	 Tourism visitation	<ul style="list-style-type: none"> The upgraded and new facilities may attract more repeat and new visitation to the Otway SA2 and Forrest. Tourism visitation and expenditure growth is expected to be on par with the regional level within short terms. An increasing level of visitation may bring diverse tourism activities (i.e. eating out, sightseeing, walking, riding and staying overnight, etc.) which will require more tourism and MTB facilities at Forrest. However, staged capital works and low level of investment / development may limit the capacity to create critical mass in the area in short to medium terms.
	 Tourism accommodation	<ul style="list-style-type: none"> The upgraded and new facilities may increase the number / share of overnight visitors and length of stay, which might stimulate new investment / development for tourism accommodation. With more overnight visitors and longer length of stay, it may create more day-time / night-time activities and generating more tourism expenditure and output. Due to ongoing issues of seasonality and insufficient accommodation in peak season, there may be continued loss of accommodation nights outside of the region.
	 Retail / commercial development	<ul style="list-style-type: none"> An increasing level of visitation also require more food catering, retail, MTB supports, and other tourism and recreational facilities. Potential capacity to attract more MTB related and other tourism related businesses.
	 Residential development	<ul style="list-style-type: none"> Limited impact in stimulating new residential development.
	 Social	<ul style="list-style-type: none"> New facilities (i.e. All User Skill Park) may encourage diversification of MTB users including elite users, recreational users, families with children, and educational programs etc. Encourage increasing level of MTB participation of all abilities and among local residents, visitors from Melbourne and wider region. Encourage volunteerism.
	 Environmental	<ul style="list-style-type: none"> Trails upgrades will bring the facilities up to current national / international standard, minimising negative impacts to environment. Actively preserve and improve the quality and attractiveness of local environmental assets. Well-constructed and maintained trails will limit erosion impacts.
	 Other	<ul style="list-style-type: none"> Staged capital works may limit the potential for private investment / development in Forrest and surrounds.




3_Benefit Cost Analysis

Other Impacts, Scenario 3

Scenarios	Investigation Themes	Impact Assessment
Scenario 3 Comprehensive Redevelopment	 Capital works \$1.05M	<ul style="list-style-type: none"> • Large scale intervention to upgrade and enhance current trails and add new facilities including an All User Skills Park, trailhead precinct, a number of new trails and new underpass. • These upgrades and new additions will significantly increase the trail capacity and diversity for MTB activities at Forrest. • Moderate construction output induced from initial capital works.
	 Employment	<ul style="list-style-type: none"> • Moderate construction related operational employment generated from initial capital works.
	 Tourism visitation	<ul style="list-style-type: none"> • The increase in trail capacity and diversity will attract significant number of repeat and new visitation to the Otway SA2 and Forrest. • Tourism visitation and expenditure growth is expected to increase above the regional level within short to medium terms. • The increase in trail capacity and diversity will also attract more local / regional events. • An increasing level of visitation may bring diverse tourism activities (i.e. eating out, sightseeing, walking, riding and staying overnight, etc.) which will require more tourism and MTB facilities at Forrest. • This may help reposition Forrest as a significant MTB hub and tourism destination on its own right. • Activate tourism growth in the long term.
	 Tourism accommodation	<ul style="list-style-type: none"> • The upgraded and new facilities may increase the number / share of overnight visitors and length of stay significantly, which might stimulate new investment / development for tourism accommodation as well as the quality and diversity of accommodation. • This will increase the capacity to capture a proportion of accommodation nights at Forrest and surrounds. • With more overnight visitors and longer length of stay, it may create more day-time / night-time activities and generating more tourism expenditure and output.
	 Retail / commercial development	<ul style="list-style-type: none"> • An increasing level of visitation also require more food catering, retail, MTB supports, and other tourism and recreational facilities. • Potential capacity to attract more MTB related and other tourism related businesses.
	 Residential development	<ul style="list-style-type: none"> • Moderate impact in stimulating new residential development. • Potentially increase land values and housing prices at Forrest and surrounds, which might also impact affordability for residents.

3_Benefit Cost Analysis

Other Impacts, Scenario 3 (Cont.)

Scenarios	Investigation Themes	Impact Assessment
Scenario 3 Comprehensive Redevelopment	 Social	<ul style="list-style-type: none"> • New facilities (i.e. All User Skill Park and new trail) may encourage diversification of MTB users including elite users, recreational users, families with children, and educational programs etc. • The new Boundary Ride off-road trail link and underpass for trail connection will improve the safety for cyclists, pedestrians and drivers. • The new and upgraded trails and trailheads will improve access and connectivity. • Encourage increasing level of MTB participation of all abilities and among local residents, visitors from Melbourne and wider region. • Encourage volunteerism. • Improve the sense of connection to nature, place and people.
	 Environmental	<ul style="list-style-type: none"> • Trails upgrades will bring the facilities up to current national / international standard, minimising negative impacts to environment. • Actively preserve and improve the quality and attractiveness of local environmental assets. • Well-constructed and maintained trails will limit erosion impacts. • However increased level of visitation may also bring increased vehicle trips, local road congestion and road maintenance / wear and tear.
	 Other	<ul style="list-style-type: none"> • The comprehensive redevelopment may trigger major development and attract private and public investment to the Township and surrounds. • The synergy of tourism and increasing business activities may increase the scale of local economy.

3_Benefit Cost Analysis

3.4_Sensitivity Analysis

Building on the quantitative and qualitative assessment, MacroPlan has also undertaken a sensitivity analysis focusing on potential additional tourism accommodation rooms required under three scenarios.

As indicated by TRA database, there were currently approximately 24,500 cycling visitors visiting the Otway SA2 as at 2017, about 60% of which were overnight visitors with average length of stay at 1 night within the area.

A number of assumptions have been made in order to test the possibility of any potential addition of tourism accommodation, including:

- Assume operational phase is stabilised in 5 years after project completion;
- All existing situation remains unchanged in Scenario 1;
- The proportion of overnight visitors out of total visitors increases to 60% in Scenario 2 (on par with the LGA level) and 80% in Scenario 3 (on par with the GOR TR level);
- Average length of stay increases to 1.5 nights in Scenario 2 and 2 nights in Scenario 3, both reaching the LGA and TR levels;
- Assume 30% visitor nights are captured in Forrest in Scenario 2 and 50% in Scenario 3 (penetration rates);
- Average room occupancy rate at 53.5%;
- Average guest per room at 1.8 persons per room.

Based on the above assumptions, it is expected in the next 5 years there will be approximately:

- 5,900 additional visitor nights pa within the Otway SA2 under Scenario 1;
- 40,400 additional visitor nights pa under Scenario 2;
- 84,300 additional visitor nights pa under Scenario 3.

These additional visitor nights may translate into extra accommodation rooms required in Forrest and the Otway SA2. Based on the above assumption, the potential requirement for tourist accommodation rooms at Forrest at stabilised operational phase is estimated at:

- Minimal numbers of additional room required under Scenario 1;
- Approximately **23** additional rooms under Scenario 2;
- Up to **92** additional rooms under Scenario 3.

This indicates that:

- There is no apparent requirement for additional tourism accommodation at Forrest under Scenario 1;
- The increased level of visitation and visitor nights under Scenario 2 may stack up a small scale tourism accommodation (i.e. a holiday house, bed & breakfast, guesthouse or cottage etc.) at Forrest in the short to medium terms;
- The increased level of visitation and visitor nights under Scenario 3 may stack up a medium scale tourist accommodation (i.e. a mid scale standard hotel or motel etc.) or two small scale tourist accommodation at Forrest in the short to medium terms.

3_Benefit Cost Analysis

3.5_Opportunity Cost of Not Investing

Current Situation

Forrest is on one of the major tourist routes connecting the Princess Highway with the Great Ocean Road. The town has been undergoing economic and social transformation resulting from reduction in logging and agricultural activities and increase in visitation and tourist activities in the region. Forrest has a key focus on the MTB industry.

As at 2017, there were approximately 24,469 visitors in the Otway SA2 who engaged in cycling activities. This represents a participation rate of 3.3% of all visitors in the Otway SA2 as at 2017. Based on current average tourist expenditure in the Shire, it is estimated that these cycling visitors may generate up to \$2.2M direct tourism expenditure for Forrest and surrounds.

It is also reported a total employment of 109 persons in Forrest as at Census 2016. This is a decline from 118 persons as at Census 2011.

The MTB industry has seen significant growth during recent years globally. A number of places across Australian have been investing and developing MTB trails network, such as Creswick, Derby and You Yangs. This brings significant challenges to Forrest to maintain its competitiveness and market share.

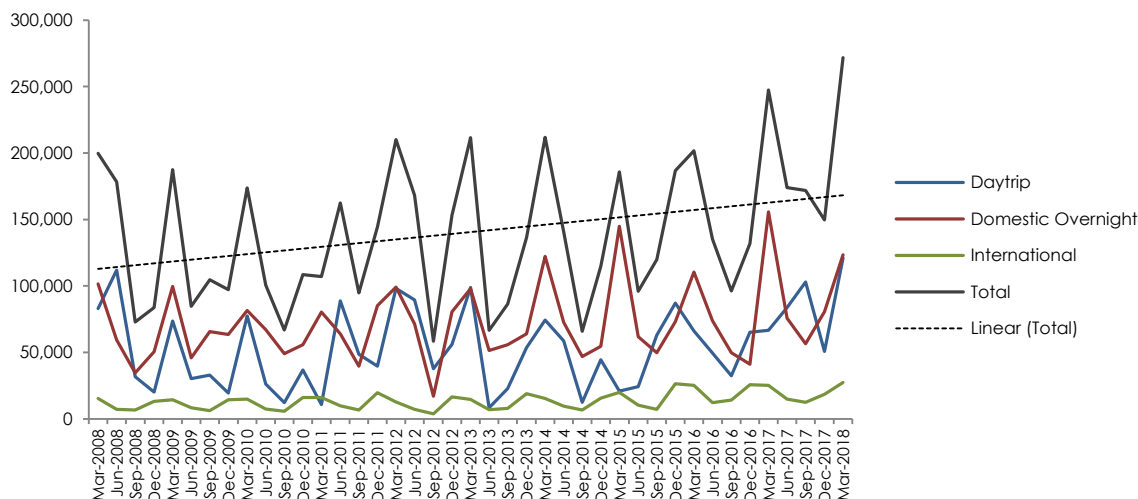
Visitation & Activity Indications

Forrest as well as the wider Otway SA2 has seasonal peaks and off-peak visitation. This is partly due to tourism visitation trends generally, distance from major centres such as Melbourne and Geelong, and a general lack of diversity in the local tourism offering during off-season periods.

Peak visitation of up to 271,760 visitors (as at March quarter 2018) comprises the summer holiday period and school holidays stretching through to ANZAC day (up to 6-months). Off-peak visitation between approximately 60,000 to 100,000 visitors picks up on long weekends and the non-summer period.

The chart below illustrates seasonality of visitation in the Otway SA2 during the past decade on a quarterly basis. Whilst the total visitation has been trending upward, it indicates significant fluctuation between different quarters of a year. As indicated in the table, the March quarter (January, February and March) is the peak season of visitation followed by decline during the June quarter (April, May and June). Visitation reached the lowest point during the September quarter (July, August and September) and then slowly picks up during the December quarter (October, November and December).

Visitation, Otway SA2, Quarterly, Mar-2008 – Mar-2018



Source: TRA

3_Benefit Cost Analysis

The adjacent charts illustrate historic trends in visitors engaged in cycling in the Otway SA2 during the past 10 years, both annually and quarterly.

The number of cycling visitors in Otway SA2 has fluctuated significantly during the past 10 years. The overall long-term trend indicates gradual growth with an average annual growth at 6.9% p.a. during the past decade. Visitation data for the wider Colac-Otway Shire also indicates that the vast majority of cycling activities are heavily concentrated within the Otway SA2, largely due to existing cycling infrastructure provisions along the GOR and a number of National Parks.

Participation rates also fluctuated year by year and averaged 4.0% during the past decade. This is evidently higher than the averages of the wider Colac-Otway Shire (2.8%), Great Ocean Road TR (2.1%), Victoria (1.3%) and across Australia (1.1%).

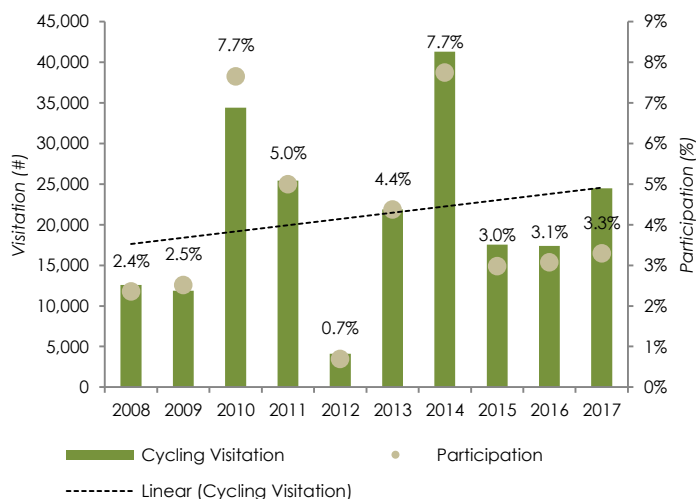
Quarterly visitation data also indicates significant fluctuation throughout the year. This fluctuation is evident among domestic cycling visitors, which is likely to be impacted by local events. Compared to domestic visitors, the number of international cycling visitors is relatively stable, albeit with some levels of seasonality.

TRA data also indicates the average length of stay for overnight visitors was 1.0 nights as at 2017 within the Otway SA2. However with a lack of tourist accommodation establishments in Forrest, the estimated length of stay at Forrest is likely to be significantly shorter than the SA2 average.

The historic visitation and activity trends indicate the following:

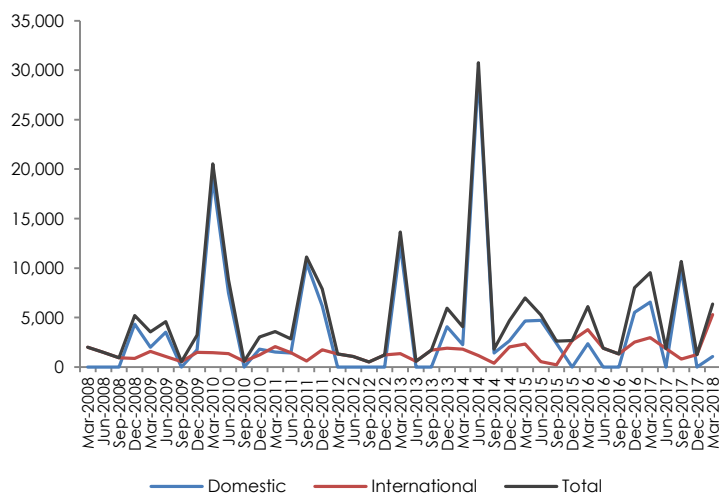
- Forrest and surrounds have an established tourist base of cycling visitors with relatively high participation rates including international cycling visitors, largely due to its existing cycling infrastructure provisions for users of all levels;
- There is significant seasonality heavily impacted by major events and a lack of off-peak activities;
- Length of visit at Forrest and surrounds is constrained due to a lack of tourist accommodation and limited variety of activities.

Cycling Visitation & Participation Rate, Otway SA2, 2008-2017



Source: TRA

Cycling Visitation, Otway SA2, Quarterly, Mar-2008 – Mar-2018



Source: TRA

3_Benefit Cost Analysis

Local Economy & Employment Indications

Forrest has been undergoing long-term structural economic and social transformation, resulting from a reduction in logging and agricultural activities and increased visitation and tourist activities in the region.

Forrest's local economy and employment is relatively small. The table adjacent presents Forrest's employment by industry as at 2011 and 2016 and the change between the intercensal period. During 2011-16 there was a slight decline in employment at Forrest.

A detailed analysis has focused on a number of industries which are relevant to tourism and the MTB industry including:

- Retail Trade: increased by 6 workers from 2011 to 2016;
- Accommodation and food services: decreased by 5 workers from 2011 to 2016;
- Education and training: decreased by 7 workers from 2011 to 2016;
- Arts and recreation services: increased by 3 workers from 2011 to 2016.

Given existing outdated tourism and MTB facilities and insufficient supporting employment, the potential for sustainable economic and tourism growth at Forrest is likely to be constrained.

This presents both challenges and an opportunity to create a discrete destination anchored by MTB activities within the GOR tourism region, which is self-sustaining during peaks and off-peak periods with a variety of sustainable commercial and visitors activities.

Employment, Forrest, 2011-16

Forrest	2011	2016	Change 2011-16
Agriculture, forestry and fishing	12	14	2
Mining	0	0	0
Manufacturing	11	12	1
Electricity, gas, water and waste services	0	0	0
Construction	10	9	-1
Wholesale trade	0	0	0
Retail trade	6	12	6
Accommodation and food services	17	12	-5
Transport, postal and warehousing	9	0	-9
Information media and telecommunications	0	0	0
Financial and insurance services	0	0	0
Rental, hiring and real estate services	0	0	0
Professional, scientific and technical services	12	3	-9
Administrative and support services	6	10	4
Public administration and safety	0	7	7
Education and training	13	6	-7
Health care and social assistance	19	23	4
Arts and recreation services	0	3	3
Other services	3	0	-3
Inadequately described/Not stated	0	0	0
Total	118	111	-7

Source: ABS Census 2011 & 2016

3_Benefit Cost Analysis

Interpretation

A lack of investment in MTB / tourism facilities is likely to progressively diminish the volume of domestic and international cycling visitors to Forrest, with potential to reduce the long-term sustainability of MTB and other tourist activities at Forrest.

The existing trails infrastructure and tourism facilities at Forrest appear to be insufficient to support growing and diverse demand from MTB users and other visitors. With a number of places across Australia having been investing and developing MTB trails networks, cycling visitors particularly professional / advanced riders have the potential to choose somewhere else, with higher standard trail infrastructure and sufficient supporting facilities. This is likely to put Forrest at risk of losing its competitiveness and market share in the Australian MTB market.

Meanwhile, significant seasonality and a lack of diversity of tourism offerings at Forrest will also impact the visitation during off-peak periods.

This presents a risk for total visitation, expenditure and employment in the local economy during both peak and off-peak periods, which will flow through tourism and economic outputs.

Without a minimum level of intervention to maintain and improve the MTB trails infrastructure and tourism facilities, there are risks for Forrest to lose its market share and competitive edge. In the absence of major investment, the capacity of Forrest Township and its economic / tourism growth is expected to be constrained in the long term.

The assessment indicates the following key negative impacts in absence of investment, including :

- Loss of at least **\$407,000** direct and indirect construction output in the wider region generated from a minimum level of interventions as outlined in Scenario 1 in Section 2.4 *Investment Scenarios*;
- Potential long-term loss of up to **12,000-17,000 cycling visitors pa** in the Otway SA2, as well as loss of up to **\$1.1-\$1.5 million pa** associated direct tourism expenditure based on current average expenditure per visitor;
- Loss of up to **\$1.8-\$2.6 million pa** tourism output and up to **10-15 tourism related jobs** in the wider Colac-Otway LGA based on current average output generated per visitor and average employment supported per visitor;
- Loss of local retail sales and other tourism related services, and potential loss of local employment associated;
- Potential long-term loss of attractiveness for tourism investment including tourist accommodation.

The total estimated long-term direct and indirect negative impacts of not investing in Forrest MTB trails and tourism infrastructure may be significant and result in a reduction in total regional output of up to **\$3.3-\$4.5 million pa** and employment of at least **10-15 jobs**.

4_Conclusions

This report presents a high-level cost-benefit analysis relating the Forrest Mountain Bike Trials project.

MacroPlan was engaged by Colac Otway Shire Council to test the potential economic, social and environmental benefits under three investment Scenarios to support any further funding pitch for the implementation of the Forrest Mountain Bike Trails Strategic Plan.

An overview of the three Scenarios and key quantitative impacts are summarised in the table overleaf. The economic analysis indicates the following:

- **Scenario 1 (BAU)** is the minimum intervention to keep current trails safe and functional with ongoing maintenance. It is expected to have minimal impacts on local economy, employment, tourism and Township development. Given significant development and competition in MTB market across Australia, Forrest may lose its market share in the long term.
- **Scenario 2 (Partial / Minimum Staged Redevelopment)** has the moderate level of intervention to improve the current trail network at Forrest. The economic impact generated from the initial CAPEX is also expected to be limited. With improved facilities, it might trigger an increased level of visitation, tourism expenditure and small scale tourism development in the short to medium term. However there may be limited capacity to create critical mass in the area.
- **Scenario 3 (Comprehensive Redevelopment)** includes both improvement of current trail networks and additions of a number of new facilities, which will significantly increase the trail capacity and diversity for MTB activities at Forrest. New and upgraded facilities may encourage the participation and diversification of MTB users including elite users, recreational users, families with children, and educational programs etc. It is expected to have the most significant impacts on local economy, employment and tourism out of all Scenarios. This Scenario is anticipated to become a catalyst to grow the tourism industry at Forrest, trigger one medium scale tourist accommodation in short to mid term and create opportunities for major developments in the Township and surrounds in the long term.

The opportunity-cost of not investing in Forrest MTB infrastructure and tourism facilities will be a reduction in the long-term sustainability of MTB and various tourist activities in the Forrest Township, as well as associated regional tourism expenditure and employment outcomes. Without a minimum level of intervention to maintain and improve the MTB trails infrastructure and tourism facilities, there are risks for Forrest to lose its market share and competitive positioning. Without major investment, the capacity of Forrest Township and its economic / tourism growth is expected to be constrained in the long term. The total estimated long-term direct and indirect negative impacts of not investing in Forrest MTB trails and tourism infrastructure may be significant and result in a reduction in total regional output of up to **\$3.3-\$4.5 million pa** and employment of at least **10-15 jobs**.

This assessment indicates that **Council needs to seek the maximum amount of funding required to create critical mass in visitation and utilisation of the Forrest Mountain Bike Trails network and generate maximum multiplier and flow-on benefits to the local economy, employment growth and continuous development of the Township**. Minimum intervention has limited potential to trigger growth in tourism visitation, enhance the area and create critical mass investment.

4_Conclusions

All Scenarios & Key Quantitative Impacts Summary

Scenarios	Description	Construction Phase Impacts	Operational Phase Impacts
Scenario 1 BAU	<ul style="list-style-type: none"> To keep current trails safe and functional 	<ul style="list-style-type: none"> Initial CAPEX: \$180,000 Total construction output: \$407,000 Limited construction related employment 	<ul style="list-style-type: none"> Limited operational employment Cycling visitation: 34,100 pa* Total tourism output: \$5.8M pa* Limited additional tourist accommodation potential
Scenario 2 Partial / Staged Redevelopment	<ul style="list-style-type: none"> All User Skills Park and trailhead precinct New Barwon Flow Trail Current trails upgrades and enhancements 	<ul style="list-style-type: none"> Initial CAPEX: \$380,000 Total construction output: \$859,500 Limited construction related employment 	<ul style="list-style-type: none"> Total operational employment: 23 FTE Cycling visitation: 39,300 pa* Total tourism output: \$6.7M pa* Potential additional tourist accommodation required: 23 rooms*
Scenario 3 Comprehensive Redevelopment	<ul style="list-style-type: none"> Current trails upgrades and enhancements New Barwon Flow Trail and Boundary Rider off-road trail link New MTB Skills Development Park New underpass for trails connection Rebranding, new signage and brand positioning 	<ul style="list-style-type: none"> Initial CAPEX: \$1.05M Total construction output: \$2.4M Total construction related employment: 6.5 FTE 	<ul style="list-style-type: none"> Total operational employment: 32 FTE Cycling visitation: 49,500 pa* Total tourism output: \$8.4M pa* Potential additional tourist accommodation required: 92 rooms*
Negative Impact of Not Investing in MTB infrastructure	<ul style="list-style-type: none"> No further investment in MTB infrastructure 	<ul style="list-style-type: none"> Construction output: loss of at least \$407,000 	<ul style="list-style-type: none"> Cycling visitation: loss of 12,000-17,000 pa Visitor expenditure: loss of \$1.1-\$1.5M pa Tourism output: loss of \$1.8-\$2.6M pa

Note: *Operational phase tourism impacts refer to impact to the Otway SA2 during stabilised operational phase in 5 years assumed.

Source: ABS, TRA, Remplan, Colac Otway Shire Council, MacroPlan Dimasi

_ANNEXURE

Annexure

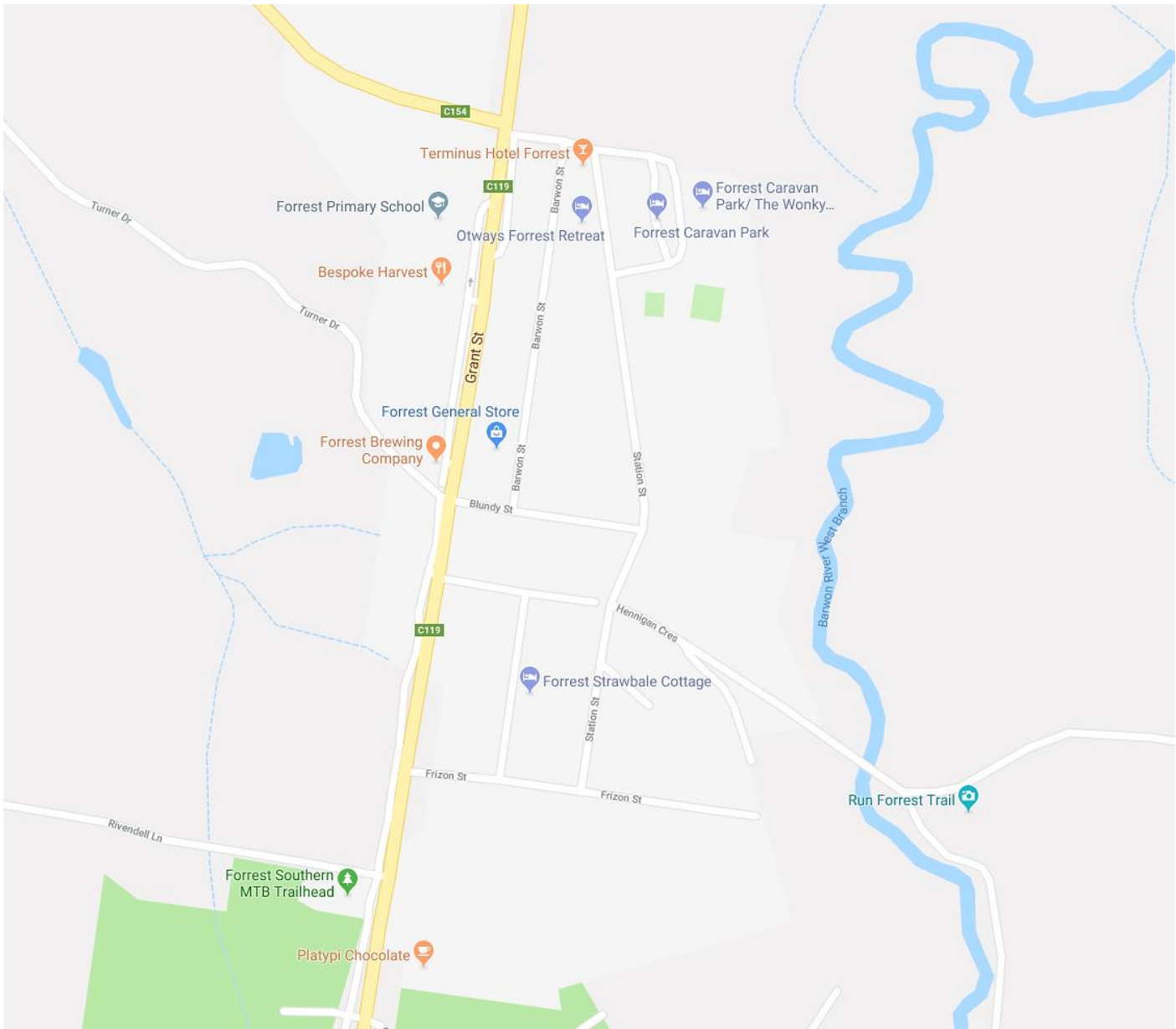
A1_Maps of Area

A2_Assessment Framework

A3_Scenario Definition & Cost Estimates

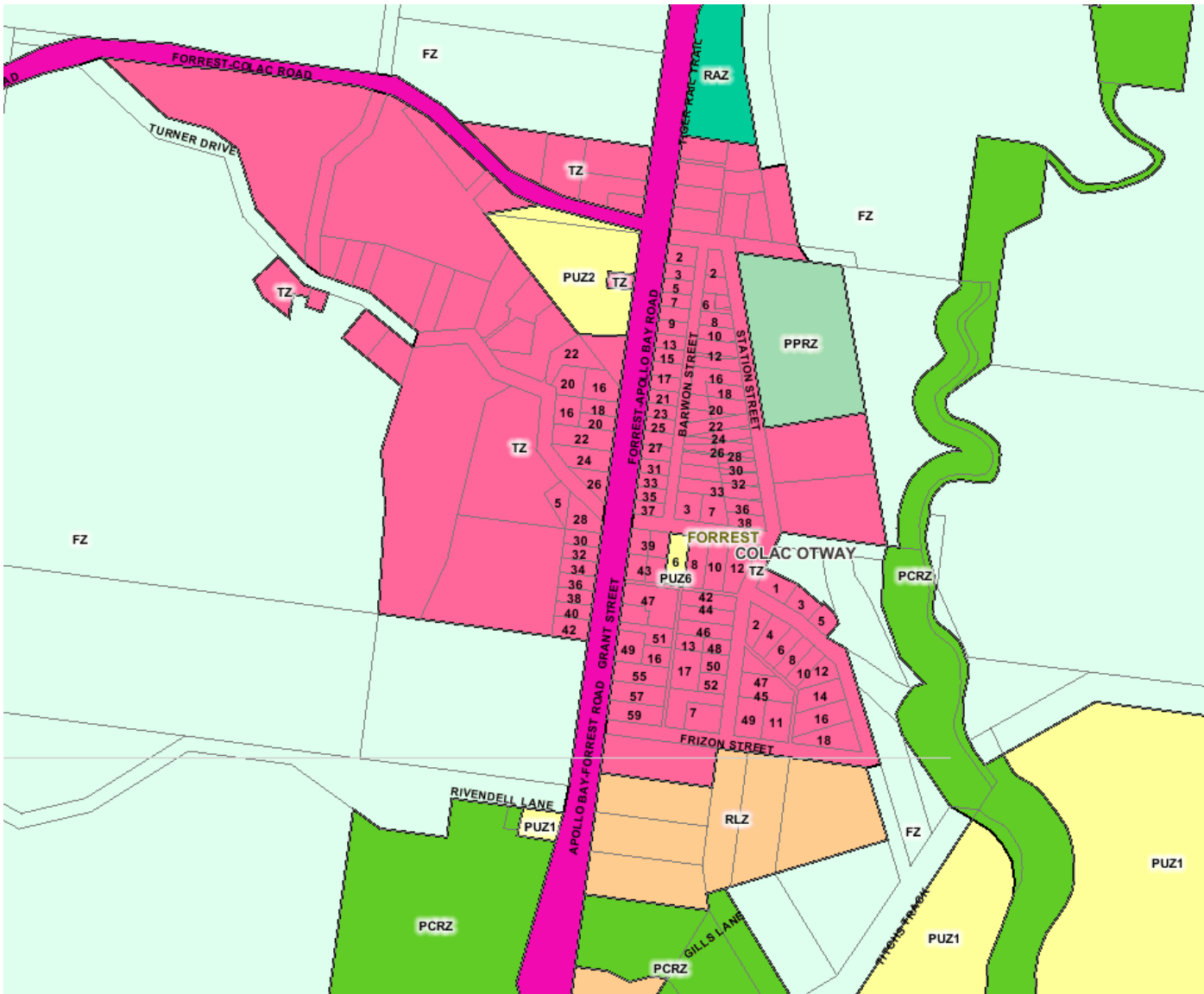
A4_Benefit Cost Analysis & Sensitivities

A1_Maps of Area



Source: Google Maps

A1_Maps of Area | Zoning



Source: Planning Maps Online

A1_Maps of Area | Trails Network



- 1 Forrest loop
- 2 Baridjanu
- 3 Rod Carpet
- 4 Roller Coaster
- 5 Third time lucky
- 6 Follow the dog
- 7 Yaughar Super Loop
- 8 Grasstrees
- 9 Marriners Run
- 10 Foxtail
- 11 J2
- 12 Yo Yo
- 13 Casper Black
- 14 Barro Warro
- 15 Vista
- 16 Tiger Loop



IMBA rules of the trail

- The way we ride today shapes the mountain bike trail access for tomorrow. Do your part to preserve and enhance the sport's access and image by observing the following rules of the trail, formalized by IMBA, the International Mountain Bicycling Association.
- These rules are recognized around the world as the standard code of conduct for mountain bikers. IMBA's mission is to promote mountain biking that is environmentally sound and socially responsible.
- 1 **Ride on open trails only**
Respect trail and road closures. Ask if uncertain and avoid trespassing on private land. The way you ride will influence trail management decisions and policies.
 - 2 **Leave no trace**
Be sensitive to the dirt beneath you. Recognize the different types of soils and trail construction and practice low-impact cycling. Wet and muddy trails are more vulnerable to damage. When the trailbed is soft, consider other riding options. This also means staying on established trails and not creating new ones. Don't cut switchbacks.
 - 3 **Control your bike!**
Intention for even a second can cause problems. Obey all bicycle speed regulations and recommendations.
 - 4 **Always give way**
Let your fellow trail users know you're coming. A friendly greeting or bell is considerate and works well, don't startle others. Show your respect when passing by slowing to a walking pace or even stopping. Anticipate other trail users around corners or in blind spots. Give way means slow down, with full communication, be prepared to stop if necessary and pass safely.
 - 5 **Never scare animals**
All animals are startled by an unfamiliar road approach, a sudden movement, or a loud noise. This can be dangerous for you, others, and the animals. Give animals extra room and time to adjust to you. When passing horses use special care and follow directions from their jacks if you're in. Do not disturb flocks and herds. Beware of snakes. Leave gates as you find them, or as marked.
 - 6 **Plan ahead**
Know your equipment, your ability, and the area in which you are riding—and prepare accordingly. Be self-sufficient at all times. Keep your equipment in good repair, and carry necessary supplies for changes in weather or other conditions. Always wear a helmet and appropriate safety gear. Keep trails open by setting a good example of environmentally sound and socially responsible mountain biking.
 - 7 **Do your bit**
Keep your bike clean. Help keep trails clear by picking up sticks and reporting larger maintenance issues. Join in track maintenance field days.

MAP KEY

- Lake Elizabeth walking-track
- Forrest-Birregurra Tiger Rail Trail
- Tracks
- Minor roads
- Main roads
- Forrest Trailhead
- Yaughar Trailhead
- Table Top
- Mobile phone reception

You may not be with your network range on some of the Mountain Bike Trails. To be connected to Police, Ambulance or CMA on any network, key in 112, then press the 911 key.

TRAIL GRADING

- Easiest
- Easy
- More difficult
- Very difficult
- ◆ Extremely difficult

To Great Ocean Road and Apollo Bay



A2_Assessment Framework

Assessment Framework

Investigation Themes	Measure	Direct	Indirect	Risks
1. Capital works	<ul style="list-style-type: none"> Capital works \$AUD Economic output \$AUD 	<ul style="list-style-type: none"> Enhanced Mountain Bike trails Improved access to trailhead / network Supporting trail infrastructure New trails 	<ul style="list-style-type: none"> Forrest Township Surrounding areas 	
2. Employment	<ul style="list-style-type: none"> Full Time Equivalent (FTE) 	<ul style="list-style-type: none"> Construction phase Operational phase Education and training Skills development 	<ul style="list-style-type: none"> Construction phase Operational phase Education and training Skills development 	
3. Tourism visitation	<ul style="list-style-type: none"> Domestic day trip Domestic overnight stay International day trip International overnight stay Visitor expenditure Tourism output \$AUD Length of stay 	<ul style="list-style-type: none"> Increased Mountain Bike Visitors (day, overnight, school, events) Increased visitors to Forrest Township Increased visitor expenditure Increased length of stay Improved region brand essence Events 	<ul style="list-style-type: none"> Visitors to surrounding areas Visitors to Otway Region Visitors to Great Ocean Road Regional events 	<ul style="list-style-type: none"> Visitor growth constrained to mountain bikes Continued loss of accommodation nights outside region
4. Tourism accommodation	<ul style="list-style-type: none"> Beds / keys Available room nights 	<ul style="list-style-type: none"> Increased accommodation in Forrest Township Improved accommodation mix / diversity 	<ul style="list-style-type: none"> Surrounding areas Otway Region 	<ul style="list-style-type: none"> Investment delays increase room rates New accommodation outside Township

A2_Assessment Framework

Assessment Framework (cont.)

Investigation Themes	Measure	Direct	Indirect	Risks
5. Retail / commercial development	<ul style="list-style-type: none"> Net lettable area m2 Capital works \$AUD 	<ul style="list-style-type: none"> Increased retail offer / mix / diversity Attract new businesses investment to Township 	<ul style="list-style-type: none"> Attract new businesses to the Otway region 	
6. Residential development	<ul style="list-style-type: none"> Dwellings Available room nights 	<ul style="list-style-type: none"> Increased investment / development within Forrest Township Increased land values 	<ul style="list-style-type: none"> Surrounds 	<ul style="list-style-type: none"> Land value / price rises impact affordability Affordability
7. Social	<ul style="list-style-type: none"> Community infrastructure Inclusiveness Cohesiveness 	<ul style="list-style-type: none"> New community assets and amenity Improved physical space / places Enhanced access and connectivity Volunteerism 	<ul style="list-style-type: none"> Inclusiveness - sense of inclusion, participation Connectedness - sense of connection to nature, people / places Cohesiveness - sense of belonging Education and skills outcomes Quality of lifestyle 	
8. Environmental	<ul style="list-style-type: none"> Public Realm / Open Space Biodiversity Water quality Air quality 	<ul style="list-style-type: none"> Management of trails network Management of local environmental assets Reduced erosion impacts Improved monitoring 	<ul style="list-style-type: none"> Enhanced biodiversity Enhanced wildlife habitat corridors Enhanced water quality Enhanced air quality 	<ul style="list-style-type: none"> Negative impacts on native vegetation / waterways Increased vehicle trips Local road congestion Road maintenance wear and tear
9. Other				

A3_Scenario Definition & Cost Estimates

Scenario 1 – Business As Usual

Item	Description	Cost
1	Capital expenditure	\$180,000
2	Operating expenditure	\$130,000 pa

Source: Colac Otway Shire

Scenario 2 – Partial / Staged Redevelopment

Item	Description	Cost
1	All User Skills Park and Trailhead Precinct	\$100,000
2	New Barwon Flow blue trail	\$140,000
3	Red Carpet, Rollercoaster and Follow the Dog Trails upgrades and enhancements	\$140,000
4	Operating expenditure	
Total		\$380,000

Source: Colac Otway Shire

A3_Scenario Definition & Cost Estimates

Scenario 3 – Comprehensive Redevelopment

Item	Description	Cost
1	Assessment & Design Work	
1.1	Vegetation removal and off-setting studies, Flora and fauna and Geo tech assessments	\$60,000
1.2	Trails Enhancements Design	\$15,000
1.3	New Trails Design	\$15,000
1.4	Trailhead Landscape Architecture Design	\$10,000
1.5	Contingency	\$10,000
Subtotal		\$110,000
2	Trails Enhancements & New Trails Infrastructure	
2.1	Rollercoaster track upgrade and enhancement	\$50,000
2.2	Red Carpet track upgrade and enhancement	\$50,000
2.3	Follow the Dog track upgrade and enhancement	\$50,000
2.4	Yaugher trail upgrade and enhancement	\$50,000
2.5	New Barwon Flow blue trail	\$140,000
2.6	New Boundary Rider off road trail link	\$140,000
2.7	New MTB skills development park	\$75,000
2.8	Contingency	\$55,500
Subtotal		\$610,500
3	Underpass for Trails Connection	
3.1	Feasibility study	\$200,000
3.2	Contingency	\$20,000
Subtotal		\$220,000
4	Rebranding, New Signage and Brand Positioning	
4.1	Upgrade of trail signage	\$90,000
4.2	Brand positioning works	\$10,000
4.3	Contingency	\$10,000
Subtotal		\$110,000
Total		\$1,050,500

Source: Colac Otway Shire

A4_Benefit Cost Analysis & Sensitivities

Economic Impact Assessment, All Scenarios

Scenarios	Description	Construction Output			Construction Cycle Employment Generation			Project Completion Employment Generation		
		Direct \$M	Indirect \$M	Total \$M	Direct FTE	Indirect FTE	Total FTE	Direct FTE	Indirect FTE	Total FTE
Scenario 1	Business As Usual	\$0.2 M	\$0.2 M	\$0.4 M	0.4	0.7	1.1	0	0	0
Scenario 2	Partial / Staged Redevelopment	\$0.4 M	\$0.5 M	\$0.9 M	0.9	1.4	2.4	15	8	23
Scenario 3	Comprehensive Redevelopment	\$1.1 M	\$1.3 M	\$2.4 M	2.5	4.0	6.5	21	11	32

Source: ABS, Employment Density Guide 2015, MacroPlan Dimasi

A4_Benefit Cost Analysis & Sensitivities

Visitation & Tourism Output, Scenario 1

Scenario 1 BAU	Current		Post Project Completion			Ongoing
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+
Visitation & Tourism Output						
Otway SA2 Cycling Visitation	24,469	26,155	27,958	29,884	31,943	34,145
Otway SA2 Cycling Expenditure	\$2.2 M	\$2.4 M	\$2.7 M	\$2.9 M	\$3.2 M	\$3.5 M
Indirect Tourism Output	\$1.4 M	\$1.6 M	\$1.7 M	\$1.9 M	\$2.1 M	\$2.3 M
Total Tourism Output	\$3.7 M	\$4.0 M	\$4.4 M	\$4.8 M	\$5.3 M	\$5.8 M
Tourism Expenditure by Industry						
Accommodation & Food Services	\$1.4 M	\$1.5 M	\$1.7 M	\$1.8 M	\$2.0 M	\$2.2 M
Ownership of Dwellings	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M	\$0.3 M
Manufacturing	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M
Transport, Postal & Warehousing	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M
Retail Trade	\$0.1 M	\$0.1 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M
Administrative & Support Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.1 M	\$0.1 M	\$0.1 M
Arts & Recreation Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.1 M	\$0.1 M
Wholesale Trade	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Rental, Hiring & Real Estate Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Education & Training	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Agriculture, Forestry & Fishing	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Health Care & Social Assistance	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Information Media & Telecommunications	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Other Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Mining	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Electricity, Gas, Water & Waste Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Construction	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Financial & Insurance Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Professional, Scientific & Technical Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Public Administration & Safety	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Total	\$2.2 M	\$2.4 M	\$2.7 M	\$2.9 M	\$3.2 M	\$3.5 M

Note: Numbers may not add to total due to small amount decimals and rounding.
Source: ABS, TRA, Remplan, MacroPlan Dimasi

A4_Benefit Cost Analysis & Sensitivities

Visitation & Tourism Output, Scenario 2

Scenario 2 Partial / Staged Redevelopment	Current		Post Project Completion			Ongoing
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+
Visitation & Tourism Output						
Otway SA2 Cycling Visitation	24,469	26,901	29,573	32,512	35,742	39,293
Otway SA2 Cycling Expenditure	\$2.2 M	\$2.5 M	\$2.8 M	\$3.2 M	\$3.6 M	\$4.0 M
Indirect Tourism Output	\$1.4 M	\$1.6 M	\$1.8 M	\$2.1 M	\$2.3 M	\$2.6 M
Total Tourism Output	\$3.7 M	\$4.1 M	\$4.7 M	\$5.3 M	\$5.9 M	\$6.7 M
Tourism Expenditure by Industry						
Accommodation & Food Services	\$1.4 M	\$1.6 M	\$1.8 M	\$2.0 M	\$2.2 M	\$2.5 M
Ownership of Dwellings	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M	\$0.4 M
Manufacturing	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M
Transport, Postal & Warehousing	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M
Retail Trade	\$0.1 M	\$0.1 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.2 M
Administrative & Support Services	\$0.0 M	\$0.0 M	\$0.1 M	\$0.1 M	\$0.1 M	\$0.1 M
Arts & Recreation Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.1 M	\$0.1 M	\$0.1 M
Wholesale Trade	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Rental, Hiring & Real Estate Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Education & Training	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Agriculture, Forestry & Fishing	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Health Care & Social Assistance	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Information Media & Telecommunications	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Other Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Mining	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Electricity, Gas, Water & Waste Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Construction	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Financial & Insurance Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Professional, Scientific & Technical Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Public Administration & Safety	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Total	\$2.2 M	\$2.5 M	\$2.8 M	\$3.2 M	\$3.6 M	\$4.0 M

Note: Numbers may not add to total due to small amount decimals and rounding.
Source: ABS, TRA, Remplan, MacroPlan Dimasi

A4_Benefit Cost Analysis & Sensitivities

Visitation & Tourism Output, Scenario 3

Scenario 3	Current		Post Project Completion			Ongoing
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5+
Comprehensive Redevelopment						
Visitation & Tourism Output						
Otway SA2 Cycling Visitation	24,469	29,469	34,469	39,469	44,469	49,469
Otway SA2 Cycling Expenditure	\$2.2 M	\$2.7 M	\$3.3 M	\$3.9 M	\$4.5 M	\$5.1 M
Indirect Tourism Output	\$1.4 M	\$1.8 M	\$2.1 M	\$2.5 M	\$2.9 M	\$3.3 M
Total Tourism Output	\$3.7 M	\$4.5 M	\$5.4 M	\$6.4 M	\$7.4 M	\$8.4 M
Tourism Expenditure by Industry						
Accommodation & Food Services	\$1.4 M	\$1.7 M	\$2.1 M	\$2.4 M	\$2.8 M	\$3.2 M
Ownership of Dwellings	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M	\$0.4 M	\$0.4 M
Manufacturing	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M	\$0.4 M	\$0.4 M
Transport, Postal & Warehousing	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M	\$0.3 M	\$0.4 M
Retail Trade	\$0.1 M	\$0.2 M	\$0.2 M	\$0.2 M	\$0.3 M	\$0.3 M
Administrative & Support Services	\$0.0 M	\$0.1 M	\$0.1 M	\$0.1 M	\$0.1 M	\$0.1 M
Arts & Recreation Services	\$0.0 M	\$0.0 M	\$0.1 M	\$0.1 M	\$0.1 M	\$0.1 M
Wholesale Trade	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Rental, Hiring & Real Estate Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Education & Training	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Agriculture, Forestry & Fishing	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Health Care & Social Assistance	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Information Media & Telecommunications	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Other Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Mining	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Electricity, Gas, Water & Waste Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Construction	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Financial & Insurance Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Professional, Scientific & Technical Services	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Public Administration & Safety	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
Total	\$2.2 M	\$2.7 M	\$3.3 M	\$3.9 M	\$4.5 M	\$5.1 M

Note: Numbers may not add to total due to small amount decimals and rounding.
Source: ABS, TRA, Remplan, MacroPlan Dimasi

A4_Benefit Cost Analysis & Sensitivities

Sensitivity Analysis, All Scenarios

	Cycling Visitation		Overnight Visitors		Night of Stay		Visitor Nights			Penetration	Additional Room Required
	2017	Year 5+	2017	Year 5+	2017	Year 5+	2017	Year 5+	Change		
Scenario 1	24,469	34,145	59.7%	60.0%	1.0	1.0	14,602	20,487	5,885	10%	2
Scenario 2	24,469	39,293	59.7%	70.0%	1.0	1.5	14,602	41,258	26,656	30%	23
Scenario 3	24,469	49,469	59.7%	80.0%	1.0	2.0	14,602	79,151	64,549	50%	92

Source: ABS, TRA, Remplan, MacroPlan Dimasi