



Omeo Mountain Bike Destination Business Case

December 2019



This report was prepared by TRC Tourism Pty Ltd for East Gippsland Shire Council in relation to the development of the Omeo Mountain Bike Destination Business Case.

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Executive Summary

This Business Case provides the evidence base and discussion to inform decision makers on the future investment options for the proposed Omeo mountain bike destination.

The business case presented meets the requirements of the Victorian Government (Department of Treasury and Finance) and it includes:

- Details of the Omeo region, including population, location and access
- Tourism data that helps to underpin assumptions made in the economic modelling
- Mountain biking (MTB) market knowledge
- Planning considerations
- Evidence-based assumptions on use, likely markets and user spending patterns
- Likely employment and regional economic income benefits
- Benefit cost ratio for consideration of the overall economic benefit and cost over a 10-year period
- Sensitivity analysis on the base case assumptions including up to a 30% drop in visitor numbers
- Governance models
- Risks and possible treatments.

The project

East Gippsland Shire Council (EGSC) and the Omeo community have a vision to develop Omeo into a world-class MTB destination. This Business Case builds on previous site assessment and feasibility study work undertaken by World Trail in 2016 and Dirt Art in 2018 for the East Gippsland Shire Council (EGSC).

A proposed 114 km of trails aims to attract more visitors to the region – boosting tourism and diversifying Omeo’s economy.

The concept design presented by World Trail/Biosis is appropriate for the location, and provides good access to one of the area’s features including the Oriental Claims, Mount Sam and the general forests of the high country around Omeo.

Omeo

Omeo sits high in Victoria’s alpine country on the southern rises of the Australian Alps. It acts as the service centre for the region and is one of the gateways to Victoria's ski slopes.

Located 400km from Melbourne, 760km from Sydney and on the Great Alpine Road touring route, Omeo is easily accessed by road. A nearby private airport and scheduled bus services with rail connections also provide access.

Omeo’s population is relatively small with less than 500 residents, however tourism is an important sector of the local economy and seen as one that has enormous potential to create jobs and inject new revenue into the region.

Omeo is well placed to benefit from proposed MTB trails, which will provide a range of opportunities for the community and more broadly the Omeo region, as well as visitors. There is a culture of making things happen within smaller, more remote communities, and this will assist with implementation of the proposal. EGSC equipment and labour force are likely to be able to maintain the trail.

Tourism

Gippsland's strong destination appeal is underpinned by its outstanding natural attractions ranging from coastlines and beaches, national parks, coastal towns and villages, alpine resorts and a rich indigenous and colonial heritage. Visitors to the region are supported by the main service hubs, towns and villages scattered throughout the region.¹

East Gippsland Shire, which includes the town of Omeo and the related high country area in which the MTB development is proposed, receives the largest number of international, domestic and daytrip visitors combined when compared to the other sub-regions of Greater Gippsland. Tourism and other related services are a critical component of the East Gippsland Shire's economic activity.

Omeo and surrounds has accommodation options ranging from caravan parks to farm stays, hotels, motels and share economy properties (i.e. Airbnb). Popular activities in summer centre around the outdoors and adventure in the natural environment including rafting, horse riding, hiking, cycling, fishing, camping and four-wheel driving. There are a number of walking trails in and around the town. In winter, the town functions as an entry point to the ski resorts of Dinner Plain and Mount Hotham, providing fuel, accommodation, food and ski hire services. The town also has a non-accredited Visitor Information Centre to assist visitors with recommendations. This is located within the East Gippsland Shire Council service centre, well located on the main road through the town.

The proposed trail network will sit well within the tourism product mix for Omeo and surrounds. It strongly aligns with EGSC and relevant tourism strategies and will help support tourism product growth. It will also assist the trail network's viability through the extension of existing visitor markets.

Mountain Biking

Mountain biking continues to grow internationally and nationally as a sport and adventure activity, in part due to the health benefits of outdoor activity, and in part due to the interesting settings many recent developments have been built in. Throughout Victoria and within easy proximity to Melbourne, a number of strong MTB and rail trail offers already exist.

Omeo presents an excellent opportunity for MTB development, fulfilling many of the criteria sought when assessing a location's suitability for trail development. The town also offers an authenticity and charm through the remote and rugged nature of the area, historic buildings and surrounding mountain scenery and landscape.

The growing demand for unique MTB experiences, coupled with strategic planning and a growing market, sees this proposal for developing Omeo as an MTB destination well placed to succeed.

Planning

A number of EGSC and other regional and State plans have been reviewed in the preparation of this business case.

In the review, the concept to develop Omeo as a MTB destination aligns strongly with a number of strategies. This strong alignment across local, regional and State levels provides for a relatively seamless project implementation.

Economic benefits

The development of Omeo as a MTB destination will generate substantial positive economic benefits for the region, during the construction phase and in the operations phase.

Several input assumptions have been made on a relatively conservative basis to determine the overall economic benefits of the proposed development.

¹ Gippsland Destination Management Plan

Users have been broken into the core markets:

- Core mountain bikers
- Passing travellers
- Local and regional users
- Events.

For each of these markets, assumed visitor numbers are based on evidence and market knowledge and a standard rate for overnight spending based on published data applied.

Construction phase

A total of 16.0 FTE jobs (13.3 direct jobs and 2.7 indirect/induced jobs) would be generated during the construction period. The direct jobs comprise 11.3 jobs in on-site construction and 2.0 jobs in materials/equipment supply.

Operations phase

With the development of the trail, the ongoing growth in user numbers will support an increasing number of jobs in the region.

- The operation of the trails has the potential to generate a total of 20.1 full time equivalent jobs in the region in year 1, increasing to 39.4 FTE jobs in Year 10.
- Of these total jobs in year 10 – overnight visitors/users would account for 33.0 jobs, with locals and events accounting for the balance (6.5 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 bike hire and other related services) and other retail.

The analysis shows the importance of attracting overnight visitors to the trail as these users have a significant spend in the region.

Benefit/Cost analysis

The development generates combined benefits that are substantially above the full costs (construction and maintenance) over a 10 year period.

For this trail project, using a 7% discount rate the project yields a positive BCR of 4.7. The present value of total benefits (\$20.775 million) generated by the investment exceeds the total costs of the project (\$4.420 million) over a 10 year period by a factor of 4.7 times.

A sensitivity analysis is included as part of this business case showing several scenarios, all of which show a positive outcomes.

Summary

TRC has undertaken a comprehensive review of markets, planning alignment, visitors, spending and the economic costs and benefits in the development of the Omeo Mountain Bike Destination Business Case.

The proposed MTB developments have merit based on the information researched and the assumptions used. Combined with the existing tourism offer in Omeo and surrounds, development of destination will not only help to bring additional visitors to Omeo, but also keep them in-region longer and provide long-term economic and social benefits for the Omeo community.

1. Project background

TRC Tourism Pty Ltd (TRC) has been engaged by EGSC to create a business case outlining the potential of developing Omeo as a MTB destination.

This follows site assessment work completed in 2016 by World Trail, a feasibility study completed in 2017 by Dirt Art, and recent successful attraction of \$1 million in funding through the Victorian Government's Regional Tourism Infrastructure Fund to complement contributions of \$1.52 million from EGSC and \$1.5 million from the Federal Government.

EGSC and the Omeo community have a vision to create Omeo as a world class MTB destination. Learning from other successful MTB destinations such as Blue Derby in Tasmania and Whistler in Canada, and capturing the growth in demand for outdoor adventure and MTB in general, Omeo has the potential to leverage off the 'Ride High Country' theme in north-east Victoria, the growing green season alpine tourism appeal, and the Gippsland Destination Management Plan directions for growing tourism in broader Gippsland.

The proposed 114km of trails aims to establish Omeo as an international MTB destination and attract more visitors to the region – boosting tourism and diversifying Omeo's economy. The project would also feature a dedicated bike skills park, cycle and bike wash facilities, toilet and shower amenities, trailhead and signage.²

MTB is a rapidly growing recreational, sport and tourism activity across Victoria, Australia and the world that provides local residents and visitors the opportunity to enjoy outdoor activity in diverse natural environments. There are many styles and levels of MTB (leisure, competition, cross country, downhill, and easy to difficult). It is most commonly defined as 'cycling off-road on a variety of unsealed surfaces, typically through a natural setting.'³

The brief is to assess the viability of Omeo as a MTB destination, including the following elements:

- undertake an evaluation of the assumptions of previous reports, including the Omeo Mountain Bike Feasibility Report
- determine the demand for the Omeo proposal
- determine the economic return for the proposed Omeo MTB Destination
- undertake an evaluation of costs and benefits of the proposal and identifying the opportunities for the project to leverage larger benefits particularly from the private sector
- assessment of the approvals required, including the governance arrangements and on-going management and maintenance responsibilities.

² <https://www.premier.vic.gov.au/omeo-pedals-towards-multi-million-mountain-bike-trail/>

³ Queensland Mountain Bike Strategy 2018

It is noted that several other important elements of the proposed development opportunities are being considered at the same time as this business case is being prepared. These include a revised Masterplan for the Omeo MTB Destination, and importantly a study into Omeo's future that maximises the potential future benefits for Omeo, noting that the current and future opportunities for Omeo need considering together.

TRC consultants, together with background research and evidence, undertook site assessments, consultation with relevant stakeholders and comprehensive cost benefit analysis and economic modelling. These processes have contributed to a robust business case which will support EGSC with future decision-making regarding an Omeo MTB experience that aligns with EGSC community vision and commitments.



2. Omeo and surrounds

2.1 DESCRIPTION OF THE AREA

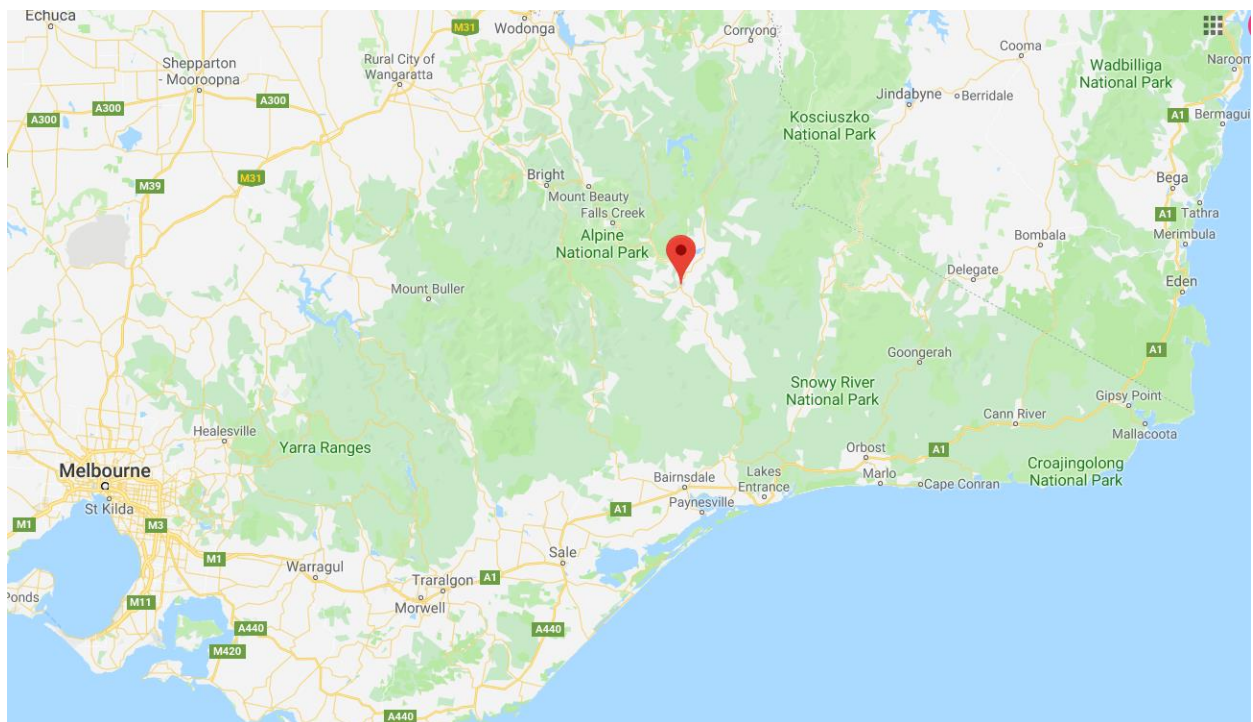
Omeo sits on the southern rises of the Australian Alps at approximately 640m above sea level. Omeo is in many respects the heart of the Victorian high country, and is centred on the Great Alpine Road, a touring route of national significance and is approximately 120km from Bairnsdale, and 40km from Dinner Plain. It acts as the service centre for the region and one of the gateways to Victoria's ski slopes.

Omeo is located 400km from Melbourne, 760km from Sydney and is accessed predominantly by road, with the nearest airport being Mount Hotham, a private facility, and scheduled bus services through Omeo that link up with train terminals at both Bairnsdale and Albury.

The area is sustained by a mix of farming, tourism, timber and mining with the latter set to see a resurgence in activity with the proposal to open the Benambra mine site currently being considered. Omeo has a long history of producing fine beef from the high country which continues today. At the time of preparation of this Business Case, the Victorian Government had announced that the Victorian timber industry would be transitioning to plantation based timber products by 2030. The implications of this transition are not yet fully understood for the region.

The Omeo region is comprised of the following localities: Omeo, Swifts Creek, Benambra, Nariel Valley, Ensay, Ensay North, Brookville, Cassilis, Doctors Flat, Hinnomunjie, Livingstone Valley, Omeo Valley, Reedy Flat, Glen Valley, Cobungra, Shannonvale, Nelse, Stirling, Tambo Crossing, Tongio, Tom Groggin, Wentworth, Anglers Rest, Bindi, Nunniong, Marthavale, Uplands, Dartmouth, Cobberas, Bundara, Bingo Munjie, The Sisters and The Brothers.

Figure 1. Location of Omeo in Victoria's high country



SOURCE: GOOGLE MAPS

2.2 HISTORY

Omeo's name is thought to have derived from the aboriginal word for 'mountains' or 'hills'. The area was home to the Jaitmatang mob who would gather in late autumn to feast on the plentiful and fat-rich Bogong Moths. The area is a living landscape for Aboriginal people, and while not subject to a RAP (Registered Aboriginal Party) status, is important culturally for several groups including the Gunaikurnai who have RAP status immediately south of the planning area, and have succeeded in gaining Native Title to 10 parks and reserves in Gippsland.

Omeo has its European roots firmly planted in pastoral heritage, which has since become synonymous with the mountain cattleman, as epitomised in the 'Man from Snowy River' movies. The area was established in 1834, with a number of the founding families still farming today.

The 'official' discovery of gold in 1851 at Livingstone Creek forever changed the region, attracting a large and multicultural population to search for gold in some of the richest alluvial gold diggings in the state. The 100ft high cliffs and maze of underground tunnels criss-crossing the Oriental Claims near Omeo, are heritage listed and set around Livingstone Creek.⁴ The goldfields were abandoned by 1918 and by the late 1940s the economy was driven by cattle and sheep.

There are five heritage listed buildings consisting of two Court Houses, Police Residence, Stables and Log Lockup. The Omeo Historical Society believes the Justice Precinct to be the most intact and original in Australia.⁵

2.3 ACCESS TO OMEO

Of considerable importance to the viability of developing Omeo as a MTB destination is access to the town and surrounds.

Sitting at approximately 5 hour's drive from Melbourne if travelling via Gippsland, and a similar distance if travelling via Bright and Mount Hotham, it is a considerable trip from Victoria's capital city and main population centre. Travelling via either route presents not only a challenge, but also an opportunity, to develop product and partner with businesses and regions. This opportunity is explored further in this business case.

Omeo also sits on the Great Alpine Road touring route which travels from Wangaratta in the north-east across to Metung on the Gippsland Lakes. The 339km drive takes approximately 5 hours in total.

The main access routes into Omeo are:

- Self-drive via the Great Alpine Road (B500), Omeo Highway (C543) or Benambra Road (C545)
- Hotham Airport – secondary options being Albury Airport and Melbourne Tullamarine Airport
- Scheduled bus services through Omeo that link up with train terminals at Bairnsdale and Albury
- The recently completed sealed Omeo Highway north through Glen Wills into the Murray Valley, and
- The now sealed summer only access road through Falls Creek into the Mount Beauty and Kiewa Valley area.

⁴ <http://omeoregion.com.au/information/history-heritage>

⁵ <http://omeo.org.au/>

2.4 PEOPLE AND COMMUNITY

East Gippsland

The East Gippsland Shire population forecast for 2019 is 46,846 residents⁶, with the major centres being Orbost, Lakes Entrance and Bairnsdale. *Victoria in Future 2019: Population Projections 2016 to 2056* predicts a population of around 55,960 by 2036.⁷ Broadly speaking the population is ageing and life expectancy is increasing, however as a percentage of the population the greatest increase will be in the 20-65 years bracket, with a lower percentage of young people.⁸

4,451 local businesses were registered in East Gippsland in 2018, with the largest employing industry being health care and social assistance (15.6%). Accommodation and food services made up 9.2% of employment by industry sector.⁹

East Gippsland education levels are lower than the national average, as is the median income, however the unemployment rate is also slightly lower and median rentals and mortgage payments are also lower, meaning disposable income may be more at a par.

Omeo

The Omeo population is just over 400, roughly half male and female with an average age of 48 years. Close to 60% of the population are 15-64 years, with the community being older on average when compared with Victoria. Children aged 0-14 years make up 17% of the population and people aged 65 years and over made up 25.6% of the population. Of the 195 people working, over half are full time, one third are part time and just under 5% are unemployed.¹⁰

Omeo has limited opportunities for employment and some social disadvantage. Tourism is a small yet important sector of the economy and seen as one that has enormous potential to create jobs and inject new dollars into the region.

The most common occupations in Omeo include Managers 22%, Labourers 16.4%, Community and Personal Service Workers 15.3%, Technicians and Trades Workers 14.7%, and Clerical and Administrative Workers 11.3%.¹¹

Of the employed people in Omeo, 13.8% work in Aged Care Residential Services. Other major industries of employment included Beef Cattle Farming (Specialised) 7.6%, Sheep-Beef Cattle Farming 7.6%, Accommodation 7.6% and Pubs, Taverns and Bars 6.2%.¹²

2.5 WEATHER

Omeo's weather is characterised by slightly cooler maximum summer temperatures and chilly brisk winters. In relation to weather for undertaking outdoor adventure activities, the climate in Omeo is not dissimilar to other mountain based centres that offer cooler and less extremes of heat in summer, although winter periods can be cold with frosts on south slopes and snow at times.

⁶ <https://forecast.id.com.au/east-gippsland>

⁷ *Victoria in Future 2019: Population Projections 2016 to 2056* (July 2019)

⁸ *Victoria In Future 2016 East Gippsland*

⁹ <https://economy.id.com.au/east-gippsland>

¹⁰ Australian Bureau of Statistics 2016 Census QuickStats: Omeo

¹¹ Australian Bureau of Statistics 2016 Census QuickStats: Omeo

¹² Australian Bureau of Statistics 2016 Census QuickStats: Omeo

3. Tourism context

3.1 GIPPSLAND

Omeo is situated in the Gippsland region, which covers a major part of the eastern state of Victoria, encompassing a land area of close to 41,600km². The region offers a mix of urban and country culture in a diverse range of high country and coastal environments and spans from the NSW Sapphire Coast down to Melbourne.

The region extends from its western end, adjoining metropolitan Melbourne's south-eastern boundary, to Cape Howe the most easterly point of Victoria. In the north, the region borders NSW and much of its northern boundary is defined by Victoria's high country. The region's southern boundary encompasses 700km of spectacular coastline and includes the most southern point of the Australian mainland, Wilsons Promontory.

Gippsland also contains the largest area of public land in Victoria, with 1.6 million hectares encompassing forest, state and national parks, UNESCO biosphere reserves, marine coastal parks and reserves, and Ramsar designated wetlands.

Gippsland is one of Victoria's most important tourism regions and the sector is a key economic driver, generating jobs and contributing lifestyle benefits to communities. In the year ending March 2019 the Greater Gippsland region received 7.06 million visitors who spent over \$1 billion.¹³ This level of expenditure supports 13,271 jobs which represents 11.6% of the Gippsland economy.¹⁴

Gippsland's strong destination appeal is underpinned by its outstanding natural attractions that include Phillip Island, Wilsons Promontory, Gippsland Lakes as well as outstanding coastline and beaches, national parks, coastal towns and villages, alpine resorts and rich indigenous and colonial heritage. Visitors to the region are supported by the main service hubs, towns and villages scattered throughout the region.¹⁵

Further relevant data and findings around the Gippsland visitor economy from the recently completed *Towards 2030 Gippsland Destination Management Plan: A Blueprint for Growth* are supplied in Appendix A.

3.2 EAST GIPPSLAND

East Gippsland has tourism and related services as a critical component of its economic activity.

Some of the iconic attractions and experiences throughout East Gippsland include the Snowy River, Point Hicks Lighthouse, Mitchell River Silt Jetties, the Australian Alps, Australia's Coastal Wilderness, sections of the Sydney to Melbourne Coastal Drive, Lakes Entrance, Buchan Caves and 90 Mile Beach.

In the year ending March 2019, East Gippsland received the most visitors to the entire region of Gippsland (1,496,000 visitors), followed closely by Baw Baw (1,252,000 visitors) and Wellington

¹³ IVS and NVS. Year Ending March 2019. TRA

¹⁴ Tourism's Economic Contribution to Greater Gippsland in 2016-17

¹⁵ Towards 2030 Gippsland Destination Management Plan: A Blueprint for Growth

(1,132,000 visitors). Significantly, during this period international overnight visitors to East Gippsland increased by 27.1% compared to the previous year.¹⁶

Visitors to East Gippsland spend an average of 3 nights in the region, with domestic overnight visitors spending the most per trip. Just over half (56%) of the total number of visitors came for the reason of 'holiday', with a high proportion also for 'visiting friends and relatives'.¹⁷

Table 1. Recent visitor insights to East Gippsland

	INTERNATIONAL	DOMESTIC OVERNIGHT	DOMESTIC DAY	TOTAL
Visitors ('000s)	49	856	592	1,496
Nights ('000s)	204	2,821	-	3,025

SOURCE: TRAVEL TO THE GREATER GIPPSLAND REGION AND ITS SUB-REGIONS. INTERNATIONAL VISITOR SURVEY AND NATIONAL VISITOR SURVEY, YE MAR 19, TOURISM RESEARCH AUSTRALIA

Table 2. Average spend and stay per visitor source for East Gippsland

	INTERNATIONAL	DOMESTIC OVERNIGHT	DOMESTIC DAY	TOTAL
Average spend per trip (\$)	241	335	93	235
Average spend per night (\$)	54	108	-	104
Average spend per commercial accommodation (\$)	72	140	-	134
Average Stay (nights)	4	3	-	3

SOURCE: TOURISM RESEARCH AUSTRALIA LOCAL GOVERNMENT AREA PROFILE OMEO 2018

East Gippsland has an increasing number of tourism businesses that service incoming visitors. The following table provides the number by size.

Table 3. Number of tourism businesses in East Gippsland

TOURISM BUSINESS	TOTAL
Non-Employing	227
1 to 4 employees	211
5 to 19 employees	138
20 or more employees	32
TOTAL	648

SOURCE: TOURISM RESEARCH AUSTRALIA LOCAL GOVERNMENT AREA PROFILE OMEO 2018

Other important tourism metrics for East Gippsland are supplied in Appendix B.

¹⁶ Travel to the Greater Gippsland region and its sub-regions. International Visitor Survey and National Visitor Survey, YE Mar 19, Tourism Research Australia

¹⁷ Tourism Research Australia Local Government Area Profile Omeo 2018

3.3 OMEO

Omeo's character is based on the region's strengths and include:

- Nature (alpine location, mountain scenery)
- Heritage (gold mining, historic buildings, high country huts, Indigenous)
- Farming (high country cattle, and other products including more recent additions such as Olive Oil)

Popular activities in summer centre around the outdoors and adventure in the natural environment including rafting, horse riding, hiking, cycling, fishing, camping and four-wheel driving. The town also provides a base for touring the sealed and unsealed roads including the Bogong High Plains and the Great Alpine Road.

There are a number of walking trails in and around town including the:

- Heritage Trail – a 1km long down the main street exploring key heritage places of interest
- Livingstone Park Loop – a short walk that takes in the swimming hole and Griffith Tunnel
- Livingstone Park to Caravan Park – great for views and local wildlife spotting
- Livingstone Park to Oriental Claims – about 3.4kms and takes in views and the gold diggings area with a memorial suspension bridge
- Ah Fong's Loop Walk – 1.5km along the riverbanks
- Pioneer Claims Walk – beyond Ah Fong's Loop are the man made cliffs up to 30m in height.

In winter, the town functions as an entry point to the ski resorts of Dinner Plain and Mount Hotham, providing fuel, accommodation, food and ski hire services. The road to Mount Hotham from Melbourne via Omeo is generally a safer option and is subject to closure less than the road via NE Victoria.

Mount Hotham Alpine Resort Management is keen to continue to promote Omeo as a more sustainable entry and exit road to the resort for winter operations.

The town also has a non-accredited Visitor Information Centre (operated by the EGSC) to assist visitors with recommendations.

Omeo and surrounds has accommodation options ranging from caravan parks to farm stays, hotels, motels and share economy properties (i.e. Airbnb). TRC estimates there are approximately 80-90 beds readily available for easy booking in Omeo commercially – although other reports and local consultation indicates that there are up to 300 beds available in the region. This is augmented by Airbnb's in surrounding regional areas, as well as accommodation further afield in Swifts Creek, Cobungra and Dinner Plain.

Nearby Dinner Plain services the Victorian Ski field of Mount Hotham and also is a destination in its own right. It is likely that Dinner Plain will be an 'accommodation hub' in the first instance for Omeo as a MTB destination, until such time as the market takes the opportunity to construct and run further appropriate accommodation in Omeo and surrounding areas to cater for the demand. This is discussed later in this business case.

The Australian Tourism Data Warehouse (ATDW) only has one business currently listed in Omeo, being Twinkles – a breakfast, burger bar.

Retail shopping is limited, as is the event calendar, which includes nearby picnic races and harvest festival, markets and agricultural show.¹⁸ The food and wine offer includes a cafe, hotels and a nearby winery.¹⁹

3.4 DESTINATION MANAGEMENT

Destination Gippsland is the Regional Tourism Board (RTB) and is comprised of six LGAs: Bass Coast Shire (mainland part), Baw Baw Shire, East Gippsland Shire, Latrobe City, South Gippsland Shire and Wellington Shire. *Towards 2030 Gippsland Destination Management Plan: A Blueprint for Growth* provides strategic tourism direction for the wider region.

EGSC also manage a tourism website www.visiteastgippsland.com.au which positions East Gippsland as 'naturally magic'.

East Gippsland Marketing Inc (EGMI) operates in partnership with the Shire of East Gippsland. Their website www.egmi.com.au provides advice, content, packaging and a range of other visitor services to the industry.

The *Gippsland Trails and Tracks Feasibility Study* has recently been finalised on behalf of the Gippsland Local Government Network, Destination Gippsland and Gippsland Mountain Biking Club. The outcomes and recommendations of this piece of work will be important for future development of Omeo as a MTB destination. The study recognises Omeo as a 'Signature Trail/Hub' that has the highest level of priority for a trail of trail hub (as in this case) for resource allocation based on the outcomes of the trail and hub in attracting visitors to the region.

¹⁸ <http://www.omeoregion.com.au/events>

¹⁹ <http://www.omeoregion.com.au/things-to-do/adventure>

4. Mountain Bike tourism

‘Great mountain bike trails don’t just satisfy local riders. They can also attract tourists from all over, revitalize local economies and put a destination on the map.’ *International Mountain Biking Association (IMBA)*

East Gippsland Shire Council commissioned Anthony Burton and Associates Burton to undertake a review of the Omeo Mountain Bike Destination project with the final report completed in February 2019. The *Omeo Mountain Bike Destination Project: A Review*, draws attention to the adventure tourism market due to what he identifies as a lack of data on MTB specifically.

“Adventure tourism is an experientially based form of tourism where the participant(s) leave their usual home to engage in a goal orientated activity that is close to nature and where the participation is expected to yield physical and emotional rewards leading to satisfaction.²⁰ It is inclusive of at least two of these three elements: physical activity, cultural immersion, and natural environment. Adventure tourism may include both soft and hard forms and cycling is generally identified as ‘soft’ whereas MTB is considered ‘hard’, largely because of the more specialised nature of the equipment (bike) and the potential degree of difficulty. Of course, depending on the trail, there are great variations and one of the identified opportunities for Omeo is in the family, beginner and intermediate trail space.”

Again, Burton draws attention to the nature of adventure tourism as one that has strong growth history and further growth opportunities.

“Tourism is one of the fastest growing aspects of the economy, exceeding growth in other industries such as manufacturing, retail, and financial and business sectors. The adventure tourism market, a subset of broader tourism, is one of the fastest growing categories is expected to grow 45.73% between 2018 and 2022.”^{21 22}

A range of reports, surveys and data suggest that cycling tourism is on the rise across the world, with an increasing number of adventure tourists embarking on both road and MTB tours.²³ MTB is a subset of cycling, and riders are generally categorised in either the non-mutually exclusive riding genre (all-mountain, cross country, downhill) and/or by their ability (e.g. beginner, intermediate, advanced). It is clearly a growing “niche” with mountain bike sales now making up over 50% of all bikes sold in Europe²⁴ and North America.²⁵

²⁰ SWARBROOKE, J., BEARD, C., LECKIE, S. & POMFRET, G. 2003. *Adventure Tourism: The New Frontier*, By Butterworth-Heinemann.

²¹ MARTIN, N. 2018. 20 Adventure Travel Trends to Watch in 2018. Adventure Travel Trade Association.

²² Anthony Burton & Associates (2019), *Omeo Mountain Bike Destination Project: A Review*, Canberra, Australia.

²³ WORLD TOURISM ORGANIZATION 2014. *Global Report on Adventure Tourism*. Madrid: UNWTO.

²⁴ CONFEDERATION OF THE EUROPEAN BICYCLE INDUSTRY 2017. *European Bicycle Market 2017 Edition: Industry & Market Profile* (2016 Statistics). Confederation of the European Bicycle Industry

²⁵ Anthony Burton & Associates (2019), *Omeo Mountain Bike Destination Project: A Review*, Canberra, Australia



4.1 MTB MARKETS AND USER TYPES

Recent market research referenced by World Trail (Pinkbike, 2016) suggests that mountain bikers:

- Are mostly male (however women are a rapidly increasing market segment)
- Are between the ages of 25-44
- Are relatively affluent with high household incomes
- Are generally well educated
- Participate in MTB frequently and over the long term
- Have an average stay at each location of 3-5 days when travelling for MTB
- Have an average spend per day between \$60-\$100 (accommodation, food, recreation – excludes travel cost to get to a destination).

In addition to categorising MTB users as either core or non-core, this can be expanded further into more specific levels of ability and interest. A summary of these is listed below – with an extract from the *Queensland Mountain Bike Strategy 2018* outlining these user types and characteristics in more detail is supplied in Appendix C.

Table 4. MTB user definitions – core versus non-core

MTB USER	ATTRIBUTES
Non-core mountain bikers include:	
	<ul style="list-style-type: none">• Complete novices• Road bikers that occasionally ride MTB• Families seeking safe enjoyable places to ride away from cars• School groups (often guided by tour operators)• Off-road bike tourers and more• With increased skill, some of this group may eventuate into Core Mountain Bikers
Key attributes of core mountain bikers are:	
	<ul style="list-style-type: none">• High levels of expenditure on gear and equipment• High amount of time spent mountain bike riding• High willingness to travel to go MTB• High likelihood of participating in competitive events

Types of mountain bikers include the following:

- Leisure
- Enthusiast
- Inclusive
- Independent
- Gravity
- Sport

The most popular types of competitive riding are:

- Gravity enduro and ‘flow tracks’ – tap into the heart of what makes MTB fun and will remain key attractions in MTB. The trails are accessible, enjoyable and don’t have the extreme risks associated with downhill or require the fitness and exertion of cross-country.
- Marathon cross country – consists of a multi-hour/overnight event of 100 km or more.
- Cross country – still remains the discipline with which the majority of mountain bikers identify. This is also the discipline in which most people enter the sport.
- Pump track and dirt jump riding – are often found at the trail heads of traditional cross-country trail networks and used by riders to warm-up, cool-down or wait for friends to arrive.

4.2 MTB EXPERIENCE NEEDS AND PREFERENCES

The following MTB experience needs and preferences for regional residents were captured for mountain bikers in the recent *Gippsland Tracks and Trails Feasibility Study: Literature Review and Research Report*, prepared by TRC in March 2019.

Table 5. MTB experience needs and preferences for regional residents

Market definition	<ul style="list-style-type: none"> • Mountain bikers (use of a purpose-built mountain bike on purpose-built trails, shared trails or other off-road trails)
Description	<ul style="list-style-type: none"> • Children and families seeking a safe entry level or skills development experience • Riders in the young adult to middle age groups • Experienced local riders who have ridden for many years in the region, and who continue to contribute to the trail network through building, maintenance and other activities
Regional residents experience needs and preferences	<ul style="list-style-type: none"> • Trails and bike parks accessible from population centres and together offering a range of trail types • Inter-connected trail networks offering a range of difficulty levels and technical challenges. Ideally offering at least a day’s riding. • Skills parks and technical trails • Participative and competitive events • Trailheads with appropriate facilities including car parking, bike wash-down, food services, shuttle transport • A range of trails accessible for shorter 1 to 4 hour rides near places of work and living. Trails generally for the local user market although will travel more broadly to key trails regionally and will travel nationally for longer weekend breaks and short holidays • Some feature rides that might include long descents, well designed and constructed features, outstanding scenery and other features • Diversity of offerings.

SOURCE: GIPPSLAND TRACKS & TRAILS FEASIBILITY STUDY LITERATURE REVIEW & RESEARCH REPORT, TRC, MARCH 2019, P. 44

4.3 TARGET MARKETS FOR OMEO

TRC suggests the following target markets for the Omeo MTB experience, and these are shown in the table below along with a description of the market. They are also then used to develop the assumptions and outputs from the economic benefits and costs section later in this business case.

Table 6. Target MTB Market Segments for Omeo

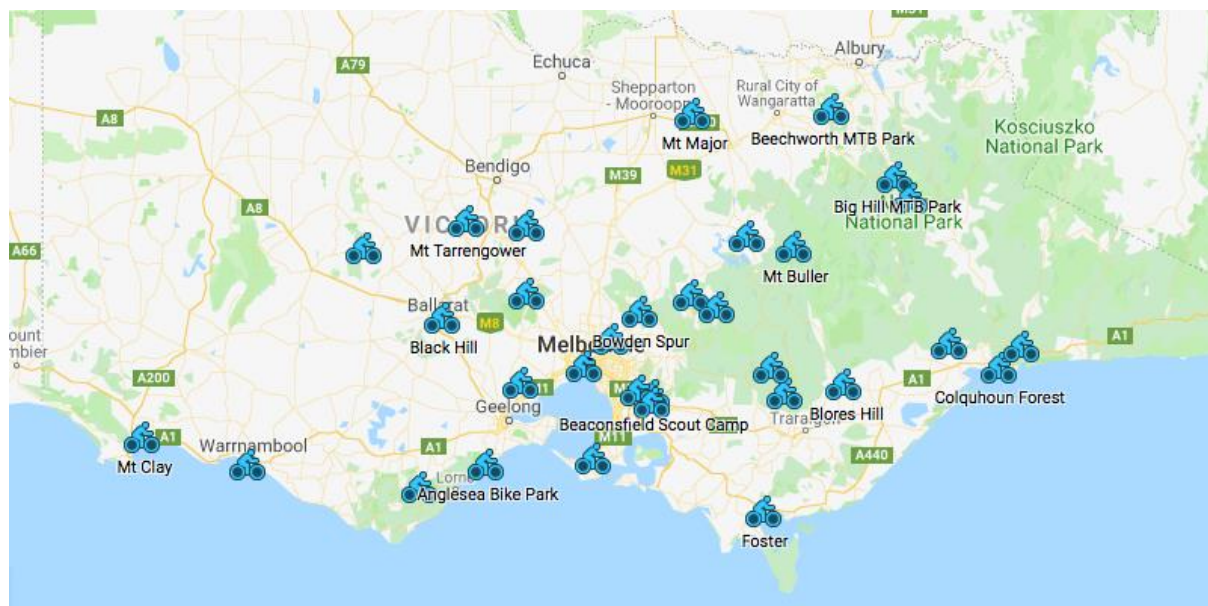
MARKET	DESCRIPTION
Local Trail Users	<p>Those people who live locally and ride a mountain bike. They can be of varying skill level but are generally beyond the basic beginner level.</p> <p>They may live in Omeo, have children and families, or be part of a smaller group of friends that seek exercise and social adventures.</p> <p>They may ride the proposed Omeo MTB Destination on average 5 to 6 times a year, and also seek out together riding opportunities beyond Omeo.</p>
Day Visitors – Regional Trail Users	<p>Generally these are visitors coming from as far afield as Bairnsdale, and Orbost in Gippsland, and Bright and Mount Beauty in the North East of the State.</p> <p>They will be generally moderately proficient riders and may travel to a strong destination such as planned for Omeo twice a year.</p> <p>They will also generally travel as a couple or a group of friends and ride for the day.</p>
Adventure Holidays	<p>This market is predominantly based on those people coming specifically to Omeo region for an adventure holiday. The holiday may consist of mountain biking intermixed with a range of other activities including horse riding, fishing, rafting, skiing, walking etc.</p> <p>The stay is likely to be longer than one night and the people are likely to travel as a group or family.</p> <p>This market will grow in time as the development of the trails and associated facilities aids the growth of other products and services in the region.</p>
Travel Through	<p>This market comprises those that are travelling the Great Alpine Road and passing through, that decide to spend another night on the road and stay in Omeo or surrounds based on the trail destination and their desire to have a ride.</p> <p>The likely skill level of this group will range from beginner through to lower level advanced.</p> <p>It is likely that they will only ride the trails once (one day) and spend one extra night before moving on to another experience in another location.</p>
Core Mountain Bikers	<p>This market is self-evident and includes those serious mountain bikers who will travel with expensive and comprehensive equipment to destinations for riding opportunities.</p> <p>The likely stay will be 2 to 3 nights and they would generally spend 2 days riding the trails.</p>
Events	<p>Events are an important market for Omeo and one to be pursued as they provide exposure to the destination, as well as bring in large numbers of riders and as well as support staff and friends and family.</p>

While there are multiple ways of segmenting the market for riders and visitors, the descriptions for the proposed markets in Table 6 above provide a strong introduction to the likely users, and their ability as well as the time they are likely to be able to spend in the region.

4.4 EXISTING MTB TRAILS

The following map indicates the existing mountain bike trail networks in Victoria. The closest significant riding areas to Omeo are Mount Taylor, Colquhoun, Bright and Falls Creek.

Figure 2. Victorian mountain bike trails



SOURCE: WWW.TRAILMATE.COM.AU

The *Omeo Mountain Bike Feasibility Report*²⁶ lists a number of MTB experiences available in the surrounding region.

Table 7. Mountain bike experiences near Omeo and surrounds

Location	Type and style of trails and facilities	Trail Volume (approx..)
Mount Taylor	XC, AM, DH	~20km
Colquhoun Forest	XC	~20km
Dinner Plain	XC	~10km
Bright – Mystic MTB Park	XC, AM, DH	~60km
Mount Beauty – Mount Beauty MTB Park	XC, AM, DH	~40km
Yackandandah – Yack MTB Park	XC, AM	~50km
Beechworth – Beechworth MTB Park	XC, AM	~20km
Falls Creek – Falls Creek MTB Park	XC, AM	~40km

SOURCE: MOUNTAIN BIKE FEASIBILITY REPORT - OMEO, VICTORIA 2017

²⁶ Dirt Art for East Gippsland Shire Council. Mountain Bike Feasibility Report Omeo, Victoria.

The proximity of strong mountain bike destinations / hubs and parks in the high country is thought to be a strength rather than as competition, positioning the high country further as an adventure playground.

The make-up of trails and the proposed 114 kilometres of trail length will provide Omeo with a strong position within the regional network of trail destinations.

4.5 POPULARITY OF ‘HERO TRAIL’ DEVELOPMENT

Hero trails are defined as ‘those trails that have the potential to attract a significant level of new mountain bike tourism. In order to achieve this, hero trails need to offer outstanding mountain bike experiences, outstanding scenic beauty and outstanding ‘off-bike’ support services.’²⁷

4.6 MTB DEVELOPMENT IN OMEO

Mountain Bike Australia suggests that development of mountain bike trails should deliver a trifecta of benefits:

- Economic opportunity for local communities (regional travel, increased length of stay, complementary activities and services)
- Social and health benefits (outdoor exercise mitigating physical and mental health illnesses)
- Environmental benefits (land quarantined for MTB in a natural setting, advocacy, awareness and protection of the environment for future enjoyment).

Analysis regarding criteria for a trail town from the recent *Queensland Mountain Bike Strategy 2018* offers guidance for development of mountain biking at Omeo. At present, Omeo does not provide a critical mass of tourism services and experiences to cater for significant numbers of riders. The development of a trails network is ideally done in conjunction with ancillary industry development.

²⁷ Tropical North Queensland Mountain Bike Strategy 2015

Trail Town

A trail town is a population centre or popular recreation destination that offers a wide range of high quality trails as well as related services, facilities, businesses, strong branding and supportive governance. It can incorporate trail centres and typically has multiple trail networks. A trail town may consist of a number of sites, hosting several signed and mapped trails of varying type and classification.

Mountain bike facilities such as car parking and visitor services are available within the vicinity, typically provided by independent businesses, land managers or local governments. In order to appeal to the market majority, it is important trail towns are user friendly and have high quality directional signage and maps.

Trail towns benefit from having a single central information and service centre to promote and provide access to trails. Although different, these can act similarly to a trail centre.

Trail towns should have at least one cohesive trail network offering multiple classifications and trail types within a single uninterrupted area (for example, with no major road crossings).²⁸

A trail centre is a single site with dedicated visitor services and mountain bike facilities, provided by a single trail provider. It includes multiple signed and mapped trails of varying type and classification. A trail centre can be part of a trail town and incorporates a trail network. They are typically located close to major population centres or iconic locations.

Figure 3. Trail town characteristics



²⁸ Queensland Mountain Bike Strategy 2018

Overall, World Trail believes that Omeo presents an excellent opportunity for MTB trail development, fulfilling many of the criteria they look for when assessing a location's suitability for trail development including:

- Potential trailhead close to town and tourism services
- Potential trailhead located at the bottom of the trail network
- Interesting scenery and topography
- Open vegetation
- Suitable soils and good amount of rock
- Plenty of elevation.

World Trail also draws attention to Omeo's authenticity and charm. The town, its historic buildings, the surrounding mountains, the remote and rugged nature of the area and the stunning landscapes and scenery combine to create an unquantifiable and intangible ambience that World Trail believes will fit 'hand-in-glove' with MTB and create a unique and very desirable MTB destination.²⁹

All of the market segments described above also seek other complementary experiences in addition to MTB. Not only will Omeo need to provide a 'entire' experience, it will be important for Omeo as a destination to complement the broader regional experience.

In developing the economic assessment of the proposal in this business case, it is noted that there is likely to be a delay in time for the market to respond, and for investment to undertaken in the range of ancillary services required for Omeo to become a Trail Town – including the growth in suitable accommodation, and restaurants, bike servicing and transport options.

4.7 ECONOMIC VALUE OF MTB ELSEWHERE

In destinations where MTB has been well established for the last 20 years, such as North America and Europe, participation levels in mountain biking range between 4-6% of the nation's population. MTB events are a drawcard not only for the participants, but also supporters such as family and friends.

Blue Derby

Blue Derby in NE Tasmania is a study for the popularity of mountain biking and the successful implementation of a trail destination. The 80 kilometre trail network has been developed over a period of years with the first trails opened in 2015.

Over \$3.1 million has since been committed for the second stage. The trail network is reportedly attracting over 30,000 users a year and delivering of \$30 million of added economic activity to the State annually.

²⁹ Omeo & Mt Taylor MTB site report World Trail P.8

Otway Odyssey, Great Ocean Road, Victoria

An example of an event in Victoria known as the Otway Odyssey from 2010 demonstrates these benefits:

- An average of 2 extra people per competitor (not including the competitor, not including locals) accompany each participating rider. This resulted in an additional 3,422 people attending the event over the weekend.
- An average of 2 nights were spent in Forrest/Apollo Bay per competitor and support crew over the race weekend, resulting in 10,266 total bed nights for the weekend event.
- The average spend per bed night was \$70 per person/night. This resulted in a total spend of \$718,620 over the weekend.³⁰

Scotland

- Mountain biking contributed £105 million to the Scottish economy in 2015
- Aggregated annual turnover by companies assisted by the Mountain Bike Centre of Scotland has increased by £13.5 million, and products worth over £16 million to the Scottish economy have been created
- Mountain biking related events are significant economic contributors and they are having a positive impact in rural areas. The Fort William UCI World Championship event has grown from small beginnings: in 2017 it attracted over 23,000 spectators generating £3.5 million gross value add in the local economy.³¹

4.8 MTB INVESTMENT CRITERIA

World Trails, Dirt Art and Burton vary in their recommendations as to the length of the proposed mountain bike trails however they all recommend alignment in style and grade, with those markets showing the greatest current and future potential, notably gravity and sufficient levels of beginner and intermediate.

The investment criteria recommended in *Victoria's Trail Strategy 2014-24* have been considered to varying degrees in the Omeo MTB feasibility reviews and reports. They are provided below:

Table 8. Investment criteria

PRINCIPLE		GUIDANCE	
		EXPERIENCE	
Trail-user profile		• Define target markets and establish trail-user profile.	
Quality		• Provide a quality experience to meet the needs and expectations of the identified trail-user. • The extent to which the track meets standards appropriate to its classification such as the Australian Walking Track Grading System and the IMBA Australia Mountain Bike Trail Difficulty Rating System (see Appendix 2).	

³⁰ Mountain Bike Benefits Atherton Tablelands 2015

³¹ The Strategy for Scottish Mountain Biking 2019-2025: Leading European Mountain Biking

PRINCIPLE	GUIDANCE
	<ul style="list-style-type: none"> Consideration should extend to quality and type of trail infrastructure, natural or cultural landscape and its diversity, and associated services, such as tour guides, accommodation and retail opportunities.
Access	<ul style="list-style-type: none"> Provide a level of access appropriate to its identified trail-user. Consideration of the extent to which the trail is linked into trailhead nodes, key visitor sites or townships as appropriate. This may include trails that provide for commuting and connectivity, are located within or close to urban centres, connect with public transport or link towns.
Safety	<ul style="list-style-type: none"> Manage all potential safety issues, including flood and fire risk and consider emergency access. Potential safety issues may be managed by providing sufficient information to allow trail-users to make informed decisions.
BENEFITS	
Economic benefits	<ul style="list-style-type: none"> Demonstrate economic benefits, e.g. trails may generate tourism spend and provide direct/indirect economic benefits of local labour, purchasing of local services or materials.
Environment and heritage benefits	<ul style="list-style-type: none"> Demonstrate environment and heritage benefits, e.g. trails provide opportunities for the community/visitors to experience a natural and cultural environment and increase their environmental and cultural awareness and appreciation. Other benefits may include protecting the environment by focusing activities/visitation away from sensitive areas.
Social benefits	<ul style="list-style-type: none"> Demonstrate social benefits, e.g. trails provide an opportunity to develop and grow community provide and help people connect through community groups.
Sustainability	
Demand	<ul style="list-style-type: none"> Identify demand, e.g. does the trail fill a gap in the market, what is the point of difference or how is it unique?
Landowners and/or land managers	<ul style="list-style-type: none"> Consider the support of landowners, land managers, local councils and wider community.
Development costs	<ul style="list-style-type: none"> Identify resources to design and construct the trail.
Long-term commitment of resources	<ul style="list-style-type: none"> Identify resources to manager, maintain and promote the trail.
Natural and cultural values	<ul style="list-style-type: none"> Have minimal impact on the environment and manage natural and cultural values.
Planning requirements	<ul style="list-style-type: none"> Identify and address planning requirements, such as bushfire, landslip and erosion, flooding and native flora and fauna legislation.
Strategic imperative	<ul style="list-style-type: none"> Be supported by State, regional and local development plans.

SOURCE: VICTORIA'S TRAILS STRATEGY 2014–24 PAGE 16

5. Omeo Mountain Bike Destination

5.1 STRENGTHS OF OMEO AS A DESTINATION

Omeo has a number of primary strengths that will see the development of a national standard mountain bike destination have a strong likelihood of success. These elements include those already canvassed in this business case plus other specific strengths related to the design of the destination. They include:

- ✓ The terrain immediately above and to the north of Omeo that is well suited to mountain biking, particularly the targeted markets
- ✓ The location of Omeo on the Great Alpine Road and its proximity to Mount Hotham and Falls Creek alpine resorts
- ✓ The weather is mild and well suited to mountain biking and other outdoor adventure activities for approximately 6 to 9 months of the year
- ✓ The mountain bike trails have been professionally designed and will be professionally constructed using companies with a strong track record in trail design and construction ensuring the trails make the most of the terrain, as well as being built in a sustainable way that not only show cases the environment but also protects it
- ✓ The character of the township of Omeo providing the 'high country' feel and ambience provides a strong setting for the development of the trail network
- ✓ The community of Omeo and surrounds is generally in favour of the network and are keen to pursue economic and social success from its development
- ✓ The design of the trail network is being undertaken in a way that is appropriate to the markets that are being pursued. This includes predominantly intermediate (blue) trails with an appropriate number of green trails, and the more difficult 'black' trails that suit the more adventurous and skilled riders
- ✓ Shuttle services to the peak of the trail hub are well catered for including the use of public roads.

5.2 THE NETWORK AND DESIGN CRITERIA

The draft Master Plan³² currently in preparation provides the design criteria that are applicable to the site and to the trail development. The criteria have been developed in conjunction with the reports detailed in this business case including the Dirt Art Feasibility Report³³, and the Analysis of the Omeo Mountain Bike Project.³⁴ The design criteria are also informed by Australian Mountain Bike Trail Guidelines (Mountain Bike Australia 2019) and expertise from the combined project team.

Table 9 below provides the criteria as listed in the Draft Master Plan.

³² Omeo Mountain Bike Complex Master Plan; Preliminary design, opportunities and constraints report – August 2019. World Trail, Horizon Studios and Biosis.

³³ Omeo Mountain Bike Feasibility Report (Dirt Art 2017)

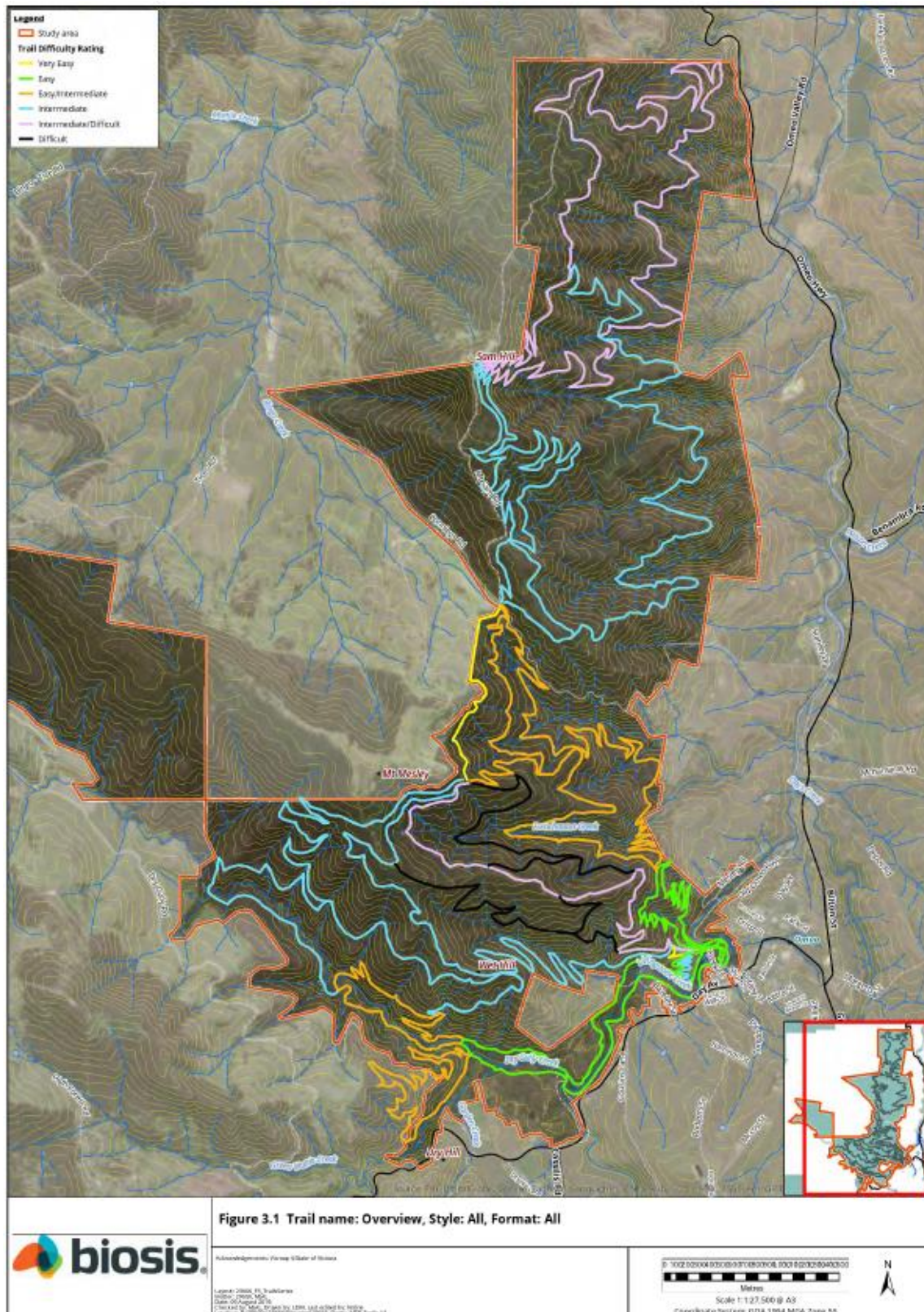
³⁴ Analysis of the Omeo Mountain Bike Project . Anthony Burton and Associates for the East Gippsland Shire Council. 2019

Table 9. Design criteria for the Omeo mountain bike destination (Source –Master Plan: Preliminary design, opportunities and constraints report – World Trail, Horizon Studios and Biosis, 2019)

CRITERIA	METRIC
Network characteristics	Easier routes linking attractions, views, heritage features and facilities, to encourage beginner and family use High quality natural surface single track with obstacles commensurate with the degree of difficulty Long distance adventure trails for extended trips, e.g. full of half day riding.
Target trail network length	80 to 120 kilometres
Target Degree of Difficulty	Trail network offering consisting of: White 5% Green 40% Blue 40% Black 15%
General trail character	A higher proportion of gravity ‘flow trails’ or easily accessible long predictable downhill runs All trails should incorporate a variety of features, presenting a variety of different obstacles or features than can entertain or challenge riders of all abilities Provide both ‘A’ and ‘B’ line options for all levels of ability to provide riders opportunity to progress their riding ability by taking on more difficult challenges when ready
Direction of travel	Single direction trails provide the safest and most enjoyable visitor experience, minimising head to head collisions and interactions with other riders Dual direction trails are acceptable where the conditions are suitable – i.e. trails are wide enough to allow passing side-by-side, with long sight lines to ensure riders see each other approaching and minimal gradients to ensure relatively slow speeds
Trail pattern and interaction	Trail network to follow a logical pattern and rotation direction with minimal cross-overs be ensuring all trails within a trail network follow the same direction (i.e. clockwise or anticlockwise), creating a network that is intuitive and easy to navigate and that minimises conflicts at intersections
Event ready	In addition to providing day to day recreational riding, the network must be ready to host competitive events This means having good event staging areas with the right types of trails, minimal conflict / cross-over zones, vehicle parking, access for emergency vehicles, spectator access and a flexible trail network offering maximum course configuration options Also important for the network to maintain non-event riding opportunities while an event is taking place
Minimise environmental impact	Trail alignments must avoid locations of high environmental value to be identified through desktop mapping and the detailed site assessment Use of best practice trail construction methods and techniques in accordance with MTBA guidelines to minimise the potential of impacts on the adjacent environment including native vegetation, threatened species, slope stability and waterways
Connection to place	Incorporate viewpoints and places of interest into the trail experience where possible including but not limited to: Oriental Claims Gambetta Battery Mount Sam Lookout Mount Mesley Livingstone Park
Accessibility	Trails should all be accessible either by connection from other trails (e.g. climbing trails) or via shuttle services (not walking) Explore options for adaptive rider accessible trails
Connectivity	All trails should connect either directly or via other trails back to Livingstone Park.

Figure 4 below shows the DRAFT Trail Master Plan and as outlined to meet the criteria in Table 9.

Figure 4. DRAFT Trail Master Plan



5.3 TRAIL HEAD

The trail head for the proposed mountain bike destination is Livingstone Park on the Livingstone Creek. The area is currently managed by Council and contains basic facilities that will need to be upgraded.

As outlined in the criteria in Table 9, the facilities of the network should include the car parking, toilets and amenities, and other facilities.

The trailhead fulfils a number of important functions:

- It provides the essential pre-ride needs of mountain bikers – water, toilets, information and car parking. In addition however, it should encourage positive social use of the site. Some visiting riders may be accompanied by non-riders who may want to wait at the trailhead, so the trailhead should be an enjoyable place to wait, which means considering additional infrastructure such as seating, shelters, landscaping etc.
- It is the starting and finishing point for all rides. As such it is the place where friends meet to begin their ride and where they socialise afterwards. It is also a location that can be signposted or advertised so that travelling mountain bikers can find it easily.
- It is the key information point about the trails. Trailhead signage must clearly provide all the information that is necessary for riders to plan their ride before leaving the trailhead, including distances and trail difficulty ratings for each trail.
- It should be a safe place to leave a vehicle while riding.

In 2013 World Trail surveyed approximately 1300 mountain bikers, asking what facilities and infrastructure should be present at a MTB trailhead. The responses are provided below, ranked in priority order:

1. Car parking (96.38% of respondents selected this option)
2. Maps (86.11% of respondents selected this option)
3. Toilets (80.98% of respondents selected this option)
4. Drinking water (72.14% of respondents selected this option)
5. Picnic tables (46.97% of respondents selected this option)
6. Shelter (45.03% of respondents selected this option)
7. Notice board (42.51% of respondents selected this option)
8. BBQ (32.74% of respondents selected this option)
9. Café (28.28% of respondents selected this option)
10. Bike wash facilities (16.75% of respondents selected this option)
11. Local business advertisements (16.50% of respondents selected this option)
12. Bike shop (14.81% of respondents selected this option)
13. Bike racks (12.04% of respondents selected this option)
14. Change room (7.24% of respondents selected this option)
15. Shower (5.05% of respondents selected this option)

Based on these results, items 1-4 could be considered 'essential', items 5-9 'preferred' and items 10-15 'optional'. These items have not been costed in the Concept Plan. An allowance for items 1 to 4 has been made in the economic assessment undertaken in later sections in this business case.

A master plan of the Livingston Park area should ideally be completed to ensure that the trail 'entrance' meets the standard of the world class trail offering being planned. Linkage to the town of Omeo centre and other trails including the Oriental Claims and the trail to the Caravan Park and Golf Course down the Livingstone Creek should also be factored in.

If necessary, land acquisition or leasing to ensure the space is available for the parking and trail head infrastructure may be necessary.

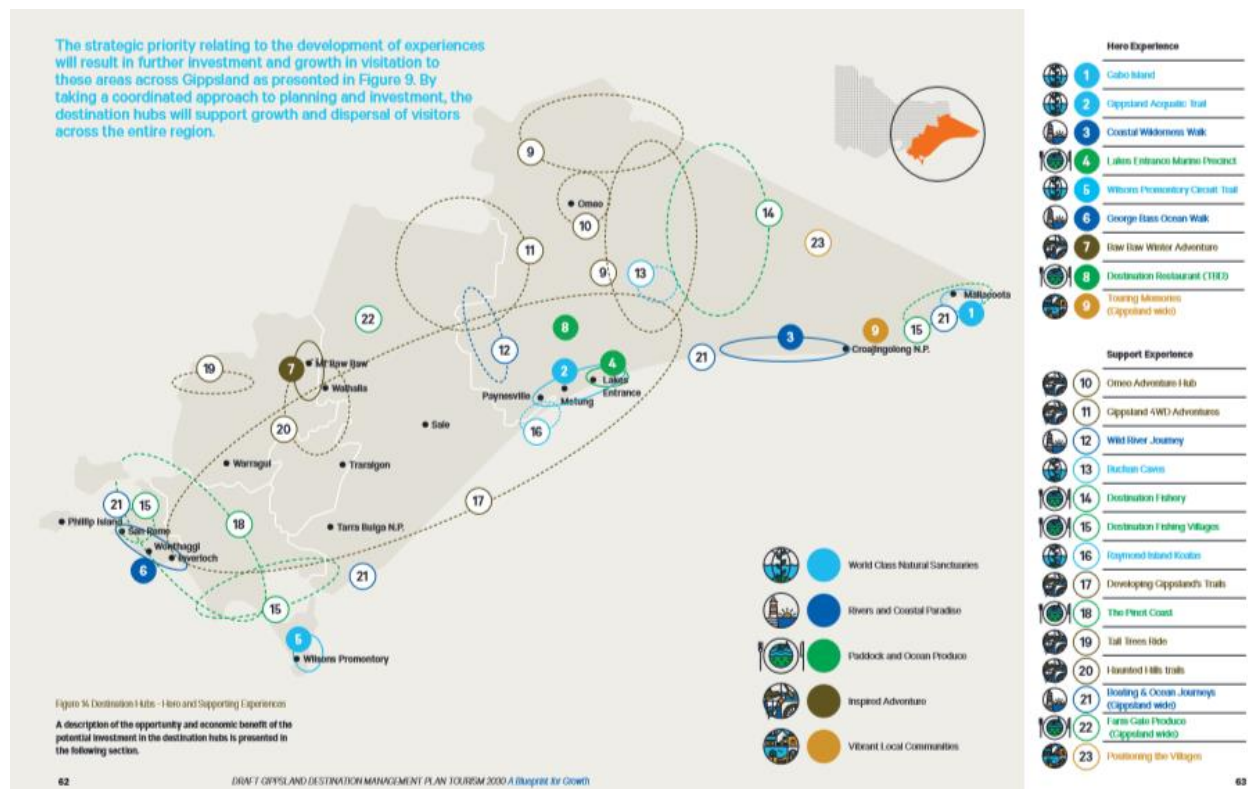
6. Planning and Strategy Alignment

A review and summary of relevant plans and strategies, with an indication of their support for the development of Omeo as a MTB destination is supplied in Appendix D.

The following sub-sections provide a summary of those plans and strategies that provide an ‘authorising environment’.

The Gippsland Destination Management Plan³⁵ draws attention to the strategic priority of a number of projects across the region and to their complementarity. Of particular importance to this business case is the listing of the Omeo Mountain Bike Destination as a Support Experience in the ‘Inspired Adventure’ category. This effectively puts the destination’s development in the top projects for Gippsland to be completed over the coming 10 year period.

Figure 5. Map of strategic priority projects for Gippsland (Source – Gippsland Destination Management Plan, 2019).



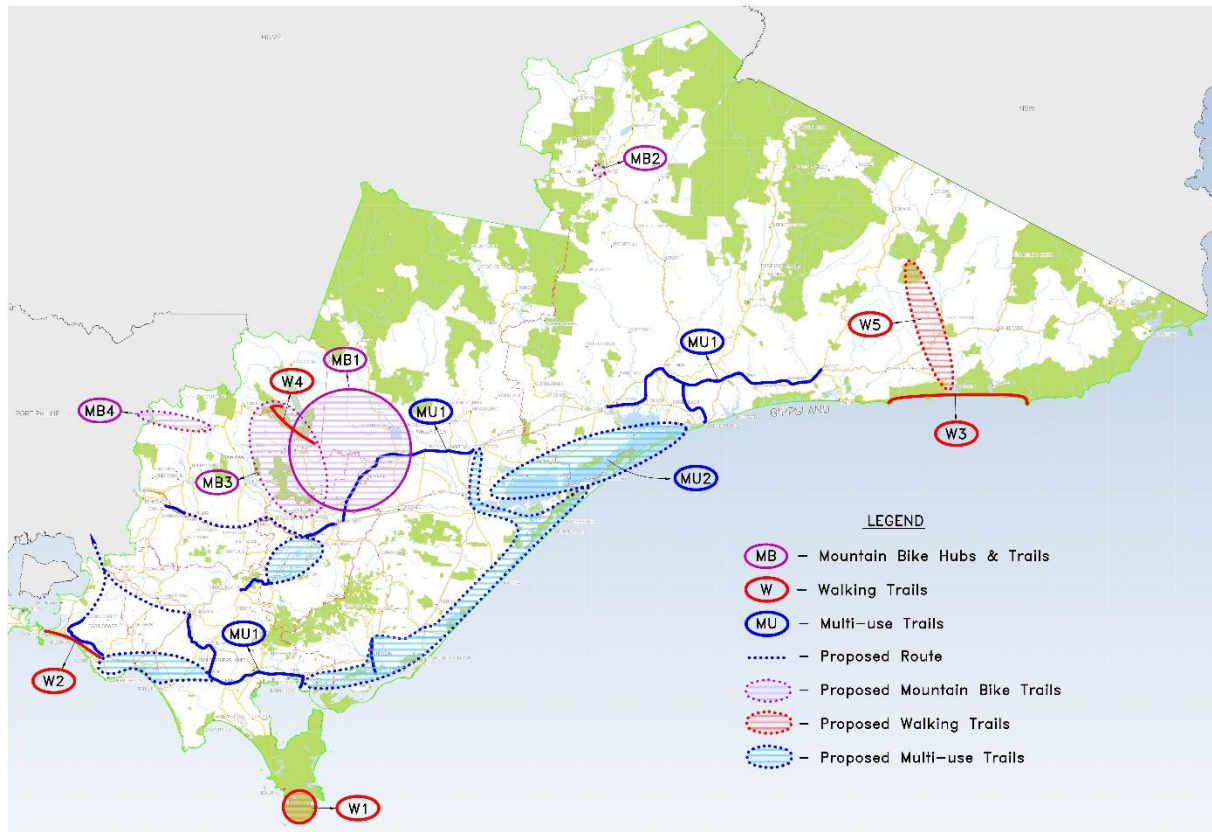
Supporting the Destination Management Plan is the **Gippsland Tracks and Trails Feasibility Study³⁶**. The study provided a range of recommended trail priorities to be completed over the coming 10 years for broader Gippsland. The Omeo Mountain Bike Destination features as one of 4 mountain bike proposals that are classified as ‘Signature Trails/Hubs’ for the broader Gippsland area representing the 6 local government areas including East Gippsland Shire Council.

³⁵ Gippsland Destination Management Plan. Destination Gippsland 2019.

³⁶ Gippsland Tracks and Trails Feasibility Study, 2019.

Figure 6 provides the map showing the Signature trails for Gippsland including the mountain bike hubs, the multi-use trail and walking/hiking trails that make up the Signature Trails (existing and proposed).

Figure 6. Map of the 'Signature Trails' for Gippsland. (Source; Gippsland Tracks and Trails Feasibility Study 2019)



East Gippsland Shire Council Plan 2013-2017 (Revised in 2016) provides for a range of strategic settings relevant to the Omeo mountain bike destination. The Omeo mountain bike destination is considered to be primarily an economic development project. Accordingly it sits within the plan under the following three goals:

1. Our business environment is adaptable and prosperous
2. Our economy provides opportunities for employment, learning and training, and
3. East Gippsland is the place to visit, live, work and invest.

Each has a series of strategies underneath them that provide objectives for delivering the goals.

7. Opportunities

The development of the proposed Omeo mountain bike destination will provide not only a purpose built mountain bike park, but opportunities to assist the transformation of Omeo into the high country adventure hub that the Gippsland Destination Management Plan³⁷ proposes.

That transformation will also put pressure on Omeo's existing services, community and the East Gippsland Shire Council.

The EGSC at the time of preparing this business case has a broad overarching project underway to consider the impacts and opportunities for Omeo and the surrounding region as a result of this proposal, as well as the Stockman Mine and other proposed developments.

This approach of thinking more broadly about the region and the suit of drivers is supported.

Activating the Omeo mountain bike destination will occur through strong governance (see Section 10), community ownership, marketing and a willingness to partner with other groups and pursue growth through non-traditional public land management approaches.

The following sections provide some elements of the activation possible.

7.1 MARKETING AND ADVERTISING OPTIONS

Marketing Omeo as a MTB destination must be based around an effective marketing strategy. That strategy is currently being developed by East Gippsland Marketing Inc (EGMi). The early draft contains strong elements around branding

Given the findings of recent research into online consumer behaviour, the marketing strategy will be heavily weighted to online channels, and in particular those channels with significant user generated content commentary. There is considerable evidence that contemporary consumers will be more influenced by experiences and content posted by their peers than by any official authority, such as a tourism board.

Information on the internet remains the most popular method of researching rides – where to ride, trail descriptions and videos provide more information to refine ride choices. The website which hosts the MTB information should include, as a minimum:

- Current status of trails (e.g. flooded, open/closed)
- Upcoming MTB events
- Local trail maps and descriptions. Well-designed maps with trail names and ratings need to be readily available and are invaluable for enhancing the experience
- MTB code of conduct
- Links to local MTB clubs and groups.

³⁷ Gippsland Destination Management Plan. 2019

Other marketing and advertising aspects to consider in an effective MTB marketing strategy are:

- Utilising existing apps or creating a regional app for MTB
- Social media marketing and awareness using hashtags
- Trail names that give identity – they should be fun and reflect local stories, culture or personalities
- The ambassador program.

7.2 SIGNAGE

Signage is a critical aspect of MTB development in terms of both wayfinding and communicating trail information. A comprehensive MTB signage strategy needs to be developed in line with other tourism and trails signage strategies, and very much brand aligned. This includes road signage, trail heads/orientation, way-finding/directional and interpretation signage sharing stories of the natural, cultural and historical features of the landscape. Branded signage is recommended.

Use of the IMBA Trail Difficulty Rating system is recommended.

7.3 EVENTS

Events are an important way of activating sites, growing the market presence of an area, and bringing as much economic activity as possible to an area.

Holding an annual and unique MTB event in Omeo will be an important element of the visitor spend required to make the network viable, and in promoting the area, the trails and the other businesses and services in the area.

Events are generally best held in typical 'shoulder' seasons (generally these include periods outside the main school holiday and travel periods that are referred to as high season) to generate activity when capacity might exist in accommodation stock. This is particularly important in Omeo where there is limited accommodation options, particularly in busier seasons.

A regional events calendar is a recommendation of the Gippsland Destination Management Plan. Working collaboratively with other areas and MTB destinations in Gippsland will see the market grow.

Events can take one of several forms and this business case recommends events as not only an important element in the economic driver for the destination, but in the awareness and marketing of the region.

Competitive events

This category of events is critical to get Omeo on the 'map' of IMBA (International Mountain Biking Association) and MTBA (Mountain Bike Australia).

Holding at least one competitive and fully sanctioned event will bring help drive the core mountain biking market as word soon gets out on the outstanding offering that Omeo promises.

Non Competitive Events

This category of events is likely to bring larger volumes of people. For example it could be an Omeo family ride event, or tied into other events including fancy dress rides and Easter egg rides. These types of events

are likely to keep interest in the destination and keep people visiting the area during the shoulder seasons when passing traffic may have dropped.

7.4 COMMERCIAL OPPORTUNITIES

A range of commercial opportunities are likely to evolve, and the market is best placed to determine the viability of those. The outcomes of the economic evaluation in Section 8 of this business case provide for a range of sectors in which job growth will occur during the operations phase of the trail destination, provided the assumptions on use are validated.

This table provides a range of commercial opportunities that exist and that will provide jobs aligned to the destination's growth and development.

Table 10. Commercial opportunities for MTB destinations

COMMERCIAL OPPORTUNITY	DELIVERY
Bike shops, and repairs	Especially important near trailheads. They may not sell a large number of bikes, but accessories, consumables and repairs are critical for visiting mountain bikers. The economic modelling shows considerable opportunity in this sector
Shuttle services	In areas with good vertical elevation and gravity trails, riders will happily pay for comfortable and reliable transport back to the top of the hill
Coffee	Bike riders of all disciplines love a good coffee shop. The closer to the trailhead, the better. Omeo has several café's but the opportunity for a café close to the trail head – aligned to cycling and adventure has strong potential
Bike hire	Most core mountain bikers are inclined to bring their own bikes, but there is still a market segment of non-core riders looking to hire good quality mountain bikes
Guided tours and mountain bike tuition	This opportunity doesn't have huge appeal for core mountain bikers, but it can be an excellent way for non-core mountain bikers to try the sport. Also a great way for large group activities, including school groups
Bike-friendly services	This can encompass a variety of businesses including accommodation, cafes/coffee shops and places for bike service and repair. The <i>Cyclists Welcome: How to engage with Tropical North Queensland's emerging cycle tourism market</i> is a good example of a program to educate small business owners and the community on welcoming cyclists and how to be bike-friendly
Accommodation	Mountain bikers cover a wide spectrum of incomes, and have wide ranging expectations for accommodation. Anyone that can cater towards cycling somehow in their accommodation offering will have a competitive advantage. This can be as simple as providing secure bike lock up facilities As the destination matures, and aligned to the provision of quality accommodation on the Great Alpine Road, the adventure offerings and the mountain bike destination, there is an opportunity for further motel/hotel/cabin development Like Blue Derby, these would ideally be aligned to the culture of the location and also provide modern, quirky and fit for purpose accommodation that is rider and bike friendly
Food and wine	There appears to be a growing overlap with boutique food and wine tourism segments. Breweries and wineries are popular with mountain bikers Opportunities may exist in this area and would be the subject of further feasibility assessment work

7.5 BUSINESS DEVELOPMENT INCENTIVES

Economic development as a general principle is a function that Councils perform and in the case of East Gippsland Shire, it is firmly on its agenda for Omeo.

Investing in remote and rural areas can be risky and 'de risking' that investment can encourage the growth of ancillary businesses which are vital to Omeo to reaching its potential as a thriving adventure hub based on the mountain bike destination.

Some options for Council and the State Government to pursue may include (and not be limited to) the following.

Rezoning of land

TRC understands through consultation that there may be a shortage of land zoned commercial and that is available for commercial development including for accommodation and restaurant and food and beverage. While rezoning land can be controversial, it may be a consideration to provide incentives for those wishing to invest.

Business Development Support

The placement of a business development person in Omeo at least for several days a week on a regular basis may help some entrepreneurs understand the opportunity that the mountain bike development will provide. The service may also be able to link people and businesses in the development of packaging, including Mount Hotham, Dinner Plain and Bright.

Review the function of the Council Building

The current Council offices include offices for Parks Victoria and the business service centre for East Gippsland Shire. It may be appropriate to review the functions of that building with the possible outcome of more commercial space being made available. This building is located in the main commercial hub of Omeo and would suit other functions such as retail, bike hire, food and beverage etc.

Supporting the provision of workers accommodation

For new businesses to invest in Omeo, many will need to employ people and some of the will come from out of town due to the limited number of people in Omeo and surrounds. Finding accommodation for workers can be difficult in a growing tourism town as many houses will likely find their way into the sharing economy.

Council may investigate ways in which reasonably priced workers accommodation may be able to be provided. This may include looking as far afield as Dinner Plain where the potential to utilise capacity in the summer period (winter being the peak for Dinner Plain) may exist.

Mentorship

Business mentors can provide a strong support base for investors and people starting businesses.

Mentors from non-competing MTB destinations may be able to assist Omeo maximise its opportunities and avoid potential pitfalls involved with rapid growth and experience development.

8. Economic Impact Assessment

This section of the business case provides an economic impact assessment of the proposed Omeo Trail development. The modelling is based on estimates of annual users of the trails and other assumptions utilised in quantifying spending in the region. The impact assessment is designed to be indicative of the potential regional benefits that could be generated by trail users.

For operations, several types of users are identified:

- locals/regional users (from Omeo and Alpine and East Gippsland LGAs)
- overnight visitors/users (who stay in the region)
- mountain bike events.

The economic impacts of the trails arise from spending by these users in locations adjacent to the trail and other spending in the broader region. Trail users from outside the region generate significant expenditure covering food and beverage, accommodation (for overnight stayers), and recreation and other services.

8.1 TRAIL USERS AND SPENDING

8.1.1 Trail Users and visitors

In estimating the number of trail users, a number of considerations have been made in determining the overall number of trail users. First and foremost is experience and comparison to like products, using estimates derived in the reports completed for the Omeo mountain bike destination. These reports include the Omeo Mountain Bike Feasibility Report (Dirt Art, 2018) and the Analysis of the Omeo Mountain Bike Project (Burton and Associates 2019).

The Burton report estimated between 12,000 and 18,000 additional visitors would use the trail provided the trail mix met the needs of the markets identified. The Draft Master Plan provides for the criteria and trail design to meet the market needs through the delivery of targeted trail mixes.

Accordingly TRC, and noting that the Blue Derby Trails are now receiving close to 30,000 trail users per annum (mature case), believes that 15,000 is a reasonable starting point for a base case to estimate the number of visitors to the region. While it may prove to be conservative over time, there are a number of elements that have to be completed to ensure that it is achievable and indeed conservative. These include the development of appropriate services including food and beverage and accommodation (to a suitable standard) and also the appropriate marketing and governance to allow the destination to reach its potential.

The assumptions used in the modelling of user numbers and spending patterns for the base case are outlined in the tables below:

- Local users are based on population estimates (Omeo and Swifts Creek) and the percentage involved in cycling (5%) and likely to use the trail. It is assumed that they are undertaking an average of 5 rides per year
- Regional users are based on the population of East Gippsland and Alpine Shire, and assumption that 3% would use the trail for an average of 2 rides per year

- Other trail users (overnight visitors) are based on 1.5% of total visitors in two categories – holiday and visiting friends and relatives. These estimated user numbers were allocated to three categories (adventure holiday, travel through and core mountain bikers). Each group has different durations of stay and average trail uses.

This analysis yields annual estimates of trail users by category and the number of rides on the trail.

Table 11. Assumptions used. Omeo mountain bike destination users.

Assumptions – Estimating Annual Trail Users	% Using Trail	Trail Users (no.)	Ave Rides (no.)	Trail Uses (no.)
Trail User Categories				
1. Locals				
Locals (Omeo & Swifts Creek) <Population 1389>	5% of population	69	5 per year	347
2. Day Visitors - Regional Trail Users				
East Gippsland Shire Population 2018 <46,818>	3% of population	1405	2 per year	2809
Alpine Shire Population 2018 <12,730>	3% of population	382	2 per year	764
Total Day Visitors		1786		3573
Total Locals & Regional Trail Users		1856		3920
3 .Overnight Visitors/Users				
East Gippsland LGA (TRA 2018) <Total Holiday & VFR = 595,000>	1.5% of visitors	8925		
Alpine LGA (TRA 2018) <Total Holiday & VFR = 595,000>	1.5% of visitors	5955		
Total Overnight Visitors/Users		14,880		
Visitor/User Categories				
Adventure Holiday (assumed 40% of overnight visitors – using trail)		5952	2 per visit	11,904
Travel Through (assumed 20% of overnight visitors – using trail)		2976	1 per visit	2976
Core MT Bikers (assumed 40% of overnight visitors – using trail)		5952	2 per visit	11,904
Total Overnight Visitors/Users		14,880		26,784
Total All Users (Locals/Regionals/Visitors)		16,736		30,704
4. Events				
Events: Assumes: 3 Events per year				
Year 1 : 150 participants each event		450	3 per event	1350
Year 2: 200 participants each event		600	3 per event	1800
Year 3-10: 300 participants each event		900	3 per event	2700

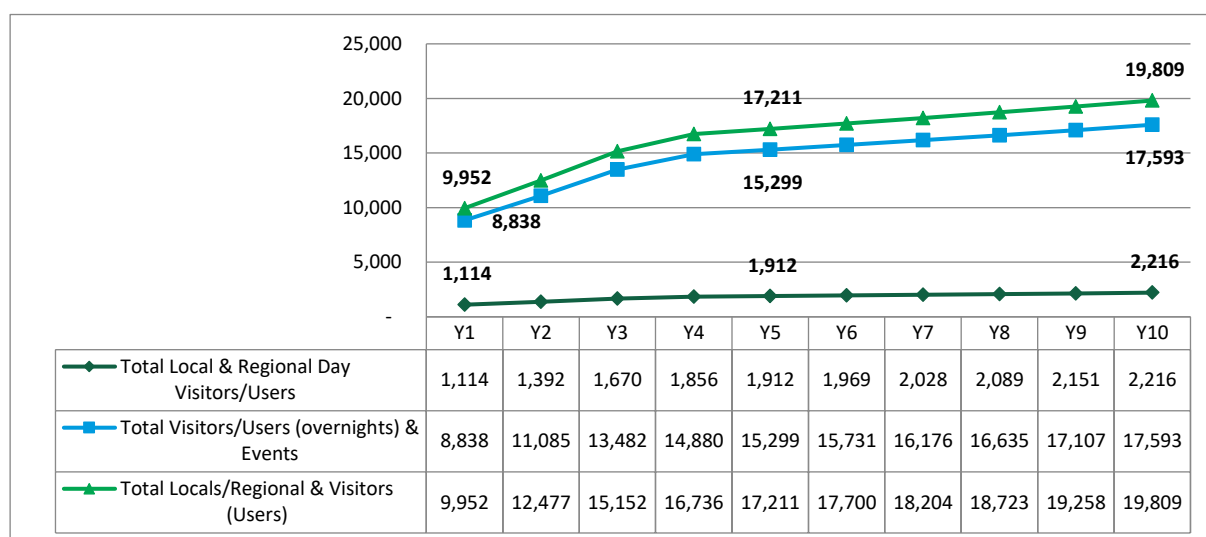
Source: MCa modelling and estimates, September 2019

The 10 year modelling was based on calculating a base estimate of trail users for year 4 and applying a percentage of this to the earlier years, reflecting the development of the trail and the attraction of users.

Year 4 assumes that the approximately 15,000 additional visitors has been reached, in addition to local and regional visitors. This assumes by year 4 that there is adequate accommodation and services.

For years 5-10 an annual growth rate of 3% was applied to all user categories. 3% is used as a conservative growth figure – it is noted that visitor numbers and nights increased at a higher rate in Victoria in 2018³⁸. The number of rides on the trail is based on the estimated number of rides per user category. This simply reflects a growth based on incremental use and population growth.

Figure 7. Estimated trail users for Omeo Mountain Bike Destination (Years 1-10 no.)



Source: MCA modelling and estimates, September 2019

Table 12 below provides the information on the total trail user profile across the 10 year period modelled in this business case, as well as the breakdown into user categories.

Table 12. Estimated trail users across all categories for year to 10

Omeo Trail	Years 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total Trail Users – Annual Riders	60%	75%	90%	100%	Growth 3% per year					
Locals/Regional Users										
Locals (Omeo & Swifts Creek)	42	52	63	69	72	74	76	78	81	83
Day Visitors - Regional Trail Users	1,072	1,340	1,608	1,786	1,840	1,895	1,952	2,011	2,071	2,133
Total Local & Regional Day Visitors/Users	1,114	1,392	1,670	1,856	1,912	1,969	2,028	2,089	2,151	2,216
Overnight Visitors /Users										
Adventure Holiday Visitors	3,571	4,464	5,357	5,952	6,131	6,314	6,504	6,699	6,900	7,107
Travel Through Visitors	1,786	2,232	2,678	2,976	3,065	3,157	3,252	3,350	3,450	3,553
Core MT Bikers Visitors	3,031	3,789	4,547	5,052	5,204	5,360	5,520	5,686	5,857	6,032
Event Participants	450	600	900	900	900	900	900	900	900	900
Total Visitors/Users (overnights) & Events	8,838	11,085	13,482	14,880	15,299	15,731	16,176	16,635	17,107	17,593
Total Locals/Regional & Visitors (Users)	9,952	12,477	15,152	16,736	17,211	17,700	18,204	18,723	19,258	19,809

Source: MCA modelling and estimates, September 2019

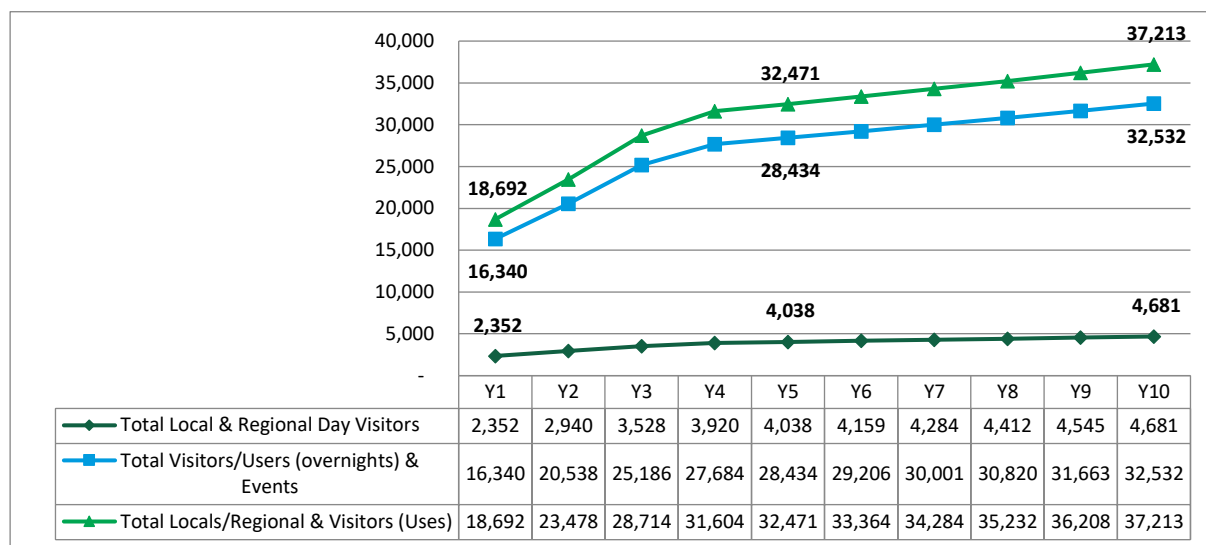
³⁸ TRA 2019. LGA Profiles Alpine and East Gippsland Council Areas.

When fully mature, under the assumptions used, close to 20,000 trail users will use the Omeo mountain bike destination per annum.

Growth to that number is assumed to be staggered over the first 4 years of trail operations as understanding of the product increases, and as the market responds with service provision including food and beverage and accommodation.

Figure 8 below transcribes the total users into trail uses. Over 37,000 trail uses will eventuate by year 10 based on the assumptions applied to the modelling.

Figure 8. Estimated trail uses for the Omeo Mountain Bike Destination (no. of rides)



Source: MCa modelling and estimates, September 2019

Applying the market types used for this business case (Section 4.3), the numbers of each category are shown in the Table 13.

Table 13. Estimated Trail Uses for the Omeo Mountain Bike Destination

Omeo Trail		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Ave. Rides					Growth 3% per year					
Total Trail Uses – Annual Rides											
Locals/Regional Uses											
Locals (Omeo & Swifts Creek)	5	208	260	313	347	358	368	379	391	403	415
Day Visitors - Regional Trail Users	2	2,144	2,680	3,216	3,573	3,680	3,790	3,904	4,021	4,142	4,266
Total Local & Regional Day Visitors/Users		2,352	2,940	3,528	3,920	4,038	4,159	4,284	4,412	4,545	4,681
Overnight Visitors /Uses											
Adventure Holiday Visitors	2	7,142	8,928	10,714	11,904	12,261	12,629	13,008	13,398	13,800	14,214
Travel Through Visitors	1	1,786	2,232	2,678	2,976	3,065	3,157	3,252	3,350	3,450	3,553
Core MT Bikers Visitors	2	6,062	7,578	9,094	10,104	10,407	10,719	11,041	11,372	11,713	12,065
Event Participants	3	1,350	1,800	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700
Total Visitors/Uses (overnights) & Events		16,340	20,538	25,186	27,684	28,434	29,206	30,001	30,820	31,663	32,532
Total Locals/Regional & Visitors (Uses)		18,692	23,478	28,714	31,604	32,471	33,364	34,284	35,232	36,208	37,213

Source: MCa modelling and estimates, September 2019. Note local/regional users = average rides per year; visitors = average rides per visit.

8.1.2 Spending in the Region

Spending in the region was estimated based on a range of information and the recent TRA Local Government Profiles for the 2 LGAs.³⁹

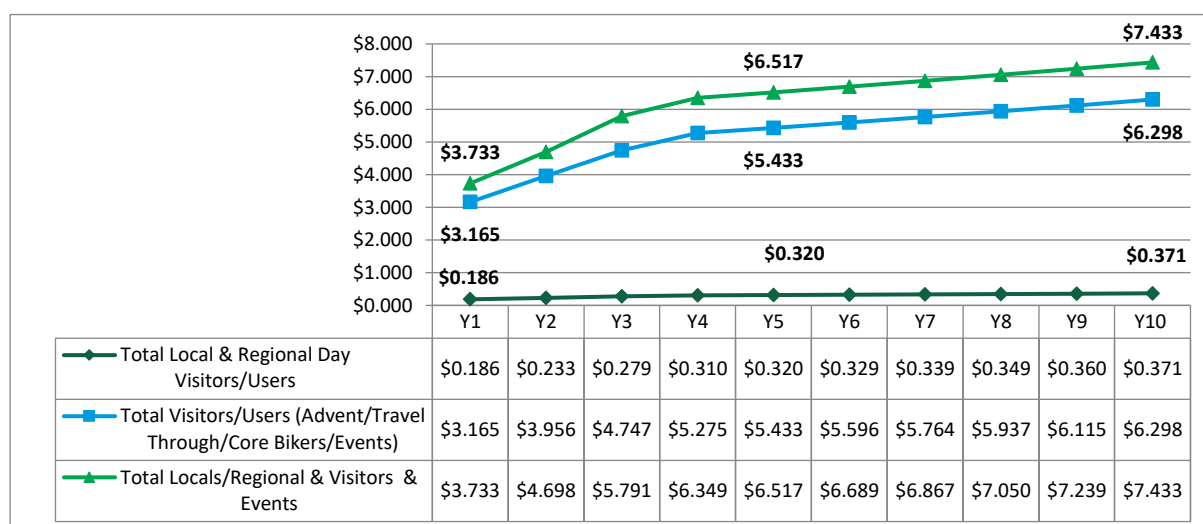
Table 14. Estimates and assumptions on spending by user category

Spending by Trail Users	Assumptions	
Local & Regional Users	Average Spend per Person/Ride	No rides/per year
Locals (Omeo & Swifts Creek)	\$40	5
Day Visitors - Regional Trail Users	\$83	2
Overnight Visitors/Users	Average Spend per Person/Night	Nights Stay
Adventure Holiday Visitors	\$171	3
Travel Through Visitors	\$171	1
Core MT Bikers Visitors	\$171	2
Event Participants	\$283	3

Sources: Locals – TRC estimate; Overnight Visitors – TRA data average for the 2 LGAs East Gippsland & Alpine, Event Participants - NVS data YE March 2018, (Table 1 - Sport Participating or Watching), TRA.

The combination of user numbers by type, average spending and average length of stay is used to estimate annual spending (in constant 2019 dollars) in the region by trail users. The following chart shows annual spending for each of the user types. Total spending increases from \$3.733 million in year 1 to \$7.433 million in year 10.

Figure 9. Estimated spending in the region by trail user type (\$million – constant \$2019).



Source: MCa modelling and estimates, September 2019

³⁹ Local Government Area Profiles, 2018, East Gippsland LGA; Tourism Research Australia ; Local Government Area Profiles, 2018, Alpine LGA, Tourism Research Australia

The following table (Table 15) shows estimates of spending by category for day visitors (local, regional and other users) and for overnight visitors (domestic and international).

Table 15. Spending by trail users in region years 1 – 10 (estimates)

Omeo Trail										
Trail Users' Spending - 10 Years	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Locals & Regional Users										
Locals (Omeo & Swifts Creek)	\$8,334	\$10,418	\$12,501	\$13,890	\$14,307	\$14,736	\$15,178	\$15,633	\$16,102	\$16,585
Day Visitors - Regional Trail Users	\$177,929	\$222,412	\$266,894	\$296,549	\$305,446	\$314,609	\$324,047	\$333,769	\$343,782	\$354,095
Total Local & Regional Day Visitors	\$186,263	\$232,829	\$279,395	\$310,439	\$319,752	\$329,345	\$339,225	\$349,402	\$359,884	\$370,680
Overnight Visitors										
Adventure Holiday Visitors	\$1,826,669	\$2,283,336	\$2,740,003	\$3,044,448	\$3,135,781	\$3,229,855	\$3,326,751	\$3,426,553	\$3,529,350	\$3,635,230
Travel Through Visitors	\$304,445	\$380,556	\$456,667	\$507,408	\$522,630	\$538,309	\$554,458	\$571,092	\$588,225	\$605,872
Core MT Bikers Visitors	\$1,033,639	\$1,292,049	\$1,550,459	\$1,722,732	\$1,774,414	\$1,827,646	\$1,882,476	\$1,938,950	\$1,997,119	\$2,057,032
Event Participants	\$382,050	\$509,400	\$764,100	\$764,100	\$764,100	\$764,100	\$764,100	\$764,100	\$764,100	\$764,100
Total All Overnight Visitors/Users	\$3,164,753	\$3,955,941	\$4,747,129	\$5,274,588	\$5,432,826	\$5,595,810	\$5,763,685	\$5,936,595	\$6,114,693	\$6,298,134
Total All Users <Locals/Regional, Overnight Visitors & Events>	\$3,733,066	\$4,698,170	\$5,790,624	\$6,349,127	\$6,516,678	\$6,689,255	\$6,867,010	\$7,050,097	\$7,238,677	\$7,432,914

Source: MCA modelling and estimates, September 2019

8.2 ECONOMIC IMPACTS OF THE PROPOSED OMEO MOUNTAIN BIKE DESTINATION

The economic impacts of the trail development are modelled for both the construction phase and the operations phase. The impacts are measured in terms of full time equivalent jobs (FTE) and the increase in regional income that is generated by trail users and their spending in the region.⁴⁰

8.2.1 Construction phase

A significant number of jobs and an increase in regional income will be generated during the construction phase of the project.

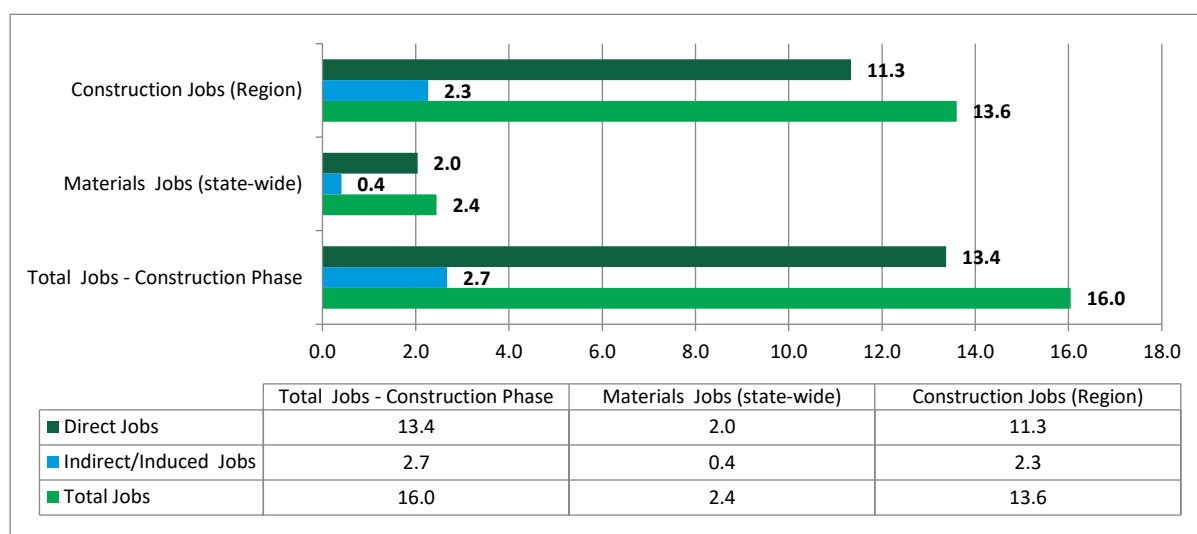
The estimated cost of the trail development and construction is \$3.405 million.

A total of 16.0 FTE jobs (13.4 direct jobs and 2.7 indirect/induced jobs) would be generated during the construction period. The direct jobs comprise 11.3 jobs in on-site construction and 2.0 jobs in materials/equipment supply. (Note differences due to rounding).

Figure 10 and Table shows the jobs created during the construction phase of the project.

⁴⁰ 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.

Figure 10. Construction phase jobs FTE (Full Time Equivalent) in construction phase (no.)



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

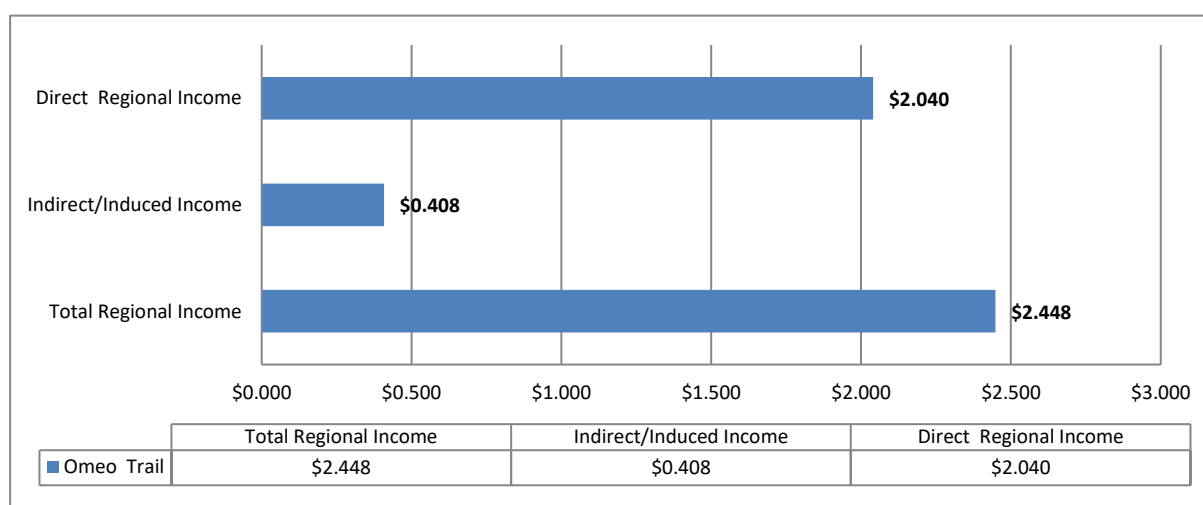
Table 16. Construction phase jobs – Omeo mountain bike destination FTE jobs created

Construction Phase FTE Jobs	Direct Jobs	Indirect/ Induced Jobs	Total Jobs
Construction Jobs (Region)	11.3	2.3	13.6
Materials Jobs (state-wide)	2.0	0.4	2.4
Total Jobs - Construction Phase	13.4	2.7	16.0

Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

The following chart shows the increase in regional income generated during the construction of the trail.⁴¹ During construction a total of \$2.448 million in regional income would be generated (\$2.040 million direct income and \$0.408 million indirect/induced).

Figure 11. Construction phase increase in regional income (\$m) – Omeo mountain bike destination



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

⁴¹ This assumes the construction workforce would come from the two LGAs.

Operations Phase

The operations phase economic impacts of the trail are driven by the expenditure of visitors/users in towns adjacent to the trail and in the broader region. A regional impact model is used to estimate the employment and income impacts of the trail. The model allocates spending across relevant industry sectors and takes account of the significant shares of the gross spending by visitors/users, which leaks out of the region.⁴²

Employment impacts

The charts below show the increase in regional jobs (annual) generated by each of the trail user/visitor groups. With the development of the trail, the ongoing growth in user numbers will support an increasing number of jobs in the region.

The operation of the trails has the potential to generate/support a total of 20.1 full time equivalent jobs in the region in year 1, increasing to 39.4 FTE jobs in Year 10.

Of these total jobs in year 10 – overnight visitors/users would account for 33.0 jobs, with locals and events accounting for the balance (6.5 jobs).

On a sector basis, the jobs (FTE-direct and indirect) generated by trail users are mainly concentrated in:

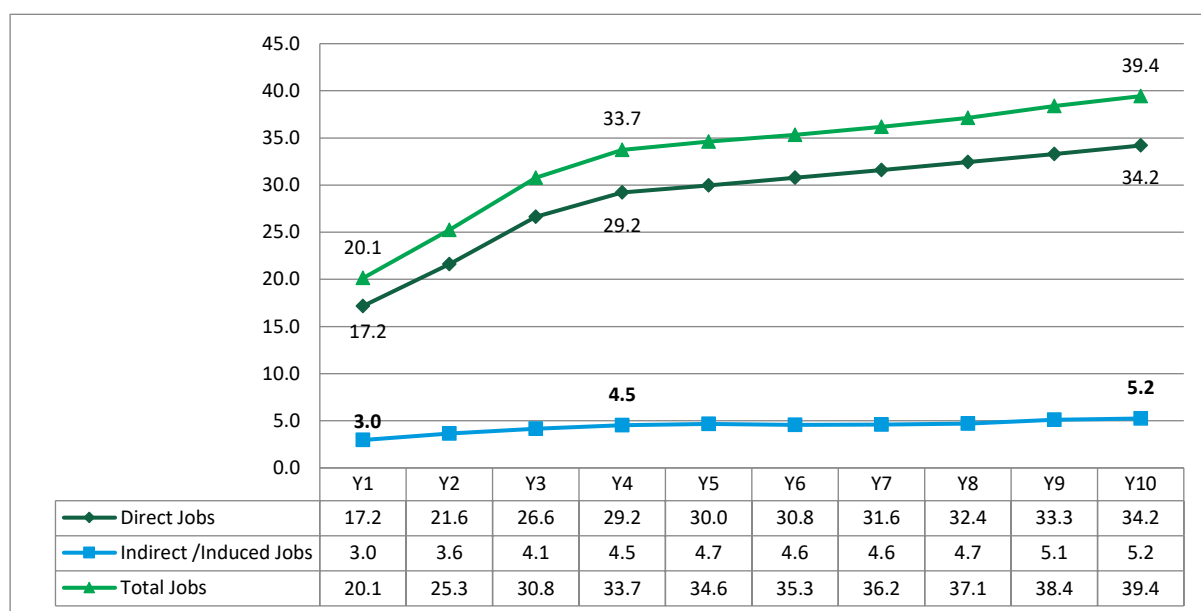
- Accommodation
- food and beverage
- recreational services and other visitor services (including bike hire and other related services)
- other retail.

The analysis shows the importance of attracting overnight visitors to the trail, as these users have a significant spend in the region.

The figure below provides the total jobs created by the operation of the Omeo mountain bike destination over 10 years.

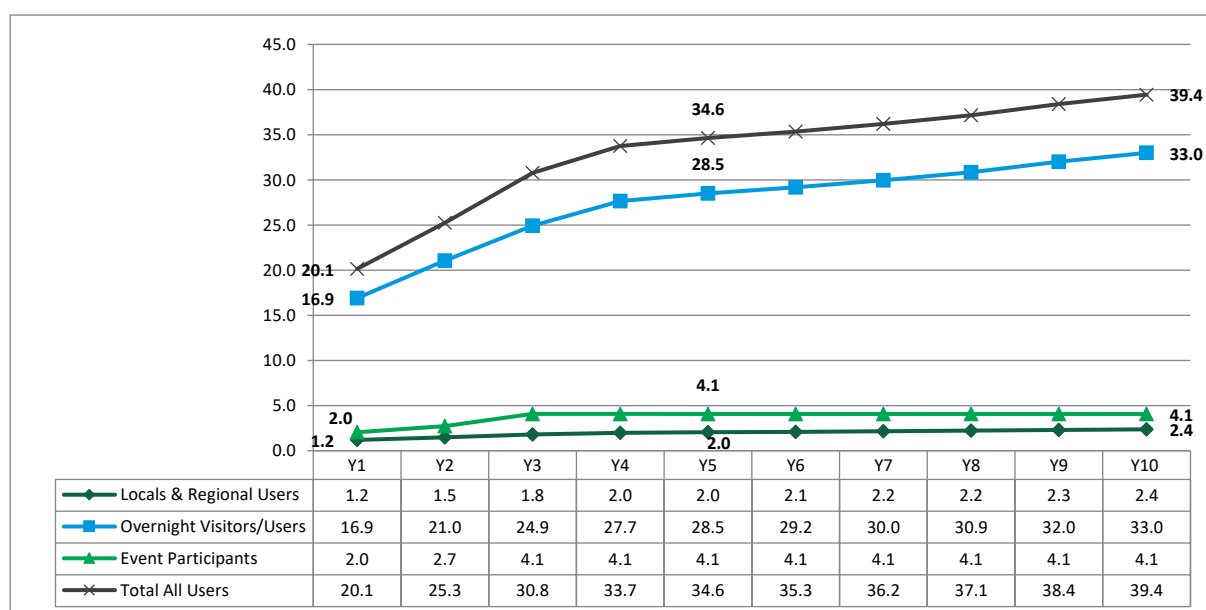
⁴² The spending by trail users is not the economic impact and does not represent the increase in regional income. There is a major leakage of this spending out of the region due to : the GST (10%); and a significant component of the value of services and products purchased by visitors comes from outside 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.

Figure 12. Total jobs generated by Omeo mountain bike destination operations (FTE No.)



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

Figure 13. Jobs generated by the Omeo mountain bike destination by trail user category years 1 – 10 (FTE No.)



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

The table below provides the jobs created by trail user category by year.

Table 17. Total jobs created by trail operations years 1-10 (FTE No.)

Operations: Jobs Generated by Trail Users/Visitors	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Locals & Regional Visitors/Users										
Direct Jobs	1.0	1.3	1.5	1.7	1.7	1.8	1.9	1.9	2.0	2.0
Indirect/Induced Jobs	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total Jobs	1.2	1.5	1.8	2.0	2.0	2.1	2.2	2.2	2.3	2.4
Overnight Visitors/Users										
Direct Jobs	14.4	18.0	21.6	24.0	24.7	25.5	26.3	27.0	27.9	28.7
Indirect/Induced Jobs	2.5	3.0	3.3	3.6	3.8	3.7	3.7	3.8	4.2	4.3
Total Jobs	16.9	21.0	24.9	27.7	28.5	29.2	30.0	30.9	32.0	33.0
Event Participants										
Direct Jobs	1.7	2.3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Indirect/Induced Jobs	0.3	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total Jobs	2.0	2.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Total All Users										
Direct Jobs	17.2	21.6	26.6	29.2	30.0	30.8	31.6	32.4	33.3	34.2
Indirect/Induced Jobs	3.0	3.6	4.1	4.5	4.7	4.6	4.6	4.7	5.1	5.2
Total Jobs	20.1	25.3	30.8	33.7	34.6	35.3	36.2	37.1	38.4	39.4

Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

The development of the trail has the potential to see the growth of local MTB service industry. The industry analysis highlights that total jobs generated by trail users will be in:

- recreation services/other services (e.g. bike hire, servicing, other visitor services) – 11.0 FTE jobs in year 10
- transport 4.9 jobs in year 10
- accommodation 9.5 jobs in year 10
- food and beverage 9.4 jobs in year 10.

Table 18. Jobs (No.) created by sector years 1 to 10. Omeo mountain bike destination

Total All Jobs	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Locals & Regional Visitors/Users										
Accommodation	0	0	0	0	0	0	0	0	0	0
Food & Beverage	0.3	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Recreation Services/Other Services	0.6	0.7	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2
Other Retail	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Communication	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.2	1.5	1.8	2.0	2.0	2.1	2.2	2.2	2.3	2.4

Total All Jobs	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Overnight Visitors/Users										
Accommodation	4.3	5.3	6.4	7.1	7.3	7.6	7.8	8.0	8.3	8.5
Food & Beverage	4.0	5.0	5.9	6.5	6.7	6.9	7.1	7.3	7.6	7.8
Recreation Services/Other Services	4.5	5.6	6.6	7.4	7.6	7.8	8.0	8.2	8.5	8.8
Other Retail	1.4	1.7	2.0	2.2	2.3	2.3	2.4	2.4	2.6	2.6
Health	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Transportation	2.1	2.7	3.1	3.5	3.6	3.7	3.8	3.9	4.0	4.1
Communication	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Education	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Miscellaneous Services	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Total	16.9	21.0	24.9	27.7	28.5	29.2	30.0	30.9	32.0	33.0
Events										
Accommodation	0.5	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Food & Beverage	0.5	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recreation Services/Other Services	0.5	0.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Other Retail	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Health	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Communication	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous Services	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	2.0	2.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Total Visitors/Users										
Accommodation	4.8	6.0	7.4	8.2	8.4	8.6	8.8	9.0	9.3	9.5
Food & Beverage	4.8	6.0	7.3	8.0	8.3	8.4	8.7	8.9	9.2	9.4
Recreation Services/Other Services	5.6	7.0	8.6	9.4	9.7	9.9	10.1	10.4	10.7	11.0
Other Retail	1.7	2.1	2.5	2.7	2.8	2.8	2.9	3.0	3.1	3.2
Health	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Transportation	2.5	3.2	3.8	4.2	4.3	4.4	4.5	4.6	4.8	4.9
Communication	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Education	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Miscellaneous Services	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total	20.1	25.3	30.8	33.7	34.6	35.3	36.2	37.1	38.4	39.4

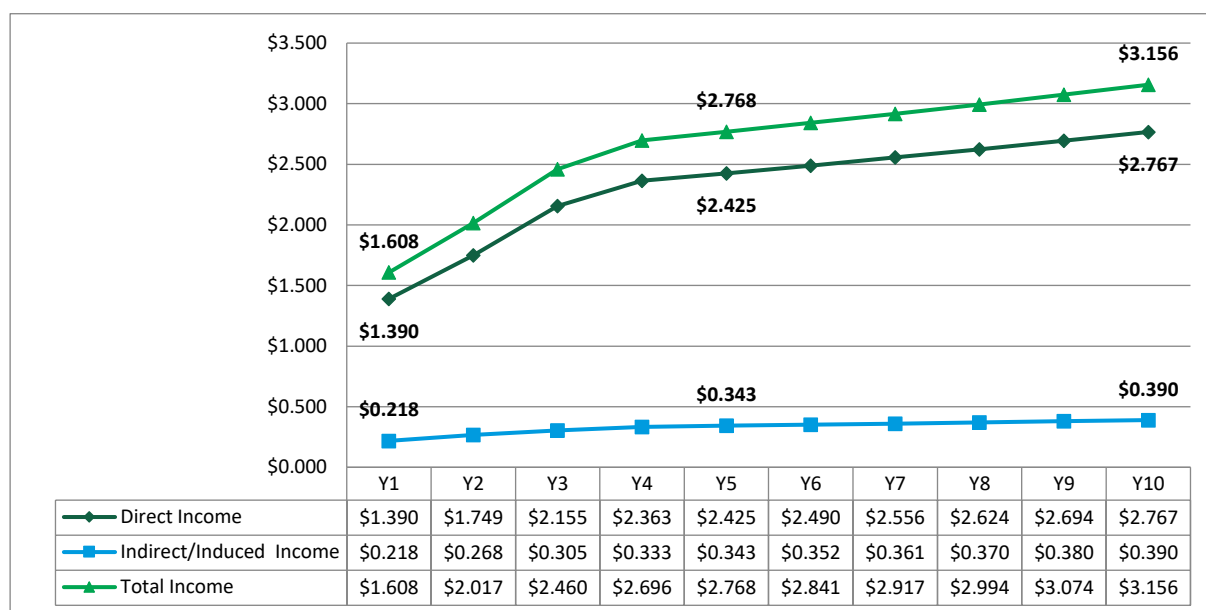
Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

Regional Income Impacts

The increase in regional income generated annually by the operation of the Omeo mountain bike destination and visitor/user spending totals \$1.608 million in year 1, increasing to \$3.156 million in year 10.⁴³

The major boost to regional income comes from overnight users/visitors with an increase of \$1.354 million in year 1 and \$2.650 million in year 10.

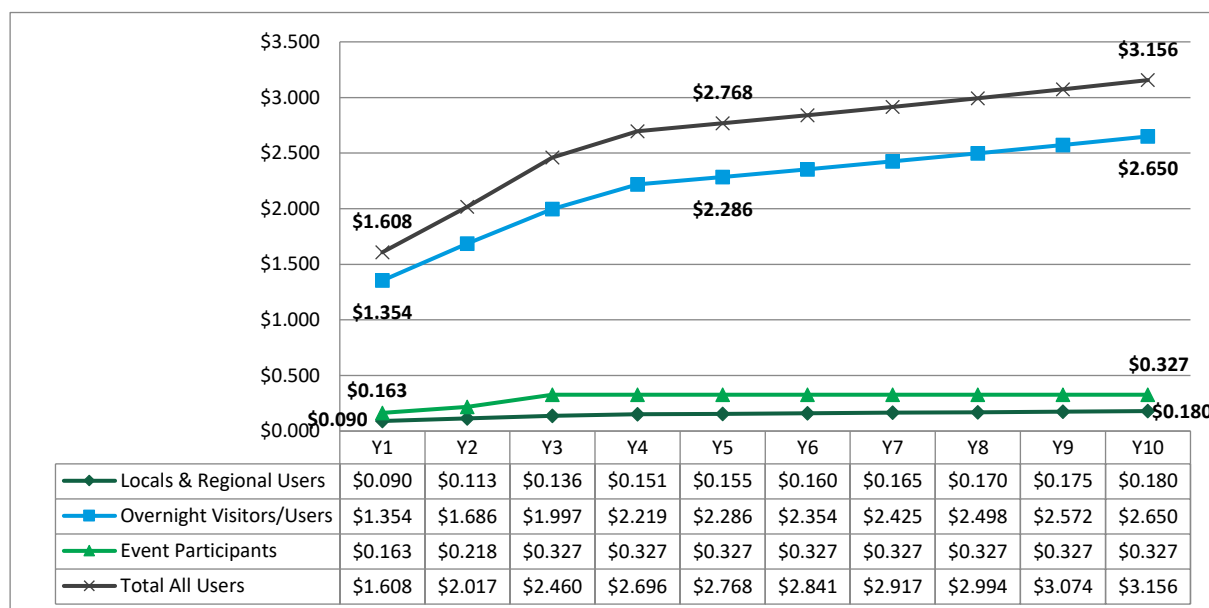
Figure 14. Increase in regional income from Omeo destination trail users (direct and indirect income \$m)



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

⁴³ 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.

Figure 15. Regional income generated from Omeo mountain bike destination (\$m) by user type (Constant \$2019)



Source: MCA modelling and estimates, September 2019. (Note some differences due to rounding.)

8.2 TRAIL BENEFITS AND COSTS

The benefits and costs of are analysed for a 10 year period.

8.2.2 Trail Costs

The estimated construction cost of the trail project is \$3.400 million, and the 10 year maintenance costs are \$1.020 million (assumed to be \$102,000 per year over 10 years), for a total 10 year project cost of \$4.420 million (in \$2019 prices) as shown in the Table below.

It is noted that trail maintenance in the high country is a critical element in keeping visitors coming to the area. Maintenance is discussed further in the risk section.

Table 19. Total Costs of the Omeo Trail Project – 10 years (\$2019 prices)

Summary	Trail Development <\$ 2019 Prices>
Construction Cost	
Trail Construction	\$3,400,000
Maintenance Costs	
Annual Maintenance Cost (3%) ⁴⁴	\$102,000
Total Maintenance (10 Years) (\$2019 prices)	\$1,020,000
Total Costs 10 Years	
Total Construction & Maintenance	\$4,420,000

Source: MCA modelling and estimates, September 2019. (Note some differences due to rounding.)

⁴⁴ Annual trail maintenance costs are estimated 3% of construction cost.

8.2.3 Trail Benefits

The measured benefits of the trail comprise the increase in regional income generated by trail user spending in the region over a 10 year period.

The increase in regional income generated by trail users spending over a 10 year period totals \$26.531 million (in constant \$2019 prices). The table below provides the data.

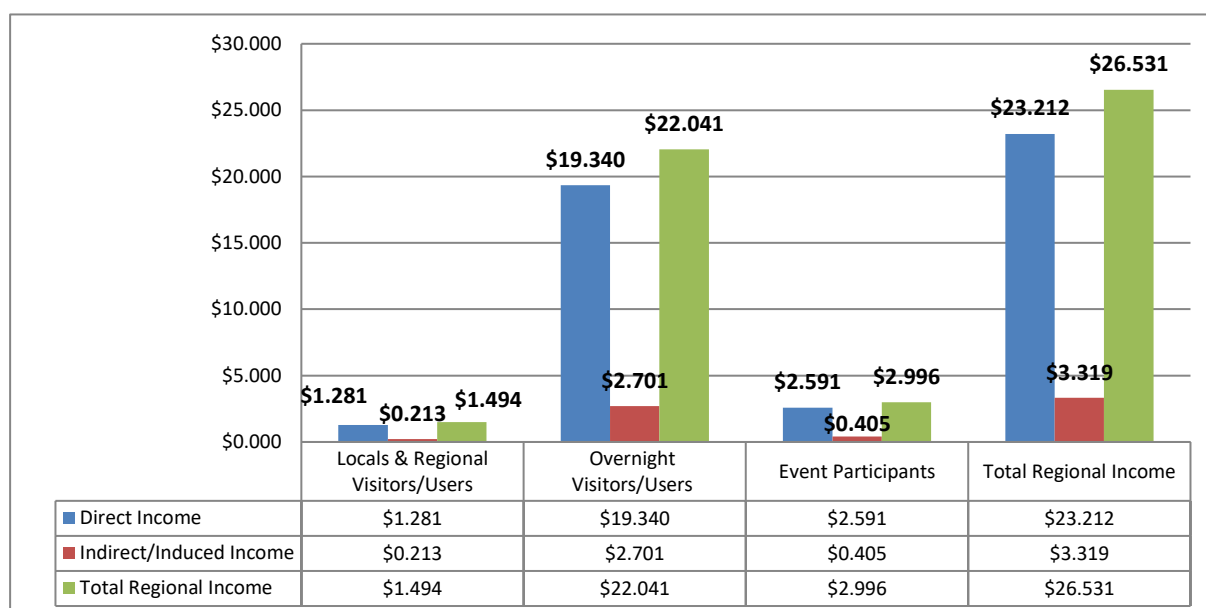
Table 20. Increase in regional income from the Omeo mountain bike destination development over a 10 year period in constant 2019 \$

Increase in Regional Income -10 Years	Locals & Regional Visitors/Users \$ million	Overnight Visitors/Users \$ million	Event Participants	Total Regional Income \$ million
Direct Income	\$1,281,168	\$19,339,909	\$2,590,872	\$23,211,948
Indirect/Induced Income	\$212,501	\$2,701,374	\$405,156	\$3,319,031
Total regional Income	\$1,493,669	\$22,041,282	\$2,996,028	\$26,530,979

Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

The data provided in the above table is shown in the following figure.

Figure 16. Increase in regional income from the Omeo mountain bike destination development (\$ m constant \$2019)



Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

8.3 COST BENEFIT ANALYSIS

The following table and chart show the benefits and costs of the operations of the trail and precinct over a 10 year period. The benefits are measured by the increase in regional income generated by trail users over a 10 year period. The costs include construction and asset maintenance costs. For the comparison, the present value of the benefits is calculated using 3 discount rates (4%, 7% and 10%).

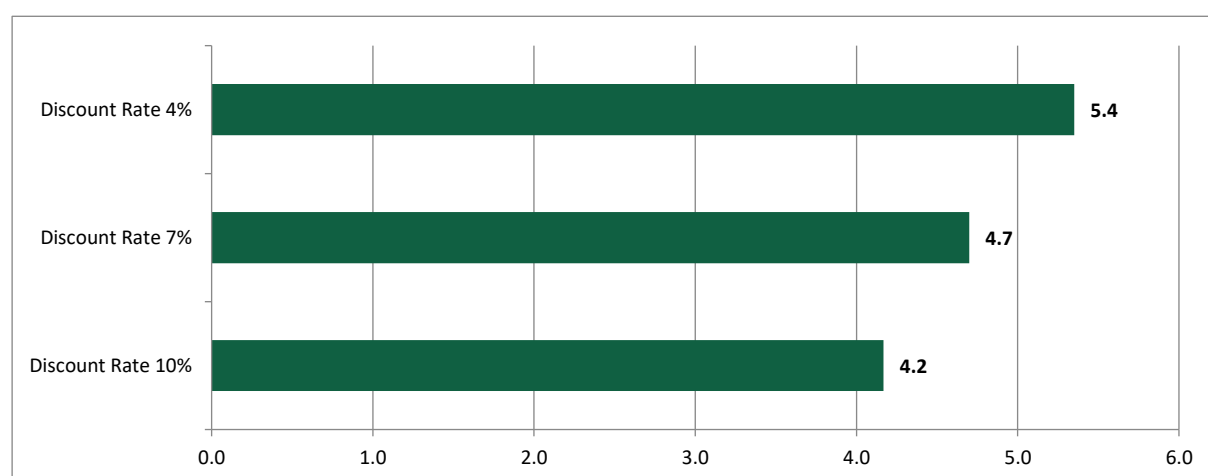
Table 21. Benefit and cost analysis – Omeo mountain bike destination – 10 year period (Constant \$2019)

Trail Development: 10 Year Operations Period	Discount Rate 4%	Discount Rate 7%	Discount Rate 10%
Costs (10 Years)			
Construction Costs (\$) (2019 prices)	\$3,400,000	\$3,400,000	\$3,400,000
Costs - Asset Maintenance (3% per year- 10 years)	\$1,020,000	\$1,020,000	\$1,020,000
Total Capital Costs	\$4,420,000	\$4,420,000	\$4,420,000
Benefits to Region (10 Years)			
Direct Benefits - users (assumes no trail fees)			
Regional Benefits (increase in regional income generated)	\$26,530,979	\$26,530,979	\$26,530,979
Health Benefits	\$2,040,052	\$2,040,052	\$2,040,052
Total Benefits (2019 Prices)	\$28,571,031	\$28,571,031	\$28,571,031
Total Benefits (\$) Present Value	\$23,651,224	\$20,775,106	\$18,423,299
Net Present Value (\$)	\$19,231,224	\$16,355,106	\$14,003,299
NPV/ Costs	4.4	3.7	3.2
Benefit Cost Ratio (BCR) <Total Benefits: Present Value/Total Capital Costs>	5.4	4.7	4.2

Source: MCa modelling and estimates, September 2019. (Note some differences due to rounding.)

The chart below compares Benefit Cost Ratios (BCR) for the 3 discount rates for the ten year period of operations. For this trail project, using a 7% discount rate the project yields a positive BCR of 4.7. The present value of total benefits (\$20.775 million) generated by the investment exceeds the total costs of the project (\$4.420 million) over a 10 year period by a factor of 4.7 times.

Figure 17. Benefit Cost Ration (BCR) for Omeo mountain bike destination development.



Source: MCa modelling and estimates, September 2019.

8.4 SENSITIVITY ANALYSIS

The major driver of the regional economic benefits of the trail is trail users who stay overnight and spend on accommodation and other services in the area.

To test the sensitivity of the analysis, 3 additional cases are examined based on a reduction in trail users who have an overnight stay.

The scenarios tested are reductions of overnight visitors/trail users of the base case by 10%, 20% and 30%. Further details are contained in Appendix E. These changes impact on the regional income generated by trail users and on the Benefit Cost Ratios (BCRs) for the project.

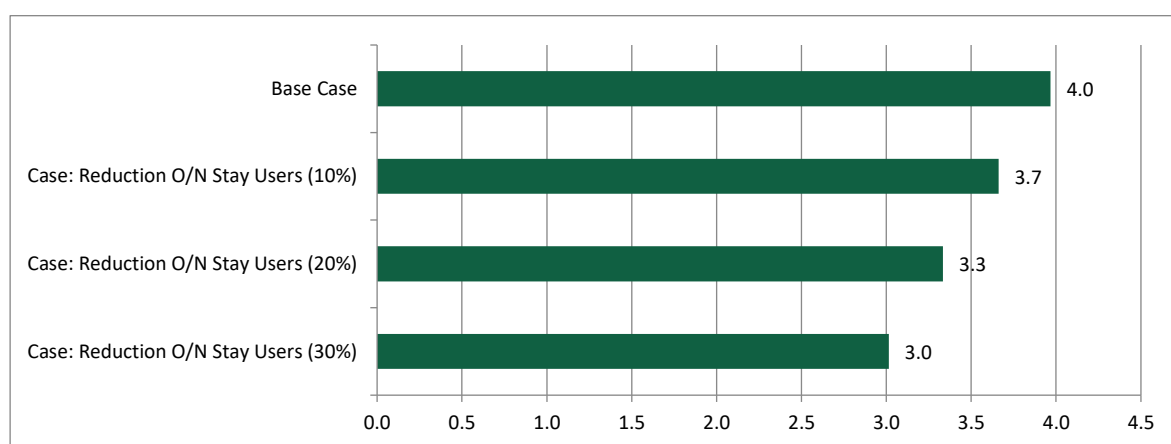
Even with a 30% reduction in trail users who stay overnight the project still delivers a BCR of 3.0 (for a 7% discount rate). The table and figure below show the difference scenarios and the respective BCRs.

Table 22. Benefit Cost Analysis – comparison of scenarios.

Comparison Benefit Cost Ratios	Base Case	Case: Reduction O/N Stay Users (10%)	Case: Reduction O/N Stay Users (20%)	Case: Reduction O/N Stay Users (30%)
Discount Rate 4%	4.5	4.2	3.8	3.4
Discount Rate 7%	4.0	3.7	3.3	3.0
Discount Rate 10 %	3.5	3.2	3.0	2.7

Source: MCa modelling and estimates, November 2019.

Figure 18. Chart of the comparison of BCRs – Discount rate of 7%



Source: MCa modelling and estimates, November 2019.

9. Planning and Environmental Approvals Overview

To construct a mountain bike destination of at least 114 kilometres of trail on public land across at least three differing land tenures is a considerable undertaking and one that needs careful design consideration, adaptability, and understanding of the regulatory and legislative framework in Victoria. While each element is designed to protect a particular value such as soil, flora or fauna, together they can be considered quite challenging to navigate.

East Gippsland Shire Council has engaged Biosis, together with World Trail and Horizon Studios to prepare a Master Plan for the proposed trail destination. The environmental and planning approvals associated with progressing the destination rest with the master plan contracted team.

The approach being used is to:

- Prepare a desktop review of the environmental values of the planning area, and determine the planning issues aligned to both Local and State Government policies and regulations
- Undertake a spatial data decision making tool to aid in design and avoiding the highest value areas
- Ground truthing and inspections.

Key inputs into the model⁴⁵ include:

- Hydrology
- Habitat
- Cultural heritage sensitivity
- Habitat importance models that represent rare or threatened species occurrence
- Strategic biodiversity value that assigns a relative importance score to all parts of the landscape.

The planning principle of avoidance and then minimisation is being used to plan and deal with disturbance to high value areas.

It is noted that the planning area covers three separate parcels of Crown Land, each with differing management overlays and potentially differing approvals processes and requirements:

- Oriental Claims Historic Area – a Crown Land Reserve managed by Parks Victoria
- State Forest including Mount Sam – Crown Land managed by the Department of Environment Land Water and Planning
- Reserved Crown Land management as Committee of Management by the East Gippsland Shire Council along Livingstone Creek.

Governance arrangements and possible models are discussed in Section 10 of this business case.

The DRAFT Master Plan provides advice on the approvals required and the current response noting in most cases, the response is draft and will be refined / altered once the master plan is finalised and the trail alignments have been ground truthed to minimise any impact on the values of the area.

⁴⁵ Omeo Mountain Bike Complex Master Plan: Preliminary design, opportunities and constraints report. August 2019.

The following table provides a list of approvals required and the response as at September 2019 from the DRAFT master plan⁴⁶.

Table 23. Approvals and issues required to be managed prior to construction (Source – DRAFT Master Plan)

THEME	OPPORTUNITY	CONSTRAINT	RESPONSE
Planning Permit	During the due diligence phase of the project there was consideration of accessing buildings, works and native vegetation removal exemptions in the East Gippsland Planning Scheme	It is unlikely that the Crown Land manager exemption in Clause 52.17 applies to this project as native vegetation is being removed for a development rather than for regular management of Crown Land	<p>The project team is progressing on the basis that a planning permit will be required</p> <p>Relevant information for a planning permit will be collected as part of preparing the master plan</p> <p>The planning application will be prepared as part of a future piece of work once the master plan is approved</p>
Vegetation Offsets	Adjacent freehold land could provide opportunities to achieve the project's offset requirements	<p>An offset analysis has been completed using a 2 metre wide trail footprint for the preliminary design</p> <p>The analysis indicates species offsets will be triggered</p>	The project team will provide EGSC with preliminary offset analysis results and progress discussions for developing an appropriate offset strategy
Cultural Heritage Management Plan (CHMP)	CHMP provides an opportunity to engage with RAP and traditional owners	The need for a complex assessment will not be known until after standard assessment fieldwork is completed in October 2019	CHMP process has been commenced and RAP / traditional owners have been contacted
Heritage Impact Statement	The Oriental Claims and Gambetta Battery sites have been identified as areas for trail improvement/development and Parks Victoria and local stakeholders have indicated support for low impact and sympathetic use of these areas	The level of impact on heritage values will be assessed based on the final trail design with the intention of avoiding impacts, where possible	Trail alignments in Oriental Claims and near Gambetta Battery will be marked out at trail set out stage in consultation with a Heritage Advisor and stakeholders

⁴⁶ DRAFT Master Plan, Omeo Mountain Bike Destination. Biosis 2019.

Additional areas for consideration that are likely to have to be addressed in the Master Plan include:

1. Fire and Emergency Provisions.

These are likely to include the need to consider fire management more broadly on the State Forest and Crown Land blocks. Emergency access provisions and fire road maintenance are likely to have to be addressed.

2. Alternative Forest Uses

Currently the Mt Sam State Forest area a variety of forest uses including deer hunting, motor bike riding, horse riding, grazing, and timber harvesting. Additional management activities including wild dog baiting and the provision of fire management services including the use of the Mount Sam Fire Lookout Tower are required to continue. The introduction of mountain bike trails will need to be managed so as not to disadvantage current forest users or the safety and enjoyment of bike riders.

3. Safety

The safety of other users of the area including walkers in the Oriental Clams area needs to be considered, especially if the trails are to be multi use in part.

10. Project Implementation, Governance and Ongoing Operational Management

10.1 GOVERNANCE

Strong governance is a fundamental underpinning of a successful tourism destination. This is particularly the case when working on public land across multiple tenures and when public funds are being used in the trail's development.

Land Tenure

The first step in understanding the governance models available to the proponent (Council) is to understand the land tenure and the legislation and regulations that provide for the planning area's management.

Figure 18 below provides the trail network and land tenure of the proposed mountain bike destination.

There are three main land tenures that the trail network is proposed to be located upon. In order of scale, they are described below.

The areas described as Mount Sam State Forest.

Generally this is regarded as unallocated Crown Land. Various provisions under the Lands Act (1958), and the Forests Act (1958) apply to its current management, as do the respective regulations under each of these Acts. Planning controls under the Planning and Environment Act (1987) also apply

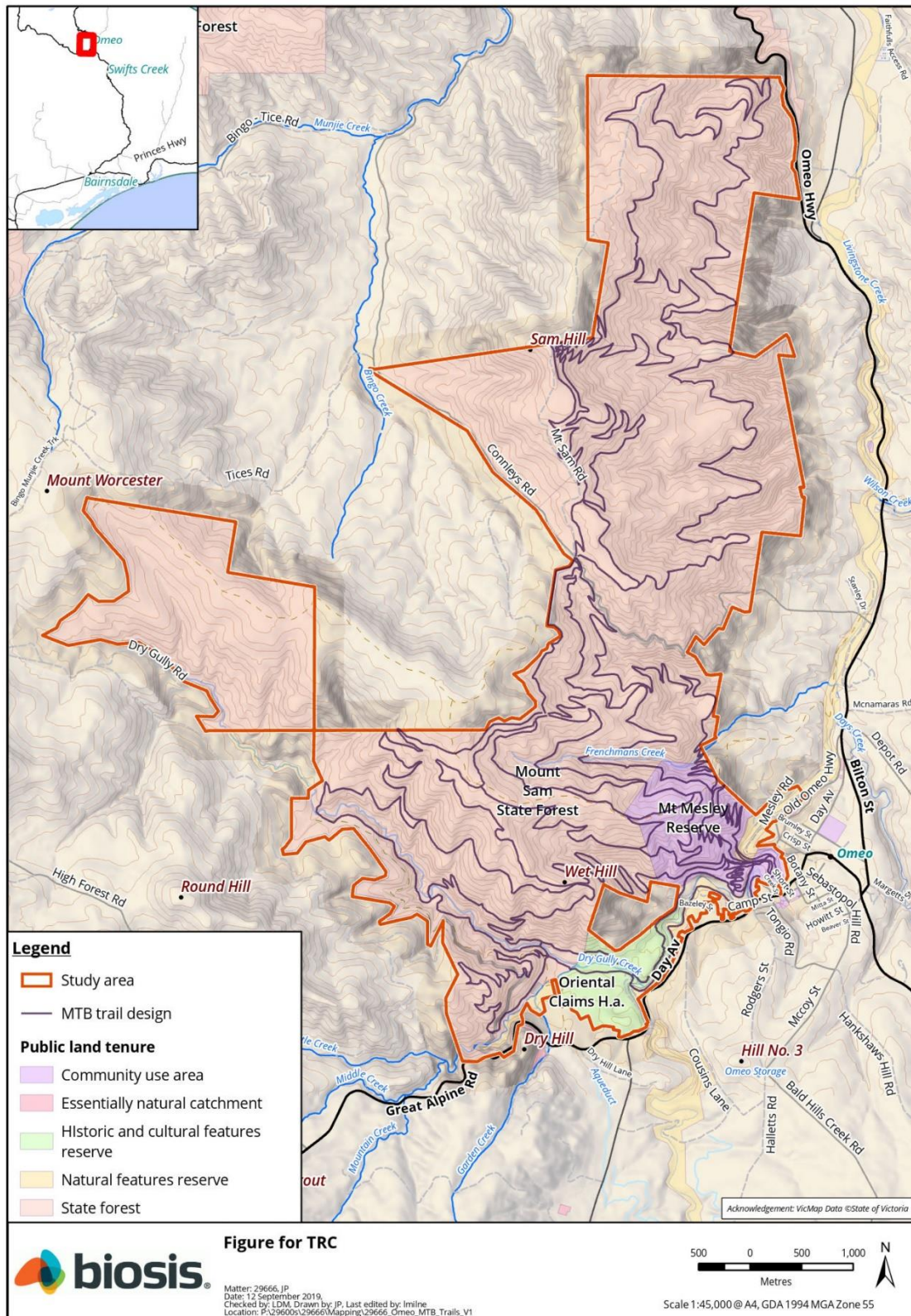
The area described as Mount Mesley Reserve.

This is generally managed as a Reserve under the Crown Lands (Reserves) Act. Currently the East Gippsland Shire are the land manager as a committee of management. The purpose is to provide for public recreation and open space.

The area described as Oriental Claims Historic Area

This area is also reserved under the Crown Lands Reserves Act (1978) and is currently managed by Parks Victoria for the purposes of preserving the historic heritage of the area and to ensure development does not adversely impact the heritage.

Figure 19. Land tenure and trail overlay from the Draft masterplan for the Omeo mountain bike destination.



(Source Biosis September 2019)

Governance Objectives

The objective for the proposed destination is to have one effective governance arrangement in place. Effective governance for trails destinations would include the following elements:

- Effective trail planning capability
- Clear coordination functions across the land tenures
- People and resources dedicated to management
- Adequate resources for trail operations
- Ongoing funding
- Stakeholder and community partnerships
- Supportive government environment
- Marketing, promotion and experience development skills
- The ability to monitor and evaluate the performance of the trail network against a range of performance measure including environmental.

Governance Options

The legislative framework applying to the proposed Omeo mountain bike destination, and in fact more broadly in Victoria, makes it difficult to provide a tailored solution to each proposed mountain bike destination.

A clear solution to Omeo has not emerged during the investigation phase of this business case, in part due to the underlying land tenure and the differences in the purpose of the reservation, and the different land managers.

The following options are discussed, and the likely pathway forward is discussed later in this section.

Single Agency Management

ATTRIBUTES	STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">• Ideally one of the existing agencies manages the entire complex.• The agency would need the capability and powers of the legislation and regulations to manage the destination.• Of the three agencies now managing parts of the planning area, EGSC is most likely the manager.	<ul style="list-style-type: none">• Puts all of the necessary skills and capability into one agency that can then make decisions to help make the destination succeed.• Easier decision making processes• Can establish, depending on the mechanisms by which the majority of the trail is managed, set fees and lease land etc.• Events etc can be essentially organised under one agency, albeit with some alternative arrangement for the Parks Vic managed Oriental Claims component.	<ul style="list-style-type: none">• The mechanism to get to a single agency manager of the destination is challenging with 2 main options emerging.• Parks Victoria manage the Oriental Claims and is considered unlikely to relinquish some of the reserve so alternative mechanisms for the single agency to manage the entire destination would need to be found for the Oriental Claims component (small but important component).• May need amendment to the act or regulations if a Forest Reserve is proposed under Section 50 of the Forests Act.

ATTRIBUTES	STRENGTHS	WEAKNESSES
	<ul style="list-style-type: none"> The EGSC as manager may be responsible for fire management and other land management functions on the land concerned. 	
<ul style="list-style-type: none"> A new or special purpose organisation that becomes the single agency manager. 	<ul style="list-style-type: none"> There are many strengths to this model, including the ability for it to set its own constitution and purpose directly related to the destination. Assuming the model is an incorporated Association, it must have 5 members, and these can be individuals or representatives of other organisations including the option of developing the Omeo Mountain Bike Club , and /or the Omeo Region Business and Tourism Association (ORBTA). 	<ul style="list-style-type: none"> This model is unlikely to be endorsed in the short term by either DLEPW or Parks Victoria as TRC understands that both organisations have concerns about representation on the Association, and exposure to risk of individuals. Without DELWP or Parks Victoria, this model should not be pursued.

MOU or Partnership

ATTRIBUTES	STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> Agencies responsible for the destination develop an MOU or similar to guide the development and operation of the destination. The agreement can be in the form of a non-binding MOU or more formal agreement that may include licensing provisions under various acts and regulations. 	<ul style="list-style-type: none"> Relatively easy to put in place once the organisations have determined their role and what the function of the MOU is. A lead agency can take a lead with the agreement of the participating partners on elements such as trail maintenance etc. Can be used as an initial step in the governance during construction and set up of the destination while the alternative options are negotiated and put in place. 	<ul style="list-style-type: none"> MOUs are generally non-binding agreements where parties agree to cooperate around a function or objective. The powers of the three agencies involved in the destination management remain with the agencies – and may result in duplication for things such as event permits etc.

Multiple Agency Management

ATTRIBUTES	STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Essentially this is the do nothing and leave the situation as it is option. • This involves each agency (East Gippsland Shire, Parks Victoria and DELWP) undertaking their existing roles on land they currently manage and keeping their existing powers. 	<ul style="list-style-type: none"> • This option is relatively easy to pursue as it leaves agencies in the position that they know and understand. 	<ul style="list-style-type: none"> • Significant duplication of effort around management of the destination. • No one single entity is accountable for the performance and development of the destination. • May lead to disagreements between agencies management based on differing priorities. • Does not provide a single point of contact for the community of users to work through development or other issues.

Recommended Model(s)

Development of this business case has continued to expose the complexities in Victorian legislation around the potential for governance entities to be developed to cater for multi tenure multi-agency management of recreation and in particular mountain biking.

It is understood that a review of the Crown Land Acts is underway within DELWP and the government has asked to consider a discussion paper that may lead to a bill before the conclusion of this term of government. This is welcomed and may prove to provide an answer that is better suited to this proposed development, particularly in light of the timeframes for this development and the review of the acts.

Based on the review and the lack of a clear preferred options, it is recommended that a multi-stage governance arrangement be developed.

Stage 1.

An MOU is developed between the East Gippsland Shire Council, the Department of Environment, Land Water and Planning (DELWP) and Parks Victoria on the development and management of the network. It is assumed that the EGSC will be the proponent and will take a lead role in construction and operation of the trail and that the MOU will reflect that.

This approach could take place relatively quickly and would also detail what powers can be shared, transferred or keep with the relevant agencies as it relates to the construction and operation of the destination.

The MOU would ideally prescribe that the partners transfer to a more formal arrangement over a period of a year or more. This provides all parties with the ability to work through in detail the best options for ongoing management of the network.

Stage 2

The development of a single agency (as far as it can go) management model. At this point in time, without knowing the mechanisms likely to be available in the potential new 'public land management act should it proceed, is likely to involve the EGSC becoming committee of management over the Mount Sam State Forest. It would also enter into a formal agreement with Parks Victoria for use of the trails in the Oriental Claims Historic Area.

There are 2 mechanisms available for the Committee of Management approach:

1. Reserve the Crown Land that is currently Mount Sam State Forest and then make the EGSC a committee of management under the Crown Lands Reserves Act. This involves developing a plan for gazettal purposes, obtaining approval and requesting the reservation be published in the government gazette. Regulations would need to be prepared and gazetted to allow for the management and collection of fees for use of the area.
The Shire could then take control of the lease for the Telstra equipment on Mount Sam and may consider other licences such as grazing.
2. Reserve the land under Section 50 of the Forests Act. This option requires the land to be formally reserved as a Forest Reserve and then a committee of management structure set up to manage it. The entity can charge fees and has powers to manage the land. To achieve this, an amendment to the Forest Recreation Regulations. The advantage this option has is that the Committee can include a range of people including Councillors and business-people with the skills to drive the destination forward

Option 1 and 2 should be explored to determine the best fit for the Omeo mountain bike destination, however both appear to be able to meet the objectives of a single agency manager, (with the exception of Parks Victoria). The Oriental Claims section of trail could potentially be reserved in one of the two options above ensuring the success of the single agency manager. This is ultimately a matter for government consideration.

Stage 3

While unknown, this evolution of the Committee of Management sees an incorporated Association developed and implemented. This stage is only available should the current concerns expressed by DELWP and Parks Victoria be overcome, resolved or a new legislative model be available.

The advantage of this model is that it can be commercial and involve to a greater degree the riding and business community, and raise funds through such elements as membership fees.

The following infographic shows the proposed progression of the mechanisms.

Figure 20. Potential sequencing of governance models for the Omeo mountain bike destination



10.2 PROJECT RISKS AND CONTROLS

This business case demonstrates the potential benefits the proposed MTB development could bring to Omeo. Coupled with understanding the benefits, it is also important the risks of the project are understood.

A table has been prepared showing some of the higher level risks and proposed treatments.

Table 24. Risks evident in the Omeo mountain bike destination

RISK	RATING	RESPONSE / TREATMENT PROPOSED
Only Part Funding is Received	High / Moderate	<p>Ensure the construction of the MTB trails to a high standard that make the network unique.</p> <p>Do not drop the standard of construction of support facilities. i.e. Reduce length of some loops. This leaves the intent and design of the network intact for the relevant markets.</p> <p>Further funding is applied for in outer years of the trail's development. The BCR is considered high enough that the destination is viable should costs increase or funding is not enough to complete the trail network initially.</p>
Fire or emergency	High	<p>Omeo sits in an environment where fire or winter conditions may interrupt visitors or reduce the amenity of the area. Careful thought to emergency management is important from a visitor amenity perspective.</p> <p>Fire may impact the area in a number of ways including devastating large scale fires such as 2003. Fire management may need to be reviewed given the investment in the MTB destination. This may include</p>

RISK	RATING	RESPONSE / TREATMENT PROPOSED
		increased prescribed burning and fire breaks. It is noted that these elements cannot eliminate the risk, but have been shown to reduce it in many areas.
Approval for one or more elements of the development is not forthcoming	High	<p>Should one or more elements of the approval process not be forthcoming, the project may be significantly delayed while the issues are resolved.</p> <p>The delays may result in delay of opening of all or part of the destination leaving some other investment stranded or delayed.</p>
The network is constructed but the visitor numbers are significantly below those forecast	Moderate	<p>The assumptions are thought to be conservative. EGSC will need to work hard and partner with Mountain Bike Australia and Destination Gippsland on promoting the unique attributes of the network. Events may need to play a greater role.</p> <p>Partnerships with NEVT and Mount Hotham Alpine Resort as well as Alpine Shire will be critical to wake a whole of 'High Country / Great Alpine Road' approach to the management and marketing of the trail destination.</p>
Trail maintenance is not sufficient or effective and the trail experience deteriorates	Moderate	<p>Trail maintenance is a critical component of the experience remaining high quality and attracting people to ride the destination.</p> <p>The model allows for East Gippsland Shire Council (EGSC) to manage the trails. EGSC will take a broader economic benefit into account when considering maintenance expenses that a single MTB destination operator.</p> <p>Professional design and construction may limit the annual maintenance costs due to the higher quality build.</p>
A significant event is not viable in the first year	Moderate	EGSC may need to underwrite the first event to get it off the ground. Strong partnerships are important in the event market. The event visitation forms relatively small part of the economic value but provides a significant component of 'market awareness'.
Business in Omeo does not respond to the opportunity	Low to Moderate	<p>Services such as bike hire will be important to the success of the network. As EGSC runs the Visitor Information Centre, it may need to take on some of the opportunities itself until business invests.</p> <p>The business case assumes the market has responded by year 4 in the provision of additional accommodation, food and beverage outlets, bike stores and other services such as more diverse adventure tour operations.</p>
Competitor pressure	Low	<p>New mountain bike products are coming onto the market regularly. Pressure from other new entrants drops the interest in visiting the Omeo precinct. Marketing of Omeo needs to carefully position the MTB experience as a unique offering.</p>

10.3 FUNDING MODELS

The governance model is not only important to the management of the destination, it is critical to the ability to generate funds and keep those funds for the purpose of the use of the reserve.

Assuming a committee of management under either act can be established, there are a range of funding options available to the entity. These include the following:

- **User fees** – potentially charging for the daily, or annual use of the trail network and facilities (where located on the land reserved)
- **Event fees** – depending on the powers transferred to the entity, these could be charged and retained (to be explored further)
- **Merchandise** – establishing merchandise and having rights to the brand and use of logos etc
- **Sponsorship fees** – potentially including sponsors for the trail network (acknowledging that government policy will apply)
- **Membership fees** – these may include corporate, organisational, individual and other types of fees
- **Lease fees** – for example the Telstra Towers would potentially transfer to the committee of management under stage 2 models, and the fees from the towers would be kept depending on the governance model applied.

Initially it is likely that the EGSC will have to underwrite the trail maintenance and establishment costs of the proposed development. This underwriting is likely to be a condition of approval for the land managers who generally do not have the funds available to manage or maintain large infrastructure such as this proposal.

10.4 ALLIANCES AND PARTNERSHIPS

The partners for developing Omeo as a MTB destination are:

- East Gippsland Shire Council
- Destination Gippsland
- Tourism North East
- Mount Hotham Aline Resort
- Visit Victoria
- East Gippsland Marketing Inc.
- Local tourism industry
- Department of Environment, Land, Water and Planning
- Parks Victoria
- Regional Development Victoria
- Omeo Region Business and Tourism Association
- Local MTB clubs (e.g. Gippsland MTB).

Depending on the alliance or partnership chosen, it may be necessary to develop a Memorandum of Understanding.

Local Government and industry leadership is required to grow local support and understanding of the flow on benefits of MTB for small business and communities.

Local MTB clubs build and importantly maintain trails, run a variety of events and supply volunteers. They are essential to the success of MTB in any region. Development of those clubs should be seen as part of making this a success. It is understood that Omeo MTB Club has been formed providing a strong start.

11. Conclusion

This business case provides an evidence base to support the development of the proposed Omeo MTB Destination.

The proposal aligns with relevant strategies and implements either strategic directions or actions in many local, regional and State-based tourism and trail plans.

The location of Omeo, while presenting some challenges, provides a point of difference. Careful positioning and marketing through partnerships with the regional tourism organisation will be critical. The opportunity to use Omeo as a bridge between the Tourism North East and the Destination Gippsland tourism regions also exists.

A relatively conservative approach to the economics shows that the trail development will create significant value to the Omeo and region community, and more broadly East Gippsland. With a benefit cost ratio of 4.7 (using a 7% discount rate), and creating close to 40 FTE jobs in 10 years, it would appear to be worth the investment and the risks.

Governance remains a challenge, not due to the goodwill of the agencies and people involved, but due to the legislative framework available. An approach is laid out here that requires further consideration and detailed analysis.

EGSC will need to lead the proposed development and assist in activating business opportunities, or provide them themselves, in several areas important to make the MTB destination a success.

Appendix A – Towards 2030 Gippsland Destination Management Plan: A Blueprint for Growth

The recently completed Destination Management Plan for Gippsland contains the following relevant data regarding the visitor economy:

- Greater Gippsland receives a 12.4% share of the regional Victorian market for visitors (International overnight, Domestic overnight and Domestic daytrip)
- Most visitors to the region are day trippers (60%), followed by domestic overnight visitors (39%). International visitors represent 1% of visitors to the region
- Most visitors to the region are from Victoria
- International visitors stay longer in the region three times longer in the region compared to domestic visitors
- Domestic overnight expenditure in Gippsland is estimated \$106 per night and \$296 per visitor
- Daytrip visitors spend an around \$89 on their trip
- International overnight expenditure is estimated at \$68 per night and \$562 per visit
- Most visitors to the region are over 55 and this market has experienced high growth over the past few years. When the 50-54 age group is added to the 55+ market, nearly half of Gippsland's market is represented by the over 50+ market
- Active families are an important market for the region especially in summer school holidays
- March is traditionally the high season with September and June being traditionally low seasons in the region
- Social activities, outdoor nature and active sports, dominate the reasons why people travel to the Greater Gippsland region
- Most visitors stay with friends and relatives while in the region.⁴⁷

⁴⁷ Sourced from: Travel to the Greater Gippsland region and its Sub-Regions - International Visitors Survey and National Visitors Survey, 2018 and Year Ending March 2019 TRA; Tourism's Economic Contribution to Great Gippsland in 2016-17

Appendix B – Omeo Local Government Area Profile



LOCAL GOVERNMENT AREA PROFILES, 2018*

EAST GIPPSLAND (S), VICTORIA

AREA POPULATION^A: 46,818



TOURISM BUSINESSES ^B	TOTAL
Non-employing	277
1 to 4 employees	211
5 to 19 employees	138
20 or more employees	32
Total	648

TOP INTERNATIONAL MARKETS

COUNTRY OF RESIDENCE	VISITORS ('000)	NIGHTS ('000)
United Kingdom	6	16
Germany	6	17
China	4	13

KEY TOURISM METRICS FOR EAST GIPPSLAND (S)

	INTERNATIONAL	DOMESTIC OVERNIGHT	DOMESTIC DAY	TOTAL
Visitors ('000)	39	700	490	1,229
Nights ('000)	174	2,162	-	2,336
Average stay (nights)	4	3	-	3
Spend (\$m)	9	234	46	289
Average spend per trip (\$)	241	335	93	235
Average spend per night (\$)	54	108	-	104
Average spend (commercial accommodation) per night (\$)	72	140	-	134

TOURISM STATISTICS FOR EAST GIPPSLAND (S)

VISITORS TO EAST GIPPSLAND (S)	INTERNATIONAL	DOMESTIC OVERNIGHT	DOMESTIC DAY	TOTAL
Reason (visitors '000)				
Holiday	35	432	223	690
Visiting friends or relatives	4	163	136	303
Business	np	63	np	np
Other	np	46	np	np
Travel party type (visitors '000)				
Unaccompanied	15	125	-	140
Couple	14	245	-	258
Family group	5	116	-	120
Friends/relatives travelling together	6	181	-	187
Accommodation (nights '000)				
Hotel or similar	23	431	-	454
Home of friend or relative	57	602	-	658
Commercial camping/caravan park	23	484	-	507
Backpacker	np	np	-	np
Other	69	644	-	713

KEY TOURISM METRICS FOR TOTAL AUSTRALIA, 2018[^]

Visitors ('000)	8,524	105,600	206,051	320,174
Percentage change	▲ 5	▲ 9	▲ 7	▲ 8
Nights ('000)	273,793	376,087	-	649,881
Percentage change	▲ 4	▲ 7	-	▲ 6
Average stay (nights)	32	4	-	6
Percentage change	■ -1	▼ -1	-	▼ -2
Spend (\$m)	43,918	72,705	22,526	139,150
Percentage change	▲ 7	▲ 13	▲ 10	▲ 11

KEY TOURISM METRICS FOR VICTORIA, 2018[^]

Visitors ('000)	3,039	25,687	53,916	82,642
Percentage change	▲ 5	▲ 5	▲ 6	▲ 6
Nights ('000)	72,872	73,873	-	146,745
Percentage change	▲ 11	▲ 5	-	▲ 8
Average stay (nights)	24	3	-	5
Percentage change	▲ 5	■ 0	-	▲ 3
Spend (\$m)	8,467	14,906	5,338	28,712
Percentage change	▲ 13	▲ 9	▲ 4	▲ 9

* Data is based on a four year average from 2015 to 2018.

np = the estimate is unreliable and cannot be published. - = not available.

[^] Data for 2018. Percentage change: compares previous year data.

Note: Data may not match totals due to rounding. For the purposes of confidentiality, Tourism Businesses data has been perturbed, therefore data may not match totals.

Sources:

Regional Population Growth - cat. no. 3218.0, ABS.

Counts of Australian Businesses - cat. no. 8165.0, ABS.

International Visitor Survey, Tourism Research Australia.

National Visitor Survey, Tourism Research Australia.

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Appendix C – Extract from Queensland Mountain Bike Strategy 2018 – Pg.11

TYPES OF MOUNTAIN BIKERS



LEISURE: THE GENERAL CYCLIST

Leisure riders are general cyclists of all ages and abilities and potentially represent the largest market. They ride infrequently, have limited skills and prefer very accessible routes close to home, or trail centres. They are likely to try mountain biking whilst on holidays.



ENTHUSIAST: THE RECREATIONAL RIDER

Enthusiasts are recreational mountain bikers with moderate skills and variable fitness, and ride weekly. They are the existing market majority, prefer trails with good trail signs and seek technical trails. They are most likely to take short breaks to different areas.



INCLUSIVE: THE ADAPTIVE MOUNTAIN BIKER

Mountain bikers with mobility challenges seek a variety of experiences and classifications. They require modified or specialised riding equipment to participate, such as hand cycles.



INDEPENDENT: THE ADVENTURER

Independent riders are skilled outdoor enthusiasts who ride once a week and are technically proficient with a good level of fitness. They are capable of planning their own rides and ride a very wide variety of trail classifications. Independent riders seek more remote trails, and adventure is more important than technical challenge.



GRAVITY: THE ADRENALINE SEEKER

Gravity riders are highly skilled technical riders who seek very challenging trails, ride at least once a week and are often members of clubs. They require purpose built trails often with an uplift facility, which are repeatedly used in a concentrated manner. They seek specific trails with the highest classifications.



SPORT: THE RACER

Sport riders are competitive mountain bikers, who ride regular routes multiple times a week. They are generally members of mountain bike clubs. They are willing to seek less accessible trails, have a high fitness level and are technically proficient.

Appendix D – SUMMARY OF RELEVANT STRATEGIES, PLANS and DOCUMENTS

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
East Gippsland Shire Council	Omeo Mountain Bike Feasibility Report - DirtArt 2018 (Summary)	<p>174.5km of new trail has been conceptually designed to provide experiences for all ability levels (including beginners) and maximise visitation and subsequent economic development opportunities. Dirt Art identifies potential for Omeo to be a leading mountain bike destination nationally attracting up to 60,000+ new annual visitors to the town and region, up to \$28,450,000 direct and indirect economic impact per annum with a return on investment of \$4.71 for every dollar in initial construction. Up to 15 FTE construction positions through the 2-3-year construction program with the potential for development of 6+ new businesses directly related to the project and 15 to 30 new employees directly supporting the industry. Ongoing 1-3 FTE trail maintenance positions and significant event potential.</p> <p>Based upon professional trail construction rates of \$30 - \$35 per lineal metre, the investment required is just over \$6 million.</p> <p>The design allows for maximum use of the site's significant available elevation, providing long-duration descents, long-format wilderness riding loops and a market-leading supply of high-quality beginner-friendly trail experiences.</p> <p>Identifies Livingstone Park as playing a key role. Excludes Oriental Claims and Dry Gully Gulch areas.</p> <p>Provides map of proposed trails.</p>	Key document with salient information around the conceptual design of new mountain bike trail. Positive outlook for feasibility of trail from a socio economic perspective.
East Gippsland Shire Council	Omeo Mountain Bike Feasibility Report - DirtArt 2018 (Full report)	Comprehensive report that provides significantly more detail than the summary report in its recommendations regarding the viability of an Omeo mountain bike network of trails and includes analysis of existing and future market and draws attention to the emergence of the E-bike – a power assisted bike fast gaining market share. The analysis considers plans for other MTB developments in the region and suggests key points of	Detailed sub-section reports to support feasibility of conceptual design of 175.4 km of new trail.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		difference around long duration wilderness rides, beginner friendly trails and all–mountain/enduro descents. Each of the proposed trails is identified by difficulty and length, using the topography, features and soil types as guides.	
East Gippsland Shire Council	Omeo Mountain Bike Trails: Cultural Heritage Due Diligence Assessment January 2018	<p>Under the requirements of the Aboriginal Heritage Act 2006 (the Act) and the Aboriginal Heritage Regulations 2007 (the Regulations), a Cultural Heritage Management Plan (CHMP) is mandatory.</p> <p>Advice is also offered to minimise the potential likelihood of infringement of the Act and Regulations. Under the Victorian Heritage Act 2017 and the Planning and Environmental Act 1987, there may be a requirement for a consent for disturbance from Heritage Victoria, and a Heritage Impact Statement (HIS) is recommended to assess the potential need for the preparation of a permit, or if the works are exempt.</p>	Details of requirements and recommendations for CHMP and HIS, with timing and cost implications for the project.
East Gippsland Shire Council	Omeo MTB Review - Anthony Burton and Associates 2019	Questions the visitor numbers and economic benefits (visitor spend, visitor stay) as identified by DirtArt in the Omeo Feasibility Report as too high. Also questions the likely local usage given demographic and population. Recommends reduced trail length and a mix of trails to appeal to all markets with great attention to family and easy trails. The importance of the 'whole' visitor experience, complementary to the MTB and given the distances to Omeo, is stressed.	Questions assumptions underpinning optimism regarding mountain bike trails in Omeo.
East Gippsland Shire Council	Omeo Mountain Bike Trails: Ecological Constraints Assessment - Biosis 2019	The assessment informs the final trail design by identifying ecological constraints and providing legislative context to trail development to avoid ecologically sensitive areas, minimise impacts and to be acceptable under biodiversity regulations that control land use and recreational development. Provides detail on land zoning, flora and fauna including threatened species of flora, fauna and ecological communities. Key legislation and policy requirements are provided along with native vegetation guidelines. Biosis	A number of significant obstacles in the permit and permission space to enable the project to proceed and potentially high native veg offset costs.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		estimate up to 20 hectares of native understorey vegetation will need to be removed, driving significant native vegetation offset requirements. The constraints assessment identifies a number of issues to address or permits to gain to gain approvals for the MTB project including: native vegetation removal permits and offsets required under Clause 52.17 of the East Gippsland Planning Scheme and Victoria's Guidelines for the removal, destruction or lopping of native vegetation, possible impacts on threatened species and ecological communities, especially Greater Glider, Matted Flax-lily, Leafy Greenhood and Clover Glycine and Box-Gum Grassy Woodlands listed under the EPBC Act, protected flora permits under the FFG Act required for any removal of protected flora on public land, trail siting to avoid steep slopes, bridge and crossing designs that minimise impacts on local waterways and Waterways permits under the Victorian Water Act 1989 required for stream and river crossings and disturbance to aquatic habitats.	
East Gippsland Shire Council	Omeo MTB Site Plans and aerial photography – EGSC 2019	A series of site plans and aerial photography to support planning for the project.	Resource.
Gippsland Local Government Network (GLGN)	Gippsland Tracks and Trails Feasibility Study Draft 2019	The Gippsland signature mountain bike experiences recommended in this draft study include developing Haunted Hills as a Central Gippsland MTB pillar, feasibility for the Epic Trail in Central Gippsland, Omeo MTB Hub Development and The Timber Trail including options for accommodation and servicing. The signature trails are to be supported by regional and local trails. Provides planning context for trails and identifies relevant legislation.	Focus on a number of locations in region may detract from Omeo as premier destination.
East Gippsland Shire Council	Omeo/Mt Taylor Site Visit Report	WorldTrail (WT) met with land managers Parks Victoria, DELWP and East Gippsland Shire Council, conducted a site visit and held a community forum. WT identified the most likely location for an Omeo mountain bike trail	Positive outlook for Omeo as suitable destination for MTB development (and

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
	December 2016	network commencing with a trailhead at the end of Creek Street, about 200m to the north of the main street, on a broad flat area beside Livingstone Creek and its swimming hole, with plenty of space for car parking and other visitor infrastructure and close to the centre of Omeo and its services and facilities. Identifies possible need for cultural heritage survey/management plan due to past gold diggings. WT identifies that Omeo meets its key criteria of potential trailhead close to town and tourism services and at the bottom of the trail network, with interesting scenery and topography, open vegetation, suitable soils and good amount of rock and plenty of elevation. It also has the intangible 'wow'.	moderate for Mt Taylor). Useful maps, location images. List of strengths and weaknesses. Recommends synergy with High Country.
East Gippsland Shire Council	Livingstone Park Management Plan Revision 2018	15 year vision for the park to provide passive and active recreational activities for Omeo residents and visitors. Provides detail around land management, responsibilities and future directions, natural and cultural heritage values and acknowledges the prospective mountain bike development with Livingstone Park as the hub. Details plans to improve access, facilities, walking tracks, parking, signage and pool.	Aligned with plans for Omeo mountain bike trails with Park as the hub. Maps of existing and proposed features.
East Gippsland Shire Council & Omeo Community	Omeo Region Community Plan 2012 - 2017	Outlines community and council aspirations for communities of Omeo, Benambra, Swifts Creek and Ensay. Identifies strategies to improve liveability, sustainability, productivity and governance. Objectives to support physical activity and attract visitors for economic outcomes are consistent with MTB development although it is not specifically referenced.	MTB not dealt with as part of Plan.
East Gippsland Shire Council	Advancing Cycle Tourism in East Gippsland – Marketing plan and asset analysis – TRC 2015	The plan aims to make East Gippsland a place of cycling significance nationally. East Gippsland is seen as having strengths in trails but not as significant as other destinations such as ride High Country. The plan provides details on the various trail components and a situational analysis of the markets. The plan provides an asset database of trails in the region. The main product strength is the Gippsland Rail Trail augmented by the Gippsland Lakes	Provides sound market assessment of East Gippsland

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		<p>Discovery Trail to Lakes Entrance (100 km and 25 km respectively).</p> <p>Mountain bike destinations include Colquhuon Mountain Bike Park, Mount Taylor and Nowa Nowa Mtn Bike parks. Not dedicated single track.</p> <p>Cycling events have been regional or local in nature.</p> <p>The plan gives a breakdown of the strengths, weaknesses, opportunities and threats of the region and the markets with their preferences.</p> <p>East Gippsland has positioning opportunities including tranquil and nature as core elements.</p>	
East Gippsland Shire Council	Cycle Tourism Action Plan 2012-2017	<p>The plan seeks to grow the cycle tourism market through a short and medium term set of actions under the following headings:</p> <ul style="list-style-type: none"> • Marketing – develop the brand and build consumer demand • Infrastructure – build infrastructure in key destinations and improve maintenance to sustain demand • Events – improve capacity of existing events and build new ones • Industry and Product Development – improve product gaps and industry capability • Partnerships and Packaging - Seeking to partner within region and externally and develop packages for the marketplace • Strategic Management <p>The vision is for: <i>‘In five years East Gippsland will be a recognised cycling destination in Gippsland and Victoria. This achievement will be realised by effective stakeholder collaboration for the benefit of the tourism industry and for East Gippsland’s economy and community as a whole.’</i></p>	Well structured. Consistent with development of Omeo mountain bike trails.
East Gippsland Shire Council	International Tourism Action Plan – 2016-18	<p>Seeks to grow the share of international visitors to East Gippsland – and particularly attract Asian visitors to fishing opportunities on the Lakes – despite the largest existing markets being traditional markets including the UK, USA, NZ and Germany.</p> <p>Considers the Bataluk Trail.</p>	Traditional markets may be more likely to be attracted by MTB than Asian.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
East Gippsland Shire Council	Trails Strategy Part 1 – Policy (July 2012)	<p>Like other Council trail strategies, this plan seeks to provide actions and strategies to improve physical health, social and recreational benefits, improve the environmental aspects around trails and increase economic returns.</p> <p>A range of strategic guidelines are included but many are general in nature such as ‘Council should encourage, foster support etc.</p> <p>Provides details on types of trails including; urban shared pathways, peri-urban walking and cycling tracks and bushland walking/mtn biking trails.</p>	MTB trails accessible to Omeo would have positive recreational outcomes for residents.
East Gippsland Shire Council	Trails Strategy Part 2 – Issues (July 2012)	<p>Includes a strong methodology for trail planning and development.</p> <p>Explores funding options for trails. A range of strategic guidelines are provided for trail design and planning for economic and tourism development including the provision of cycle and trail friendly infrastructure, business development, event attraction, a one stop website, etc.</p> <p>Guidelines are provided for route planning, including connectivity and trails. Management of user conflicts is considered including design guidelines, duplication, education and dogs. Risk management is considered and recommendations for signage.</p> <p>The use of IMBA guidelines are recommended as the construction standard for mountain bike trails.</p>	Relevance for integrated MTB trail development and management of user conflicts.
East Gippsland Shire	Trails Strategy Part 3 - Examples and Resources (July 2012)	<p>Provides a database and library of standards, examples and classification tools for managers of trails.</p> <p>The use of IMBA guidelines for Mountain Bike Trails is outlined.</p>	<p>Contains the classification standards for trails.</p> <p>IMBA guidelines are outlined.</p>
Parks Victoria	Harcourt Mountain Bike Park Proposal Scoping Study and Reference Framework 2014	Provides a matrix of comparative mountain bike park facilities in Australia and overseas.	Useful comparative data but fairly dated.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
	Appendix 1		
East Gippsland Shire Council	Economic Development Strategy 2014 - 2018	The five strategic directions are open for business, embracing opportunities, infrastructure development, innovation, leadership and partnerships and marketing It recognises nature as a strength and the potential to establish MTB tracks to capitalise on the North East Victoria's strength in this space.	Identifies MTB as a tourism opportunity.
East Gippsland Shire	Omeo Mountain Bike Feasibility Report Sept 2017	<p>A concept design for 174km of trails to help make Omeo a nationally significant mountain bike destination.</p> <p>Outlines the economic advantages of the mountain bike destination including employment generated in the order of 15 to 330 FTE annually.</p> <p>Follows the World Trail report and generally both are in full alignment other than scale and volume of trails and provides advice on facilities and services required to develop Omeo to a high and national standard.</p> <p>The vision for the site includes:</p> <ul style="list-style-type: none"> • High quality beginner friendly trails • Long distance descending trails • Large loop cross-country wilderness rides • High quality trails in close proximity to the township. 	Concept design provides economic benefit of mountain bike development.
DELWP	Central Gippsland Public Land Strategy 2018	<p>Designed to create a new future for Central Gippsland and provide a stimulus in the era of manufacturing and electricity disruption in the Latrobe Valley.</p> <p>Presents a folio of 58 projects aimed at providing a range of experiences and options for people.</p> <p>Aims to increase tourism related jobs by 2,600 to 7.5% - the Victorian regional average rate.</p> <p>References Tasmania taking a lead in seeking investment in private infrastructure and trails tourism and recommends Gippsland has the core ingredients to do similar.</p> <p>Recommends 2 hero products – Walhalla/Baw Baw and Wilsons Prom in the study area.</p>	Omeo mountain bike is considered as an option and listed as proposed. Hero products Walhalla/Baw Baw & Wilsons Prom.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		<p>Indicates that the Australian Alps Walking Track has eroded and is now a sub-par experience.</p> <p>The main projects do not generally include trail based projects – but will add to the appeal of visitors and increase trail use – therefore trails need to be considered as part of the infrastructure to help bring and keep people.</p> <p>Mtn Bike options include:</p> <ul style="list-style-type: none"> • Haunted Hills (greenfield) • Blores Hill (existing with room for expansion) • Mt Baw Baw • Omeo (Proposed) • Kilcunda (concept Only) • References the GLGN study into rail improvements and recommends VLine improvements to rail services for cyclists • Walhalla to Latrobe Valley (concept only) • Great Southern Rail Trail. 	
Destination Gippsland	Brand Gippsland – Brand Framework – Dec 2017	<p>Notes that nature might be a bit hard for some markets for Gippsland – untamed and difficult to access – hard core.</p> <p>Heroes are not attached to brand Gippsland. Describes a range of core competencies including walking and cycling. Focus on nature and adventure – all trail linked.</p>	Nature & adventure fits for Omeo MTB. Access an issue.
Destination Gippsland	Destination Management Plan 2019	<p>Visitor projections indicate that Gippsland could receive between 7.5 million and 8 million visitors by 2030 from the current base of 7 million visitors. This equates to 110,000 additional visitors per annum under an average growth scenario and 160,000 visitor per annum under an accelerated growth scenario. Domestic overnight visitors spend an average of \$110 per night. Key to achieving growth targets will be maintaining markets, attracting new higher yield markets and extending demand across to the shoulder and low seasons. Lifestyle leaders will be targeted, which fits well with mountain bikers. Haunted Hills and Gippsland MTB identified as support adventure experiences. Omeo Adventure Hub is also identified as a support experience,</p>	<p>The feasibility shows that over 60,000 new visitors would visit Omeo once the hub is completed. This would translate to over \$28.45 million in additional activity in the region per annum, creating 15 to 30 new FTE jobs and supporting an additional 6 new businesses in the region.</p>

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		comprising world class MTB park, coupled with other opportunities including winter snow sports at nearby Mount Hotham, fishing, horse riding, and walking. The plan shows that over 60,000 new visitors would visit Omeo once the activity hub is completed. This would translate to over \$28.45 million in additional activity in the region per annum, creating 15 to 30 new FTE jobs and supporting an additional 6 new businesses in the region.	
Destination Gippsland	Touring Map 2018	Touring map of Gippsland with main roads, products and some experience information.	For reference
Dirt Art	Australian Mountain Bike Market Profile Survey Data 2016	Data from 2 surveys (2014 & 2016) to determine key demographic information and behaviours for the Australian mountain bike user, including trend data. Top level generalisations would include mostly male, good incomes, from NSW and VIC, owning 1-2 bikes – all mountain and cross country. They ride 2-3 times per week, mostly close to home and travel once per year to mountain bike interstate and stay for multiple nights. Spend data is provided for overnights and day trips. Most respondents (33.11%) spent between \$101-150 on accommodation and an evening meal when traveling to a destination to ride. 23.64% of respondents stated that they spent between \$151-200 on average, while 20.95% spent \$51-100 when staying overnight at a riding destination. Intermediate riders, preferring fast and flowy trails.	Mountain bike user data demographic, behaviour and trends to inform trail developments.
Victorian Government	Victoria's Trails Strategy 2014 to 2024	<p>The strategy sets a vision for Victoria to be recognised as a leading trails destination. A key message is that the way we think about trail development needs to change to encompass trail infrastructure as well as related products and services, consumer information and marketing activities. The strategy provides the strategic context for trails and outlines the importance of tourism and nature based products to Victoria.</p> <p>The strategy provides investment criteria to guide selection of trails. The hierarchy of trail importance is:</p> <ul style="list-style-type: none"> • International and national significant trails 	<p>Provides the hierarchy of trails and regional and state context for Omeo</p> <p>Provides the IMBA and Aus. Standards for walking tracks.</p>

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		<ul style="list-style-type: none"> • State significant trails • Regional and local significant trails. <p>The document discusses how the State can provide more market awareness of the trails, build partnerships and promote better use of the trails, and provides a number of case studies – some of which are now out of date, with changes to trail management and new products entering the market.</p> <p>The strategy provides a description of the trails in Victoria under each of the hierarchy levels. Of relevance for Gippsland these include:</p> <p>International and national significant trails:</p> <ul style="list-style-type: none"> • Falls to Hotham Walk <p>State significant trails:</p> <ul style="list-style-type: none"> • East Gippsland Rail Trail • Gippsland Plains Rail Trail • Great Southern Rail Trail • Great Walhalla Alpine Trail • Wilsons Promontory Circuit via the Lighthouse <p>It identifies the Mt Buller Bike Park as trails of both national and international significance, and the growing Falls Creek Bike Park as trails of State significance. It also acknowledges that the North East is renowned for its cycling experiences.</p>	
Partners	Gippsland Regional Plan – 2015 to 2020	<p>The plan is a partnership between the leadership of Gippsland, including all 3 levels of government, RDA, the Committee for Gippsland, the Regional Managers Forum, GLN and other groups.</p> <p>Themes are:</p> <ul style="list-style-type: none"> • Economic Prosperity • Education and Community Wellbeing • Natural Environmental Stewardship • Connectivity. <p>Specific to mountain bike trails – a number of themes are important – and reinforce potential strategic directions:</p>	

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		<ul style="list-style-type: none"> The need to attract investment in Gippsland's public parks Adaptation to climate change <p>Gippsland's vision is set as:</p> <p><i>Gippsland – Australia's smart region with world-class environments, maximising opportunities for investment and employment.</i></p>	
GLAWAC and Victorian Government	Joint Management Plan – Gunaikurnai 2018	<p>The joint management plan for Gunaikurnai joint managed parks and reserves in Victoria. While not covering all of the study area – contains the important joint managed parks now under the guidance of the plans.</p> <p>Speaks to the importance of the land to Gunaikurnai and the desire to see:</p> <ul style="list-style-type: none"> A strong cultural connection to country healthier parks and land wider respect from the community jointly managed parks become a landmark destination for use, recreation and nature based tourism. <p>Contains a strategic plan and plans for each of the jointly managed parks.</p>	
Tourism North East	Destination Management Plan 2013 - 2023	<p>Tourism North East (TNE) is the regional tourism board for 'High Country', which includes six shires – Alpine, Benalla, Indigo, Mansfield, Towong and Wangaratta – and the three major alpine resorts of Falls Creek, Mt Buller and Mt Hotham. The High Country attracts over 3 million visitors, spending \$692 million, accounting for 20.3% of gross regional product and 20% of employment. Its key product strengths are cycle tourism, food, wine and beer, snow, nature-based activities, and arts and culture. TNE targets Lifestyle Leaders, a large and high yielding customer segment with a focus on intrastate, supported by efforts in the interstate and international space.</p> <p>Ride High Country – Mountain Bikes is TNE's Priority Project 2 in its bid to become the Australasian mountain bike destination of choice. Development of new mountain bike trails and ride experiences and the improvement and extension of existing trails</p>	Opportunity for Omeo to complement the Ride High Country brand with trails as a feeder and in proximity to Dinner Plain and Mt Hotham's offer, as the access point from the east.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
		will complement their rail trail offer. A series of bike-specific hubs, new transport options and multi-destination experiences are planned. Alpine Shire Council has concept stage plans for Dinner Plain for an intermediate mountain bike network of trails to complement the existing beginner Village loops.	
Visit Victoria	Regional Tourism Strategy 2018	<p>Essentially the approach is to maximise the Regional Tourism Board engagement and strategies – Destination Gippsland, focusing on regional tourism board engagement, regional tourism board funding and contract management, visitor servicing strategy, regional stakeholder engagement - advocating sector investment.</p> <p>Domestic overnight expenditure in Gippsland in the year ending December 2018 was estimated to be \$581 million (-2.6 per cent year on-year), with visitors spending an average of \$104 per night and \$292 per visitor.</p> <p>Daytrip visitors spent an estimated \$302 million in the year ending December 2018, an increase of 24.8 per cent compared to the previous year.</p> <p>International overnight expenditure in Gippsland was estimated to be \$50 million in the year ending December 2018, an increase of 52.4 per cent year-on-year.</p>	<p>Aligned with RTO objectives. Focused on jobs growth.</p> <p>Domestic overnights down, daytrips up, internationals up off a low base.</p>
Tourism Victoria	Growing Cycling Tourism Research 2015	Key findings: The cycle tourism market is relatively small in size but those involved often take multiple trips each year and are highly engaged in a diverse range of activities and often travel to regional areas. Awareness and knowledge of cycle tourism and cycle events is low, and accessible online information including maps would assist to reduce entry barriers.	MTB is a key driver for a small % of the potential visitor market. They are engaged, likely to travel numerous times and travel regionally
Australian Bicycle Council	National Cycling Participation Survey Jun 2015:	Almost 4 million Australians ride a bicycle each week, with 86% of them doing so for recreational purposes.	Size of the potential market.

DOCUMENT OWNER	TITLE AND YEAR OF PUBLISHING	SUMMARY OF INTENT	RELEVANCE FOR THE OMEO MOUNTAIN BIKE DESTINATION BUSINESS CASE
Victorian Government	Cycling into the Future 2013–2023	The strategy recognises the important role that cycling plays in Victoria – as part of the transport system, a recreational activity, as exercise and tourism drawcard.	Alignment with state policy direction.
International Mountain Bicycling Association (IMBA)	Guidelines for a Quality Trail Experience 2017	A comprehensive guide to mountain bike trail construction that is so much more than the build, and considers the regional and destination fit economically, socially and environmentally as well as the rider experience and development. A range of economic impact assessments of MTB are also available at www.imba.com .	A range of tips and tools for sustainable mountain bike trail development. Economic impact assessments are also available on the website.

Appendix E – Sensitivity Analysis

INTRODUCTION

The major driver of the regional economic benefits of the trail is trail users, who stay overnight and spend on accommodation and other services in the area.

The main part of this report contains a detailed analysis of the Base Case. This appendix outlines the results from the sensitivity analysis. Three cases were examined for a reduction in trail users who have an overnight stay. These were reductions of overnight visitors/trail users of the Base Case by: 10%, 20% and 30%.

These changes impact on the regional income generated by trail users and on the Benefit Cost Ratios (BCRs) for the project.

REGIONAL INCOME GENERATED

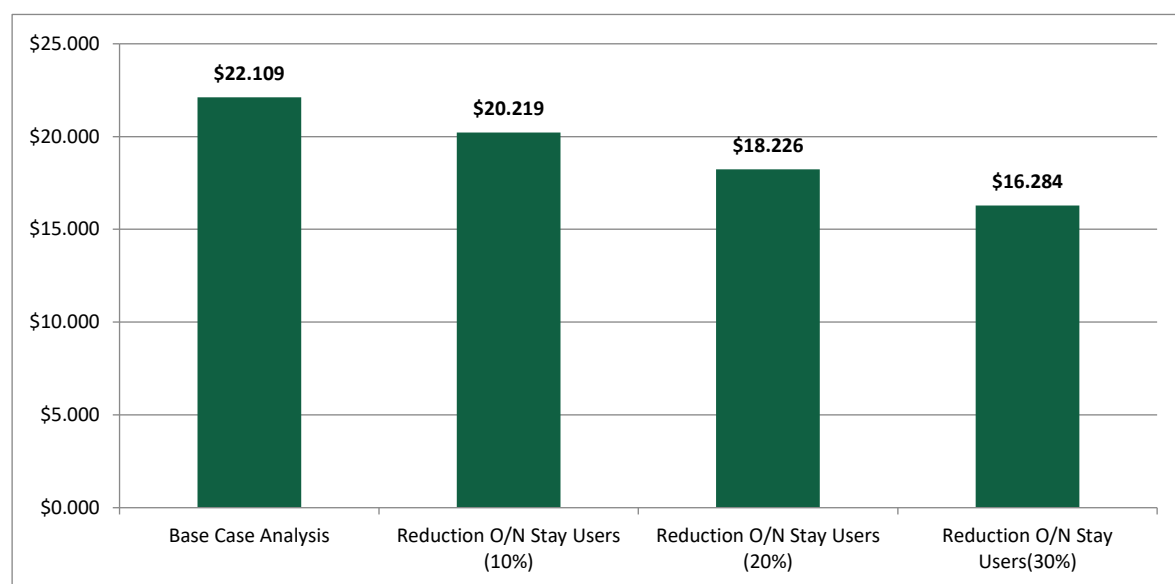
The following table and charts show the increase in regional income associated with the operations of the trail over the 10 year period. It shows the base case and the 3 comparison cases, based on reductions in the number of trail users who stay overnight.

Figure 21. Sensitivity Analysis – comparison of increase in regional income (\$m constant 2019 \$prices)



Source: MCa modelling and estimates, November 2019. May be some differences due to rounding

Figure 22. Comparison increase in regional income – total of 10 years (\$m constant 2019 prices)



Source: MCa modelling and estimates, November 2019. May be some differences due to rounding

BENEFIT COST ANALYSIS

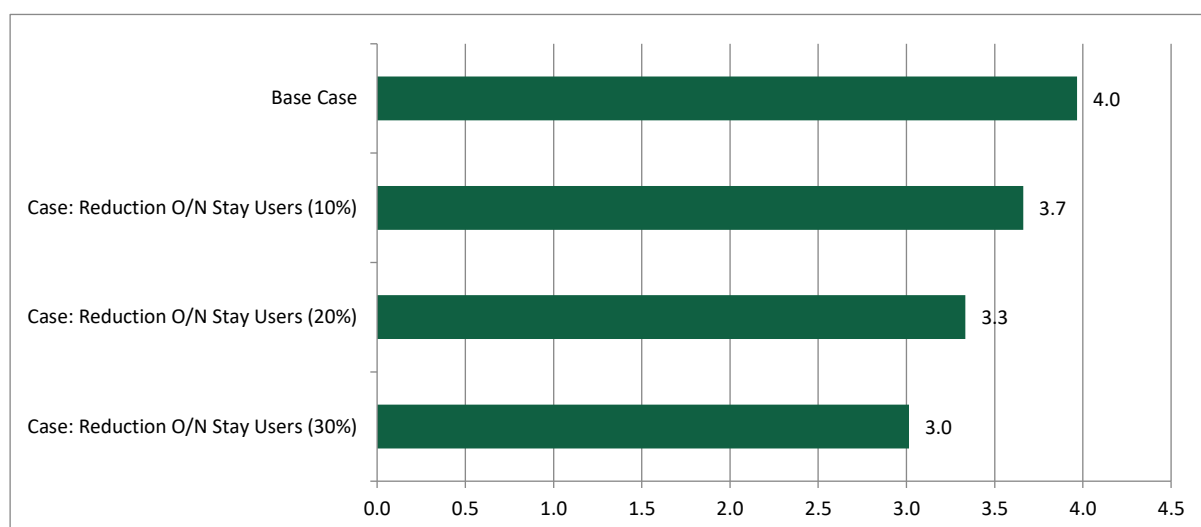
The following tables and charts show the changes to the BCR based on the scenarios applied.

Table 25. Benefit Cost Analysis – BCRs comparison of cases.

Comparison Benefit Cost Ratios	Base Case	Case: Reduction O/N Stay Users (10%)	Case: Reduction O/N Stay Users (20%)	Case: Reduction O/N Stay Users (30%)
Discount Rate 4%	4.5	4.2	3.8	3.4
Discount Rate 7%	4.0	3.7	3.3	3.0
Discount Rate 10 %	3.5	3.2	3.0	2.7

Source: MCa modelling and estimates, November 2019.

Figure 23. Comparison of BCRs – Discount rate of 7%



Source: MCA modelling and estimates, November 2019.

ANALYSIS OF CASES

The following tables provide the analysis of each of the cases used in the sensitivity analysis.

Table 26. Base Case analysis

Trail Development: 10 Year Operations Period <Base Case>	Discount Rate 4%	Discount Rate 7%	Discount Rate 10%
Costs (10 Years)			
Construction Costs (\$) (2019 prices)	\$3,400,000	\$3,400,000	\$3,400,000
Costs - Asset Maintenance (3% per year- 10 years)	\$1,020,000	\$1,020,000	\$1,020,000
Total Capital Costs	\$4,420,000	\$4,420,000	\$4,420,000
Benefits to Region (10 Years)			
Direct Benefits - users (assumes no trail fees)			
Regional Benefits (increase in regional income generated)	\$22,109,149	\$22,109,149	\$22,109,149
Health Benefits	\$2,040,052	\$2,040,052	\$2,040,052
Total Benefits (2019 Prices)	\$24,149,202	\$24,149,202	\$24,149,202
Total Benefits (\$) Present Value	\$19,966,604	\$17,537,474	\$15,551,347
Net Present Value (\$)	\$15,546,604	\$13,117,474	\$11,131,347
NPV/ Costs	3.5	3.0	2.5
Benefit Cost Ratio (BCR) <Total Benefits: Present Value/Total Capital Costs>	4.5	4.0	3.5

Source: MCA modelling and estimates, November 2019.

Table 27. Reduction of 10% of overnight users - analysis

Trail Development: 10 Year Operations Period <Reduction O/N Stay Users (10%)>	Discount Rate 4%	Discount Rate 7%	Discount Rate 10%
Costs (10 Years)			
Construction Costs (\$) (2019 prices)	\$3,400,000	\$3,400,000	\$3,400,000
Costs - Asset Maintenance (3% per year- 10 years)	\$1,020,000	\$1,020,000	\$1,020,000
Total Capital Costs	\$4,420,000	\$4,420,000	\$4,420,000
Benefits to Region (10 Years)			
Direct Benefits - users (assumes no trail fees)			
Regional Benefits (increase in regional income generated)	\$20,218,842	\$20,218,842	\$20,218,842
Health Benefits	\$2,040,052	\$2,040,052	\$2,040,052
Total Benefits (2019 Prices)	\$22,258,894	\$22,258,894	\$22,258,894
Total Benefits (\$) Present Value	\$18,426,279	\$16,185,663	\$14,353,466
Net Present Value (\$)	\$14,006,279	\$11,765,663	\$9,933,466
NPV/ Costs	3.2	2.7	2.2
Benefit Cost Ratio (BCR) <Total Benefits: Present Value/Total Capital Costs>	4.2	3.7	3.2

Source: MCa modelling and estimates, November 2019

Table 28. Reduction of 20% of overnight users - analysis

Trail Development: 10 Year Operations Period <Reduction O/N Stay Users (20%)>	Discount Rate 4%	Discount Rate 7%	Discount Rate 10%
Costs (10 Years)			
Construction Costs (\$) (2019 prices)	\$3,400,000	\$3,400,000	\$3,400,000
Costs - Asset Maintenance (3% per year- 10 years)	\$1,020,000	\$1,020,000	\$1,020,000
Total Capital Costs	\$4,420,000	\$4,420,000	\$4,420,000
Benefits to Region (10 Years)			
Direct Benefits - users (assumes no trail fees)			
Regional Benefits (increase in regional income generated)	\$18,226,006	\$18,226,006	\$18,226,006
Health Benefits	\$2,040,052	\$2,040,052	\$2,040,052
Total Benefits (2019 Prices)	\$20,266,058	\$20,266,058	\$20,266,058
Total Benefits (\$) Present Value	\$16,777,185	\$14,737,420	\$13,069,394
Net Present Value (\$)	\$12,357,185	\$10,317,420	\$8,649,394
NPV/ Costs	2.8	2.3	2.0
Benefit Cost Ratio (BCR) <Total Benefits: Present Value/Total Capital Costs>	3.8	3.3	3.0

Source: MCA modelling and estimates, November 2019.

Table 29. Reduction of 30% of overnight users - analysis

Trail Development: 10 Year Operations Period <Reduction O/N Stay Users (30%)>	Discount Rate 4%	Discount Rate 7%	Discount Rate 10%
Costs (10 Years)			
Construction Costs (\$) (2019 prices)	\$3,400,000	\$3,400,000	\$3,400,000
Costs - Asset Maintenance (3% per year- 10 years)	\$1,020,000	\$1,020,000	\$1,020,000
Total Capital Costs	\$4,420,000	\$4,420,000	\$4,420,000
Benefits to Region (10 Years)			
Direct Benefits - users (assumes no trail fees)			
Regional Benefits (increase in regional income generated)	\$16,284,434	\$16,284,434	\$16,284,434
Health Benefits	\$2,040,052	\$2,040,052	\$2,040,052
Total Benefits (2019 Prices)	\$18,324,486	\$18,324,486	\$18,324,486
Total Benefits (\$) Present Value	\$15,170,472	\$13,326,373	\$11,818,274
Net Present Value (\$)	\$10,750,472	\$8,906,373	\$7,398,274
NPV/ Costs	2.4	2.0	1.7
Benefit Cost Ratio (BCR) <Total Benefits: Present Value/Total Capital Costs>	3.4	3.0	2.7

Source: MCA modelling and estimates, November 2019.



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**INSPIRING SOLUTIONS
FOR PEOPLE AND PLACES**

Omeo Mountain Bike Trail Network Masterplan

Final

Revision 2

May 2020

East Gippsland Shire Council





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Version	Reviewer	Date issued
1	Matt Looby / Gerard McHugh	05.03.2020
2	Matt Looby / Gerard McHugh	04.05.2020

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- Glenn Digby, Department of Environment, Land, Water and Planning;
- Jarrod Bowd, Parks Victoria;
- The Project Reference Group & Community Steering Committee members;
- Department of Environment, Land, Water and Planning for access to the Victorian Biodiversity Atlas and Native Vegetation Information Tools;
- Department of Environment Protected Matters Search Tool of the Australian Government.

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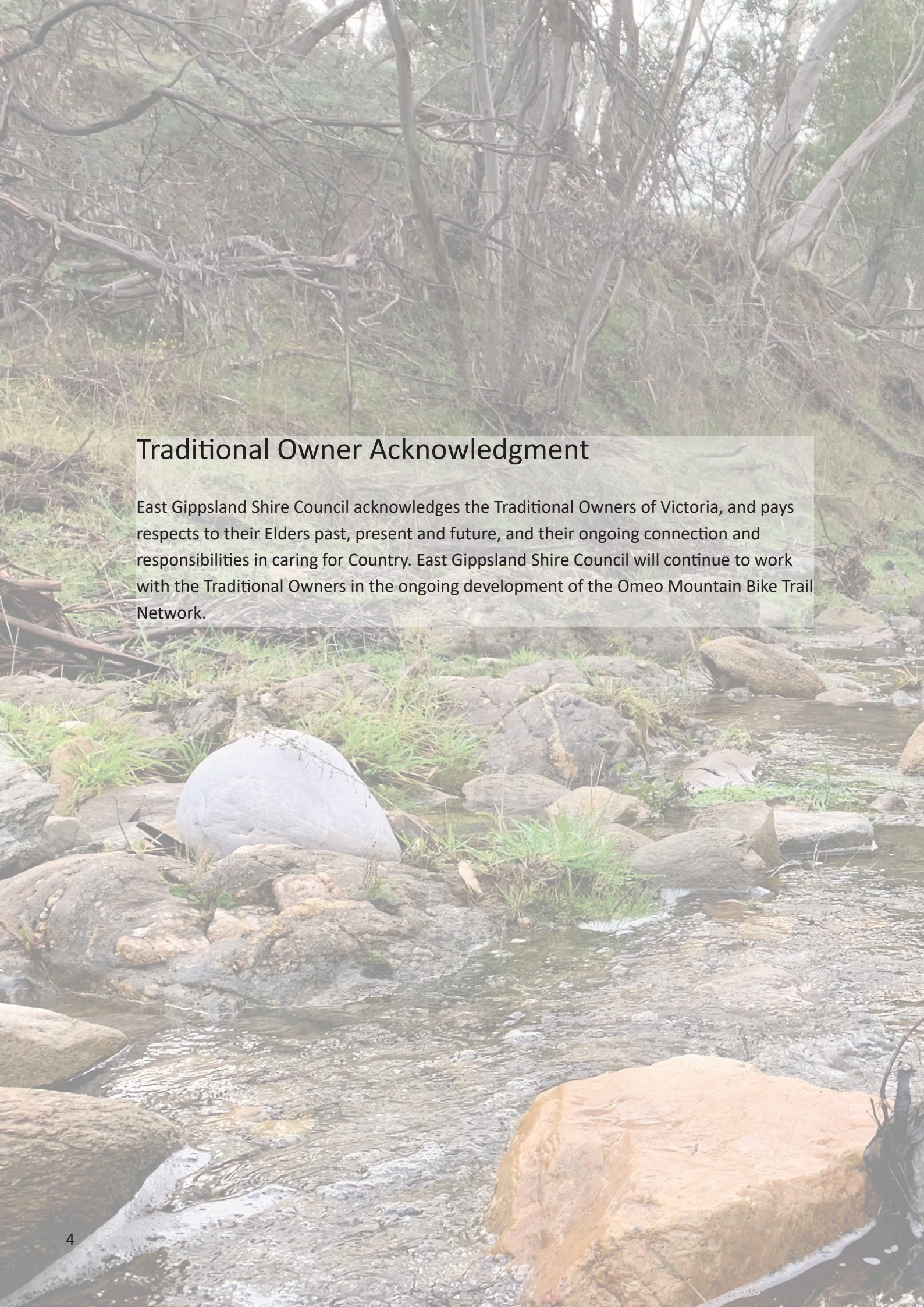
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A scenic view of a river flowing over rocks in a forest. The river is in the foreground, with water splashing over large, smooth, light-colored rocks. The background is filled with dense trees and foliage, creating a lush, green environment. The overall tone is natural and serene.

Traditional Owner Acknowledgment

East Gippsland Shire Council acknowledges the Traditional Owners of Victoria, and pays respects to their Elders past, present and future, and their ongoing connection and responsibilities in caring for Country. East Gippsland Shire Council will continue to work with the Traditional Owners in the ongoing development of the Omeo Mountain Bike Trail Network.



Executive Summary

The Omeo Mountain Bike Trail network includes 121.58 kilometres of both cross country and gravity trails of varying degrees of difficulty suitable for all types of riding ability from beginners through to dedicated mountain bike enthusiasts. The trails wind through the Mount Sam State Forest with gravity trails descending from both Mount Sam and the ridgelines of Mount Mesley directly above the township. All trails connect to Livingstone Park which is recognised as the primary trailhead with easy cross country trails running along the Livingstone Creek corridor, connecting to the Oriental Claims Historic Area to the west and the caravan park to the east.

The trail network has been designed to provide a unique and engaging mountain bike experience that can be ridden over a number of consecutive days or over a number of return visits. The proposed trail network will compliment the existing tourism offering of East Gippsland, further expanding the adventure tourism opportunities available from Omeo and aligning with the Ride High Country cycle tourism initiative of North East Victoria. Existing tourism operators in Omeo are well positioned to service the mountain bike market. There is potential for growth in tourism related services in response to increased visitation to the township generated by interest in the mountain bike trails.

The Omeo Mountain Bike Trail Network meets the Mountain Bike Australia, (MTBA) criteria for being classified as Nationally significant with over 90% of the trails being dedicated singletrack, including 12 cross country loops, having an appropriate mix of trail degree of difficulty and also satisfying the criteria for access and amenity. The trails can be ridden independently or combined to achieve an 'All mountain' riding experience.

Livingstone Park, with existing amenities and parking, provides an ideal gateway to the trail network with a number of easy beginner trails winding up the slope immediately above the park. The open space over the footbridge is well suited for accommodating mountain bike events and allowing spectators to watch riders navigate the final trails descending into the park.

Shuttle access to the gravity trails is provided via the Mount Sam summit area and at the intersection of Connley's Road and the Mount Sam access road. The Mount Mesley gravity trails will be accessible via the initial section of XC 12 and Access trail 4. Direct shuttle access to these gravity trails will need to be explored as a future opportunity. The substantial change in elevation between the trail starting point on the Mount Mesley ridge-line and the endpoint in Livingstone Park provides for an exciting gravity experience along a number of trails of varying degrees of difficulty with a vertical drop of 453 vertical metres.

The mountain bike trail network includes new and upgraded trails in the Oriental Claims Historic Area taking riders past the historic diggings and the Pioneer Hill lookout. Some existing trails will be upgraded to a standard suitable for shared use by both walkers and riders subsequently increasing the access opportunities to the places of interest within the Claims. The trails through the Oriental Claims have been carefully designed to minimise impacts on the historical features associated with the construction or use of the trails. A number of cross country trails continue into Dry Gully from the Oriental Claims taking riders into a unique landscape marked with relict mining features from a bygone era.

The trail network has been designed taking account of the project area's physical characteristics, ecological values, cultural heritage values, historical heritage values and the expectations of the mountain bike market. Some sections of the Mount Sam forest were considered too steep for trail construction or safe use and these areas have been avoided



in the final trail design. Determining an alignment for an up cross-country trail from Livingstone Park to Connely's Road proved difficult due to the steep terrain immediately above the Park and the limit of the Crown Land. This has been addressed through the incorporation of a number of switchbacks on trail XC10 however this is not considered ideal due to the level of maintenance required. It is recommended that an alternative and more sustainable trail alignment that crosses over the less steep terrain of the adjacent private property be explored.

The ecological, aboriginal cultural heritage and historical heritage assessments have been conducted in accordance with relevant state and federal legislation with the report outputs providing the evidence and recommendations required for obtaining the necessary approvals for the construction of the trail network. The native vegetation offset strategy provides a pathway for compensating for the impacts on ecological values associated with construction of the mountain bike trails.

The Omeo Mountain Bike Trail Network is the result of the concerted effort of the respective land managers and Omeo community working together to identify the opportunities for constructing an engaging trail network. The project has been made possible through the dedication of the Omeo community and East Gippsland Shire Council with the financial support of the Australian Federal Government and Victorian State Government.

In summary, the Omeo Mountain Bike Trail Network includes a range of gravity and cross country riding experiences suitable for beginners through to dedicated mountain bikers in a unique mountain landscape marked by historical mining activity.



1. Overview



Vision

‘A nationally significant mountain bike trail network providing a range of experiences for the complete range of mountain bike enthusiasts in the unique high country landscape of Omeo’

1.1 Background

The development of a nationally significant mountain bike trail network has been a long term goal of the Omeo community. Recognising the potential of the Mount Sam State Forest and the Livingstone Creek corridor, the community has pursued this goal commencing with initial scoping for the development of mountain bike trails by World Trail in 2016, then engaging Dirt Art to prepare a feasibility study in 2017 which identified the significant socio-economic benefits for Omeo flowing from the development of a mountain bike trail network. The project is a high priority for East Gippsland Shire Council, (EGSC), and both the Victorian State and Federal Governments who have made significant financial contributions to see the trails realised.

Biosis, in conjunction with Horizon Studio and World Trail, have been engaged for the detailed design and documentation of a nationally significant mountain bike trail network. The detailed design process includes assessment of site ecological values, determination of potential impacts and native vegetation offset requirements, consideration of Aboriginal cultural heritage values, historical heritage values and the site’s physical attributes including slope, distance and features. This Masterplan is the culmination of this work which describes the design process, criteria used for determining trail alignments, outcomes of the assessments, detailed descriptions of the proposed trails, construction methodology and a proposed implementation strategy.

The Biosis project team has worked closely with EGSC, representatives from the Department of Environment, Land Water and Planning, Parks Victoria and local community members to identify key opportunities and constraints underpinning the trail network design. The Project Reference Group has provided the necessary oversight to keep the project on track and the Omeo Project Community Steering Group has played a vital role in ensuring the community’s ideas and concerns were considered throughout the entire project process. Additionally, many other community members provided valuable insight of the area’s historical and natural features, notably members of the Omeo Historical Society.



1.2 The Opportunity for Omeo

Located on the southern slopes of the Victorian Alpine region, Omeo has traditionally been a service hub for the region's farming industry with tourism becoming an increasingly important part of the township's social and economic activity. Omeo is the southern gateway to the Victorian Alps, with Mount Hotham Alpine Resort only 55 kilometres away and Falls Creek Alpine Resort 62 kilometres away, accessible via the Bogong High Plains Road during the non-snow period. The township has the potential to capitalise on synergies with the tourism of these Alpine Resorts and the growing tourism trade of North East Victoria, particularly the growing cycle tourism sector. This potential is in addition to the growing tourism activity in East Gippsland which is leveraged off the region's natural assets, including beaches and wilderness areas.

Starting out as a mining settlement in the mid 1800s the township's historical buildings, features such as the Oriental Claims and its mountainous landscape provide the visual character and sense of place amenable to a tourist destination. The close proximity of the township to the Mount Sam State Forest and the Oriental Claims Historic Area is ideal for the development of nature based recreation activities such as mountain biking. The Livingstone Creek corridor from the Caravan Park to the Oriental Claims has potential to accommodate a number of beginner and intermediate trails that can also connect with the trails entering and returning from the slopes above in the Mount Sam State Forest. The Mount Mesley slopes rise above the township approximately 570 metres which has significant potential to accommodate exciting gravity mountain bike trails.

Some 400 kilometres from Melbourne and 120 kilometres from Bairnsdale, Omeo takes some time to get to, even from Bright or Mount Beauty. (*Figure 1, Omeo context plan*). Given the remoteness of Omeo relative to the metropolitan area and other adventure activity centres the development of activities should focus on attracting overnight visitors to maximise the economic benefit to the township. Consequently a mountain bike trail network should be sufficiently large in scale to provide riders with enough trail to experience over a number of days. Mount Sam State Forest has the potential to accommodate such a network. Research conducted by Anthony Burton and Associates, (2019), for EGSC indicates that a trail network of between 80 - 100 kilometres is required to:

- Identify Omeo as a mountain bike destination of some significance;
- Entice overnight and return visitation;
- Insulate Omeo from the full impacts of other expanding and competing mountain bike networks.

However, the relative isolation of Omeo requires that attractions should be unique and distinguishable from other similar experiences within the region. The development of mountain bike trails in Omeo will require unique qualities to ensure they stand out including:

- Being constructed and maintained to an exceptionally high standard;
- Built to make the most of the terrain, features and natural environment;
- Offer a wide range of riding type and level;
- Continuously evolving and providing new riding experiences.



Figure 1 - Omeo context plan

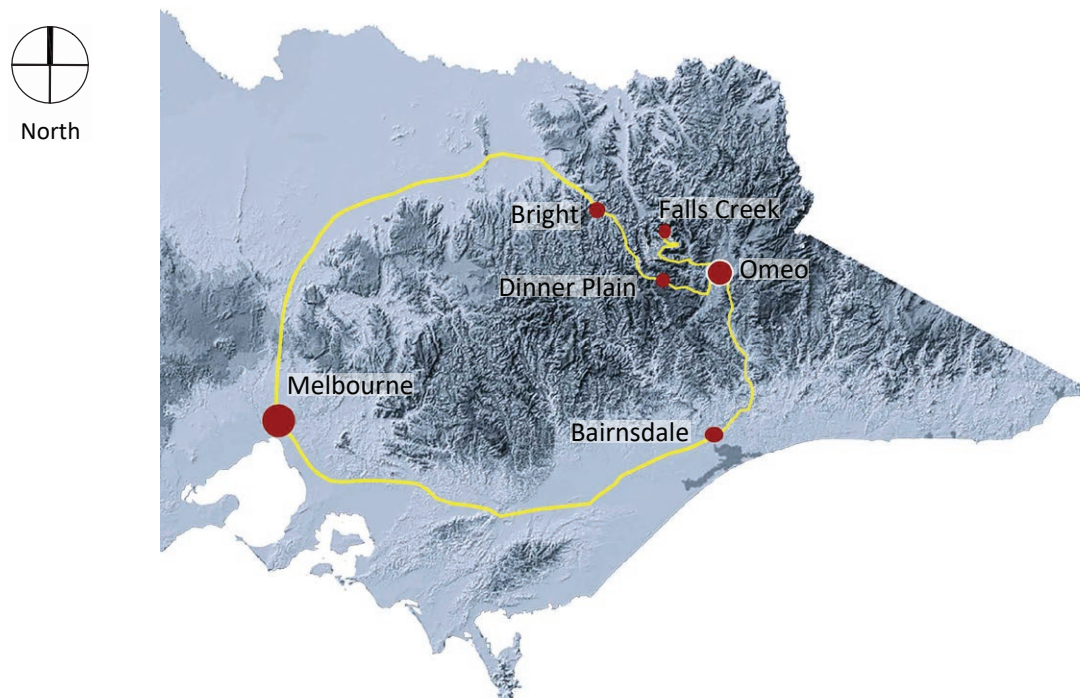


Table 1 - Distances and typical travel times from major centres and nearby mountain bike destinations

	Melbourne	Bairnsdale	Dinner Plain	Bright	Falls Creek
Distance to Omeo - kms	400	120	48	110	135*
Typical travel time	5 hours	1hr, 40 mins	40 mins	1hr, 45 mins	2hr, 30 mins*

* Distance and travel time during summer via Bogong High Plains Road.

Objectives of the masterplan

- Establish a framework for the development of a nationally significant mountain bike experience in Omeo with broad appeal that responds to the current and emerging trends of the mountain bike tourism market through detailed assessment and engagement with key stakeholders.
- Assess the suitability of the physical attributes of the Mount Sam State Forest and adjacent Crown land, including the Oriental Claims, for the development of mountain bike trails including terrain, ecological values and distance from the Omeo township.
- Consider existing land tenure and land use and the potential for these to support unimpeded public access to a mountain bike trail network.
- Conduct detailed assessment of ecological, Aboriginal cultural heritage and historical heritage values for the trail network in order to identify areas of high value to be avoided, determine environmental offset requirements and to formulate impact minimisation and mitigation actions.
- Provide detail to guide the approval, construction and future maintenance of an 80 to 120 kilometre trail network including input to trail head infrastructure design, detailed trail design and signage design.



2. The Mountain Bike Market



Adventure tourism and particularly mountain biking is currently experiencing rapid growth in Australia and developed countries the world over. The recognition of places such as Derby in Tasmania, Rotarua in New Zealand and Whistler in Canada, as international mountain bike destinations, provides testimony to the attractiveness of the sport to a broad demographic and the economic benefits that stem from the development of world-class mountain bike trails and facilities. A key factor to the success of these destinations is the proximity of the trails to accommodation, food and beverage venues, entertainment and alternative recreation. The landscape is also critical as this provides visitors with a sense of adventure and connection to nature. People want to mountain bike in the mountains! The connection between the Omeo township and Mount Sam State Forest via Livingstone Park underpins the potential for accessible mountain bike trails linking directly to accommodation and meals in the township.

Market research carried out by Anthony Burton and Associates (2019) specifically for the Omeo Mountain Bike Project identifies four key mountain biker target markets. These are considered in Table 1 below with regard to the user types and degree of trail difficulty sought as defined by Mountain Bike Australia (MTBA, 2019).

Table 2 - Target markets for the Omeo Mountain Bike Project

Target market	Description	MTBA user type	Degree of Difficulty sought, (MTBA ratings)
Leisure	Cyclists of all ages that have limited skills and ride infrequently, includes families	Leisure	Very Easy - Easy
Beginners and families	Families with young children	Leisure	Very Easy - Easy
Older Riders	Typically aged between 50 and 65 seeking to remain physically active	Leisure	Very Easy - Intermediate
Enthusiast	Purely recreational riders with moderate skill and variable fitness. Ride weekly and typically aged between 29-49. This is the majority of the mountain bike riding community and make up about 30% of the total market and are high value spenders.	Enthusiast	Easy - Intermediate

The Omeo Mountain Bike Destination Business Case, (December, 2019), prepared by TRC Tourism, provides further detail of the target market profile with regard to participation type, including Local trail users, Day visitors, Adventure holiday seekers, Travelers, Core mountain bikers and Event participants.

In regards to trail type, while the trend has been towards a preference for 'gravity trails', recent research indicates a shift to 'all mountain' trail experience. Mountain Bike Australia defines 'all mountain' as 'Primarily single track oriented with greater emphasis on technical descents and non-technical climbs'. The scale and elevation change of the Omeo project area is well suited for the all mountain trail type. However the diversity of age, ability and level of interest of the target market identified for this project suggests that a variety of trail type is necessary to meet rider expectations including beginner, gravity and dedicated cross-country trails.



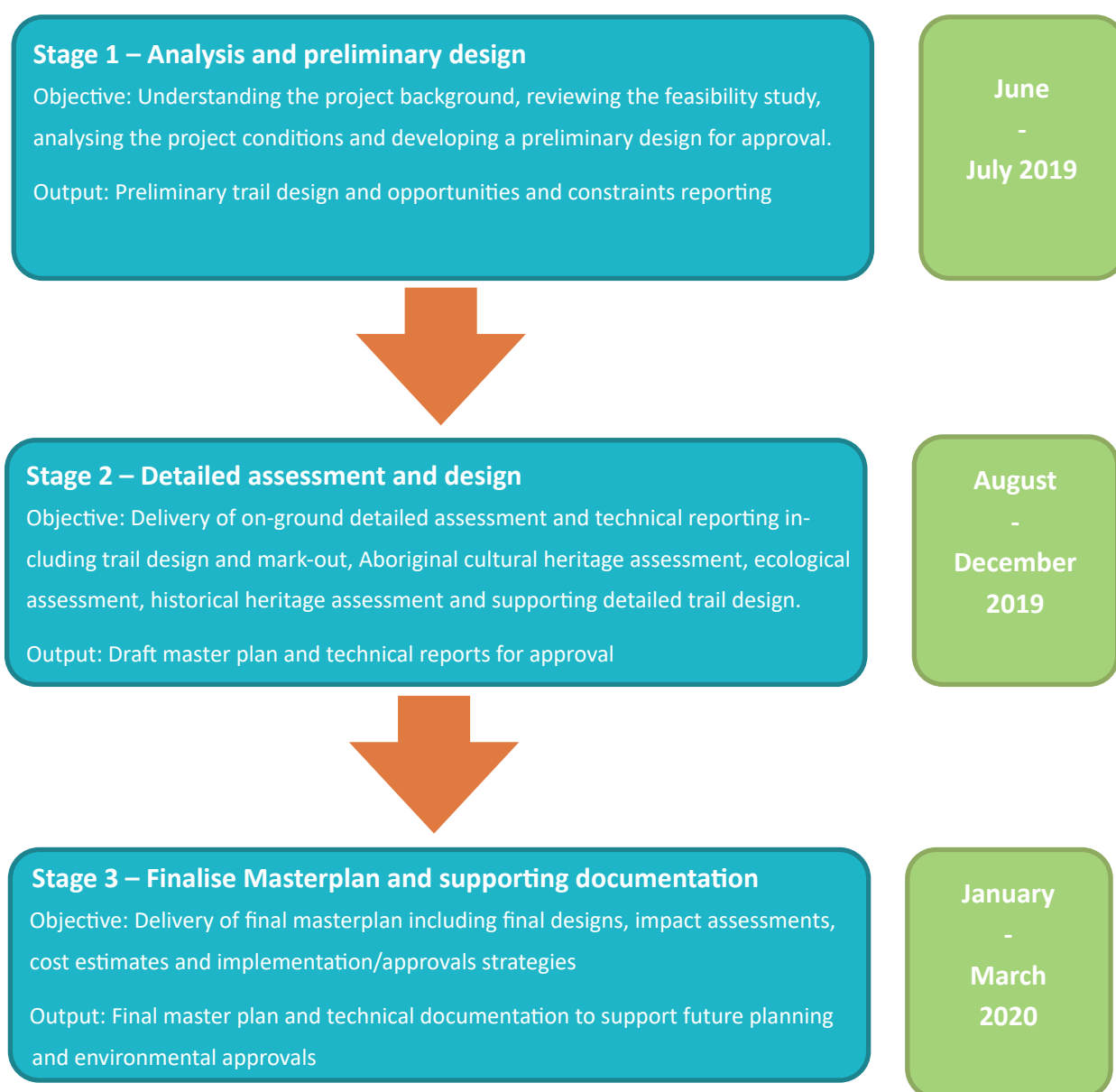
3. Design Approach



Image courtesy of World Trail

3.1 Process

The masterplan has been developed through a three stage process with each requiring completion of specific tasks and approval prior to commencement of the next stage. The entire project team of trail designers, ecologists, heritage advisors and landscape architects participated across all three stages to ensure all tasks and documentation necessary for approval were completed in a timely manner, allowing the project to progress smoothly and efforts to focus on designing achievable and engaging trails. The following chart provides an overview of the trail design process and timing for each stage.



3.2 Stage specific tasks

This section provides an overview of the specific tasks completed for each stage and the sources of information referenced or consulted for specific tasks.

Stage 1 - Analysis and preliminary design

- Background review of existing reports, databases and spatial datasets.
- Initial site inspections and stakeholder consultation, (refer Appendix 1 for detail).
- Cultural Heritage desktop assessment.
- Initial engagement with Traditional Owners.
- Development of 'key design considerations'.
- Identification and documentation of project opportunities and constraints, including use of spatial data decision support tools.
- Preliminary design development that considers key design considerations, opportunities and constraints.

Stage 2 - Detailed assessment and design

- Ground truthing and marking out of trail alignments in accordance with the preliminary design.
- Adjustment of trail alignments in response to on ground conditions including terrain, tree locations and site specific flora and fauna.
- On ground detailed ecological assessment for each alignment.
- Cultural Heritage Standard and Complex Assessments, preliminary to complex work in Stage 3
- On ground assessment of historical heritage including the Oriental Claims, Gambetta battery and Dry Gully Creek.
- Initial calculation of native vegetation offset requirements.
- Further adjustment of trail alignments to reduce the requirement for species specific offsets.
- Re-calculation of native vegetation offset requirements.
- Preparation of the Draft Masterplan.

Stage 3- Finalise Masterplan and supporting documentation

- Confirmation of final trail alignments by relevant stakeholders.
- Finalisation of ecological reporting.
- Development of Native Vegetation Offset Strategy.
- Endorsement of the Cultural Heritage Management Plan.
- Completion of the Historical Heritage report and submission to Heritage Victoria.
- Finalisation of Masterplan and all supporting documentation.
- Endorsement of the Final Masterplan by the Project Reference Group.

Details of background reports, references and consultation carried out over the duration of the project are provided as Appendix 1.



3.3 Design Criteria

Trail Design Criteria were established at Stage 1 for the development of the Preliminary Design. The Design Criteria were developed to ensure the final trail network aligned with the expectations of the mountain biking target market and met current standards for a nationally significant mountain bike trail network. Development of the design criteria was informed by a number of sources including previous reports prepared for EGSC, mountain bike specific industry guidelines including the Australian Mountain Bike Trail Guidelines (Mountain Bike Australia 2019) and the project team's collective knowledge from previous projects. The final Design Criteria is explained in the following Table 2 - Trail Design Criteria.

Table 3 - Trail Design Criteria

Criteria	Metric
Network characteristics	<ul style="list-style-type: none"> Easier routes linking attractions, views, heritage features and facilities, to encourage beginner and family use High quality natural surface single track with obstacles commensurate with the degree of difficulty Long distance adventure trails for extended trips, e.g., half or full day riding
Target trail network length	<ul style="list-style-type: none"> 80 to 120 kilometres
Target degree of difficulty MTBA (2019) - Table 5.	Trail offering consisting of: <ul style="list-style-type: none"> White 5% Green 40% Blue 40% Black 15%
General trail character	<ul style="list-style-type: none"> A higher proportion of gravity / all mountain flow trails or easily accessible long predictable downhill runs All trails should incorporate a variety of features, presenting a variety of different obstacles or features that can entertain or challenge riders of all abilities Provide both 'A' and 'B' line options for all levels of ability to provide riders opportunity to progress their riding ability by taking on more difficult challenges when ready
Direction of travel	<ul style="list-style-type: none"> Single direction trails provide the safest and most enjoyable visitor experience, minimising head-to-head interactions with other riders Dual direction trails are acceptable where the conditions are suitable – i.e. trails wide enough to allow passing side-by-side, with long sight lines to ensure riders see each other approaching and minimal gradients to ensure relatively slow speeds
Trail pattern and interaction	<ul style="list-style-type: none"> Trail network to follow a logical pattern and rotation direction with minimal cross-overs by ensuring all trails within a trail network follow the same direction (i.e. clockwise or anti-clockwise), creating a network that is intuitive and easy to navigate and that minimises conflicts at intersections
Event ready	<ul style="list-style-type: none"> In addition to providing day-to-day recreational riding, the network must be ready to host competitive MTB events This means having good event staging areas with the right types of trails, minimal conflict/cross-over zones, vehicle parking, access for emergency vehicles, spectator access and a flexible trail network offering maximum course configuration options Also important for the network to maintain non-event riding opportunities while an event is taking place



Design Criteria continued.

Table 2 continued - Trail Design Criteria



Criteria	Metric
Minimise environmental impact	<ul style="list-style-type: none"> Trail alignments must avoid locations of high environmental value to be identified through desktop mapping layers and the detailed site assessment Use of best practice trail construction methods and techniques in accordance with MTBA and IMBA guidelines to minimise the potential for impacts on the adjacent environment including native vegetation, threatened species, slope stability and waterways
Connection to place	<p>Incorporate view points and places of interest into the trail experience where possible including but not limited to:</p> <ul style="list-style-type: none"> Oriental Claims Gambetta Battery Mount Sam lookout Mount Mesley Livingstone Park
Accessibility	<ul style="list-style-type: none"> Trails should all be accessible either by connection from other trails (e.g. climbing trails) or via shuttle (not walking) Explore options for adaptive rider accessible trails
Connectivity	<ul style="list-style-type: none"> All trails should connect either directly or via other trails back to Livingstone Park.



3.4 Trail difficulty rating

The Mountain Bike Australia, (MTBA), Trail Difficulty Rating System is the industry standard for mountain bike trail difficulty in Australia and this forms part of the design criteria for the development of the Omeo Mountain Bike Trail Network.




Table 4 - MTBA Trail Difficulty Rating System

Degree of difficulty	Description and criteria	
 Very Easy	Description: Typical width: Surface: Gradient: Exposure: Obstacles:	For beginner cyclists with basic bike skills Suitable for young children (3-5 years old), senior riders and adaptive riders Directly accessible from a car park / facilities area 1.0-2.0 m Hardened or smooth Average trail grade: <5% Maximum trail grade: 10% Firm and level fall zone on either side of the trail corridor No obstacles
 Easy	Description: Typical width: Surface: Gradient: Exposure: Obstacles:	For beginner mountain bikers with basic mountain bike skills Wide single track with a gentle gradient, smooth surface and relatively free of obstacles 1.0 m +/- 0.3 m Mostly firm and stable Average trail grade: <7% Maximum trail grade: 15% Downward slopes of up to 10% either side of the trail Unavoidable small obstacles, structures to 0.9 m width
 Easy / intermediate	Description: Typical width: Surface: Gradient: Exposure: Obstacles:	For beginner mountain bikers with basic mountain bike skills Single track with a moderate gradient, variable surface and some obstacles 1.0m +/- 0.3 m Mostly firm and stable Average trail grade: >7% Maximum trail grade: 20% Downward slopes of up to 20% either side of the trail Unavoidable small obstacles, avoidable large obstacles Structures to 0.9 m width
 Intermediate	Description: Typical width: Surface: Gradient: Exposure: Obstacles:	For skilled mountain bikers Single trail with moderate gradients, variable surface and obstacles 0.6m +/- 0.3 m Sections of rocky or loose tread Average trail grade <10% Maximum trail grade: 20% Downward slopes of up to 20% either side of the trail Unavoidable small obstacles, structures to 0.9 m width



Trail difficulty rating continued.

Table 3 continued - MTBA Trail Difficulty Rating System

Degree of difficulty	Description and criteria	
 Intermediate / Difficult	Description:	For competent mountain bikers Challenging single trail with moderate gradients, variable surface and obstacles
	Typical width:	0.6 m +/- 0.3 m
	Surface:	Sections of rocky or loose tread
	Gradient:	Average Trail Grade <15% Maximum Trail grade – 20%
	Exposure:	Downward slopes of up to 25% either side of the trail
	Obstacles:	Unavoidable small obstacles, structures to 0.9 m width
 Difficult	Description:	For experienced mountain bikers Challenging single trail with steep gradients, variable surface and many obstacles
	Typical width:	0.3 m +/- 0.15 m
	Surface:	Variable and challenging
	Gradient:	Maximum trail grade: 25%
	Exposure:	Steep downward slopes or freefall either side of the trail
	Obstacles:	Unavoidable small obstacles, avoidable large obstacles (A or B line)
 Extreme	Description:	For highly experienced mountain bikers Extremely difficult trails incorporating steep gradients, highly variable surface and unavoidable severe obstacles
	Typical width:	0.15 m +/- 0.1 m for structures Steep loose and rocky
	Surface:	Maximum trail grade: 40%
	Gradient:	Steep downward slopes or freefall either side of the trail
	Exposure:	Large, committing unavoidable obstacles to 0.35 m, avoidable large obstacles to 1.2 m (A or B line)
	Obstacles:	





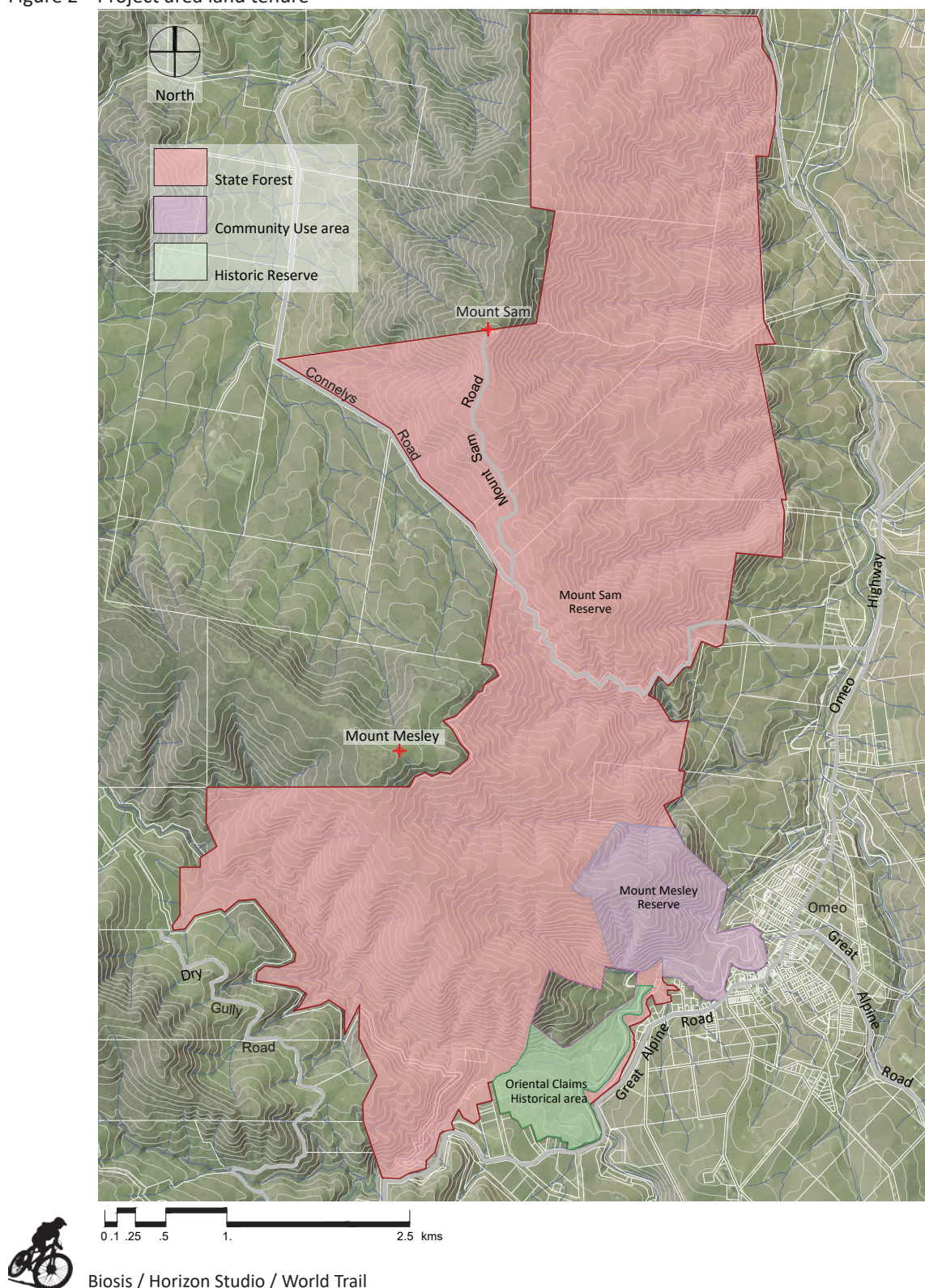
4. Key Trail Design Considerations



4.1 Land Tenure

The Crown Land Reserves and State Forest immediately north and west of Omeo present the greatest opportunity for the development of mountain bike trails connecting to the township. These include Mount Sam State Forest, Mount Mesley Reserve and the Oriental Claims Historic Area. The development of mountain bike trails across these sections of Crown land is supported by the respective land managers including the Department of Environment, Land, Water and Planning, (DELWP), Parks Victoria and the North East Catchment Management Authority, (NECMA).

Figure 2 - Project area land tenure



4.2 Terrain

The terrain throughout the defined project area is typically mountainous with steep gullies and ridge-lines descending from both Mount Sam and Mount Mesley. The elevation change from Mount Sam to Livingstone Park is 580 metres and Mount Mesley to Livingstone Park is 480 metres.



Figure 3 - View of the project area from south above the Omeo township, Mount Mesley in the centre.

A number of areas were considered too steep for sustainable trail development and also unsafe for riders due to the level of exposure. Terrain modeling was used to identify the areas considered to be too steep with preliminary trail alignments designed to avoid these areas. Ground truthing of the trail alignments during the detailed design stage provided the opportunity for adjustment in response to actual observed terrain conditions.

Vegetation is generally reasonably sparse and open, providing good opportunities for trail construction, with minimal clearing required, with the exception of understorey vegetation.

Soils offer good characteristics for trail construction, although it will be important to ensure all standard industry guidelines for environmentally sustainable trail construction are implemented during the construction phase - maximum trail gradients as per the proposed trail difficulty rating, frequent grade reversals, out-sloping where practical and use of rock armouring as required to harden the trail surface. Large rock outcrops are fairly rare, although loose surface rock is reasonably abundant.

While the overall site generally has an eastern and southern aspect, the ridgelines and valleys tend to run east-west. Being designed as rolling contour trails, many of the trails also run east-west, giving the trails a fairly even coverage between northern and southern aspects. North facing slopes are drier and hotter than the cooler south facing slopes and have been subject to regular fuel reduction burning meaning ground cover vegetation is sparse.

There are numerous small creeks and drainage lines flowing off Mount Sam and Mount Mesley, many of which will require small bridges or rock armouring. The most significant waterways in the study area are Dry Gully Creek, Livingstone Creek and Frenchmans Creek. Livingstone Creek is the larger of the three, flowing year round and offering good swimming opportunities.

Finally, the lower areas along side Livingstone Creek and Dry Gully Creek have been subject to significant disturbance caused by historical gold mining. The resulting landscape includes steep cliff faces, mine shafts, mullock heaps (piles of overburden), water races and other land forms that would not normally occur in a natural setting. These landforms offer exciting opportunities for creative trail construction and the ability to create unique trails.



4.3 Ecology

Key ecological values identified within the assessment corridor, being 10 metres either side of each proposed trail, and the project area are as follows:

- Five Ecological Vegetation Classes (EVCs) composed of 14 condition states, reflecting the varying quality and intactness of native forest and woodland vegetation in the project area:
 - ◊ Heathy Dry Forest, Bioregional Conservation Status (BCS) of least concern
 - ◊ Grassy Dry Forest, BCS of least concern.
 - ◊ Herb-rich Foothill Forest, BCS of least concern
 - ◊ Montane Grassy Woodland, BCS of depleted
 - ◊ Montane Riparian Woodland, BCS of vulnerable.
- Forest and woodland vegetation that supports a suite of habitat elements including large trees, fallen timber, rocks, tussock-forming grasses, minor tributaries, seasonally wet areas and structurally complex understorey.
- Potential habitat for Greater Glider, *Petauroides volans*, and White-throated Needletail, *Hirundapus caudacutus*. Both species are under listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Flora and Fauna Guarantee Act 1988 (FFG Act).
- Populations of Clover Glycine, *Glycine latrobeana* in the Oriental Claims Historic Area, this species is listed under the EPBC Act and the FFG Act.
- Populations of threatened species listed under the FFG Act: Australian Anchor Plant, *Discaria pubescens*, along the Livingstone Creek corridor, Powerful Owl, *Ninox strenua*, Hooded Robin, *Melanodryas cucullata*, Key's Matchstick Grasshopper, *Keyacris scurra*, Common Bentwing Bat, *Miniopterus schreibersii* and Square-tailed Kite *Lophoictinia isura*.
- Populations of rare or threatened flora species listed on DELWP's Advisory list: Arching Flax-lily, *Dianella longifolia* var. *grandis*, Omeo Gum, *Eucalyptus neglecta*, Granite Grevillea, *Grevillea neurophylla* subsp. *neurophylla*, Ovens Everlasting, *Ozothamnus stirlingii*, Tufted Knawel, *Scleranthus diander*, Honey Hood-orchid, *Caladenia hildae*, Mountain Helmet-orchid, *Corybas grumulus*, Woolly-head Pomaderris, *Pomaderris eriocephala*, and Slender Pomaderris, *Pomaderris phyllicifolia* subsp. *phyllicifolia*.
- Potential habitat for rare or threatened flora or fauna species listed under the FFG Act or DELWP's Advisory lists: Tough Scurf-pea, *Cullen tenax*, Twiggy Daisy-bush, *Olearia aff. ramulosa* (Omeo), Soft Slender Tussock-grass, *Poa sp. aff. tenera* (Hairy), Spreading Knawel, *Scleranthus fasciculatus*, Slender Fireweed, *Senecio microbasis*, Eastern Great Egret, *Ardea alba modesta*, Diamond Firetail, *Stagonopleura guttata* and Alpine Spiny Crayfish, *Euastacus crassus*.
- One FFG Act listed community: Victorian Temperate Woodland Bird Community.
- Waterways and aquatic habitats within Dry Gully Creek, Frenchmans Creek and Livingstone Creek.

Further detail regarding the ecological values of the site and the impacts associated with the development of the mountain bike trails is provided in Appendix 3 - Omeo Mountain Bike Complex: Flora and Fauna Assessment. A native vegetation offset strategy has been developed for the project and is provided as Appendix 4.



4.4 Cultural Heritage

The Desktop Assessment found that it is possible that Aboriginal cultural heritage may be identified within elevated ridge lines, and associated slopes in the Activity Area as well as on low lying floodplains adjacent to waterways which have not been impacted by sluicing during gold mining.

The Standard Assessment identified three areas of archaeological potential: a minimally disturbed ridge crest within Survey Unit 2, an intact subtle rise, in close proximity to Dry Gully Creek in Survey Unit 7, and a cleared ridge crest in Survey Unit 9 which overlooks a dam and a valley to the west. Aboriginal place, Mount Mesley Track Artefact Scatter was identified in an exposed surface context due to vehicle traffic and environmental erosion on a ridge crest in Survey Unit 9.

The Complex Assessment included the excavation of two test pits and four shovel test pits across Survey unit 7 and 2. Excavations in Survey unit 7 identified Dry Gully Creek Artefact Scatter in a subsurface context on an intact subtle rise.

Aboriginal places

Mount Mesley Track Artefact Scatter consists of at least 22 stone artefacts identified in an exposed sandy surface context due to environmental erosion and vehicle traffic. Dry Gully Creek Artefact Scatter was located in a subsurface context on an intact subtle rise. A total of eight artefacts were identified between 150 and 400 millimetres within a loose/friable, medium to coarse, yellowish brown to dark yellowish brown sandy loam with some metal and glass inclusions.

Further detail regarding Aboriginal Cultural Heritage is provided in Appendix 4 - Omeo Mountain Bike Trail, Omeo. Cultural heritage management plan.



4.5 Historical Heritage

There are three historic places currently listed on either the Victorian Heritage Register (VHR), Victorian Heritage Inventory (VHI) or Heritage Overlay (HO) within the current study area. These are:

- VHI H8423-0002 (New Adventure Co Diversion Sluice): this will require a consent to disturb from Heritage Victoria, if the place is to be impacted.
- H1225/VHI H8423-0001 / HO234 (Oriental Claims Hydraulic Sluicing Site/Oriental Sluicing Claim): this will require a permit and a consent to disturb from Heritage Victoria, if the place is to be impacted.
- Gambetta Reef Gold Battery site (HO287/H1269/VHI H8423-0004): this will require a permit and a consent to disturb from Heritage Victoria, if the place is to be impacted.

A Heritage Impact Statement (HIS) has been prepared to assess the potential need for the preparation of a permit or consent, or whether the works are exempt. Recommendations advise obtaining a permit from Heritage Victoria in relation to the Oriental Claims area, and applying for exemptions from a permit or consent for the New Adventure Co Diversion and Gambetta Reef Gold Battery.

In addition recommendations are provided for avoiding and minimising impacts to heritage places through the design and construction process for the trails, and developing an unexpected finds protocol to manage any historic material or places that may be uncovered during works.

Further detail regarding Historical Heritage is provided in Appendix 5 - Omeo Mountain Bike Complex: Omeo, Victoria: Historic Survey Report.



5. The Trails



5.1 Trail Description

The final trail alignments have been designed in accordance with the Design Criteria outlined in Section 3 and the key design considerations outlined in Section 4. The resulting network includes a number of connected access, cross-country and downhill trail types that can be ridden independently or combined to achieve an 'All mountain' riding experience.

This section provides a detailed description of each trail including degree of difficulty, trail length, elevation change and proposed construction methodology. A detailed description of the key 'All mountain' riding experiences is also provided at the end of this section. There are however numerous 'All mountain' experiences provided throughout the trail network.

The trails have been grouped into Trail Pods, determined by their geographic proximity and access. The Trail Pods include:

- Mount Sam;
- Mount Mesley;
- Dry Gully Creek;
- Livingstone Creek.

Two trails, (XC 7 and XC 16), were ground truthed however not assessed in detail as they were considered excessive for the current project and budget. A total trail length of 121.58 kilometres of trail was assessed in detail, being in accordance with the recommendation regarding sufficient trail length required to entice overnight visitors to Omeo, (Anthony Burton and Associates, 2019.) Trails XC7 and XC 16 are recognised as potential future trails however they are not included in the final total trail length of 121.58 kilometres.









5.2 Trail type

Table 5 - Omeo Trails by type

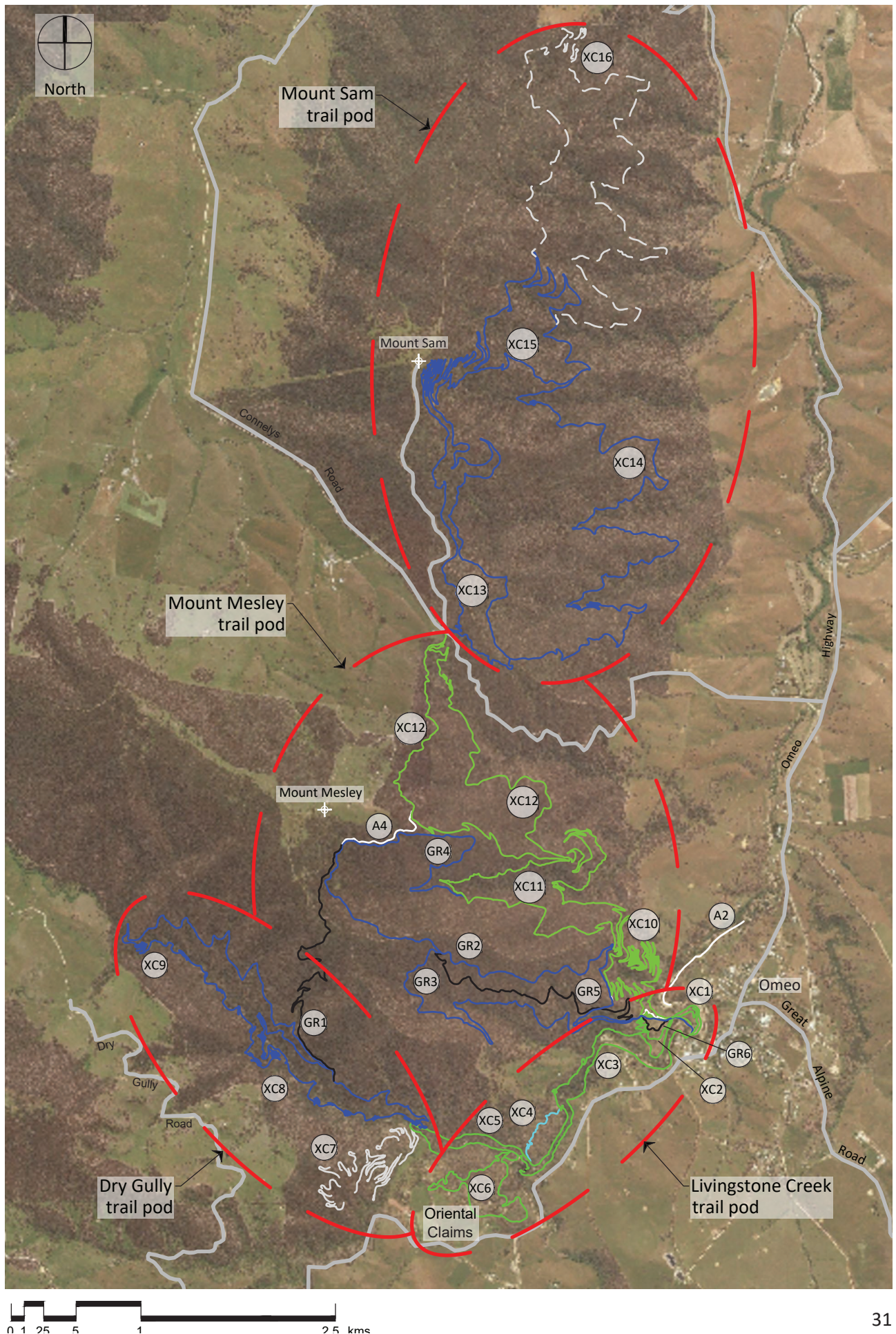
Trail type	Length - kilometres	%
Access - typically easy cross country, vehicle access on some alignments	2.59	2%
Cross Country	97.15	80%
Gravity	21.84	18%
Total	121.58	100%

Table 6 - Omeo Trails by Difficulty

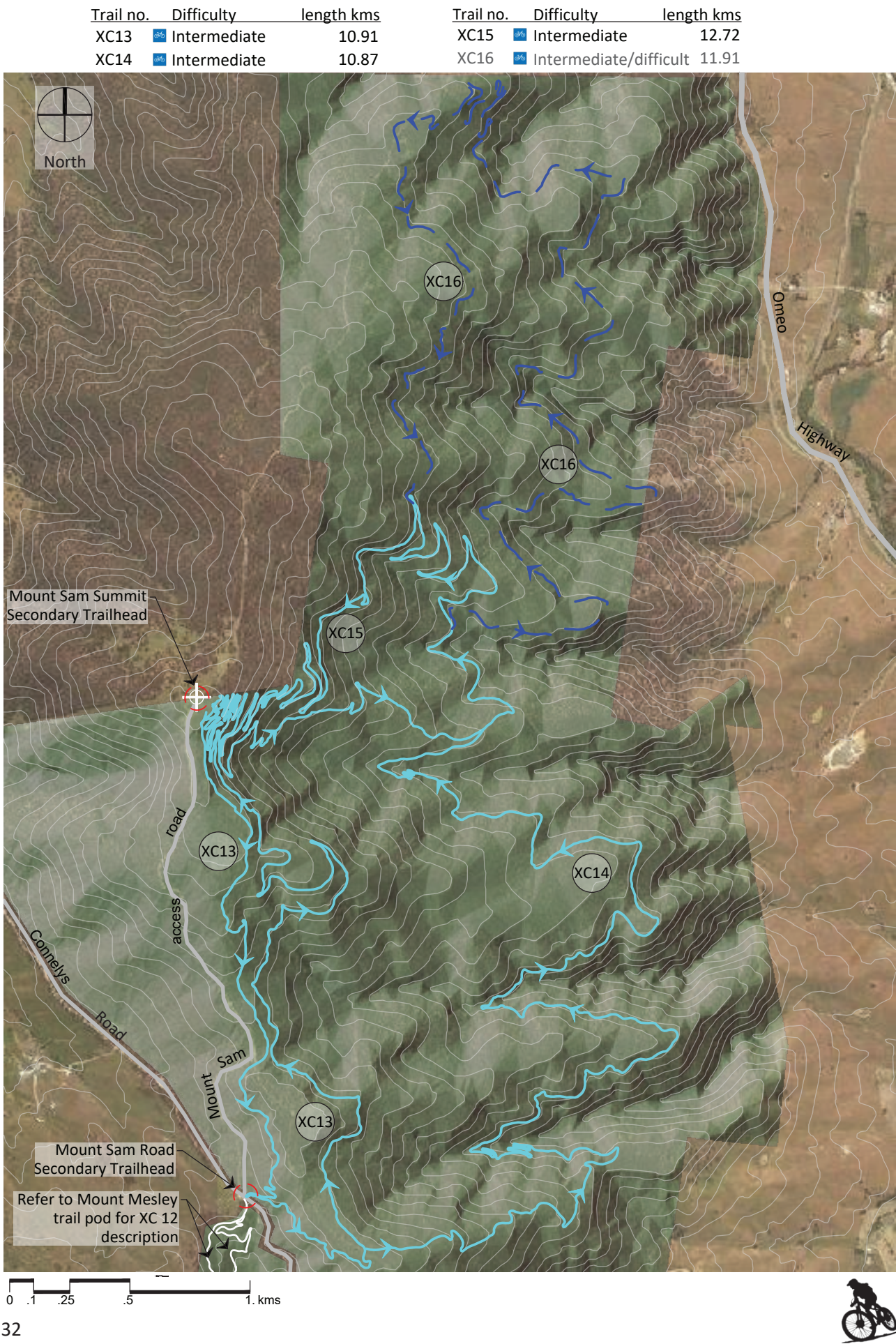
Trail Difficulty	Length - kilometres	%
 Very Easy	1.22	1%
 Easy	16.91	14%
 Easy / intermediate	33.13	27%
 Intermediate	48.77	40%
 Intermediate / Difficult	9.21	8%
 Difficult	12.34	10%
Total	121.58	100%



Map 1 - Trail network overview

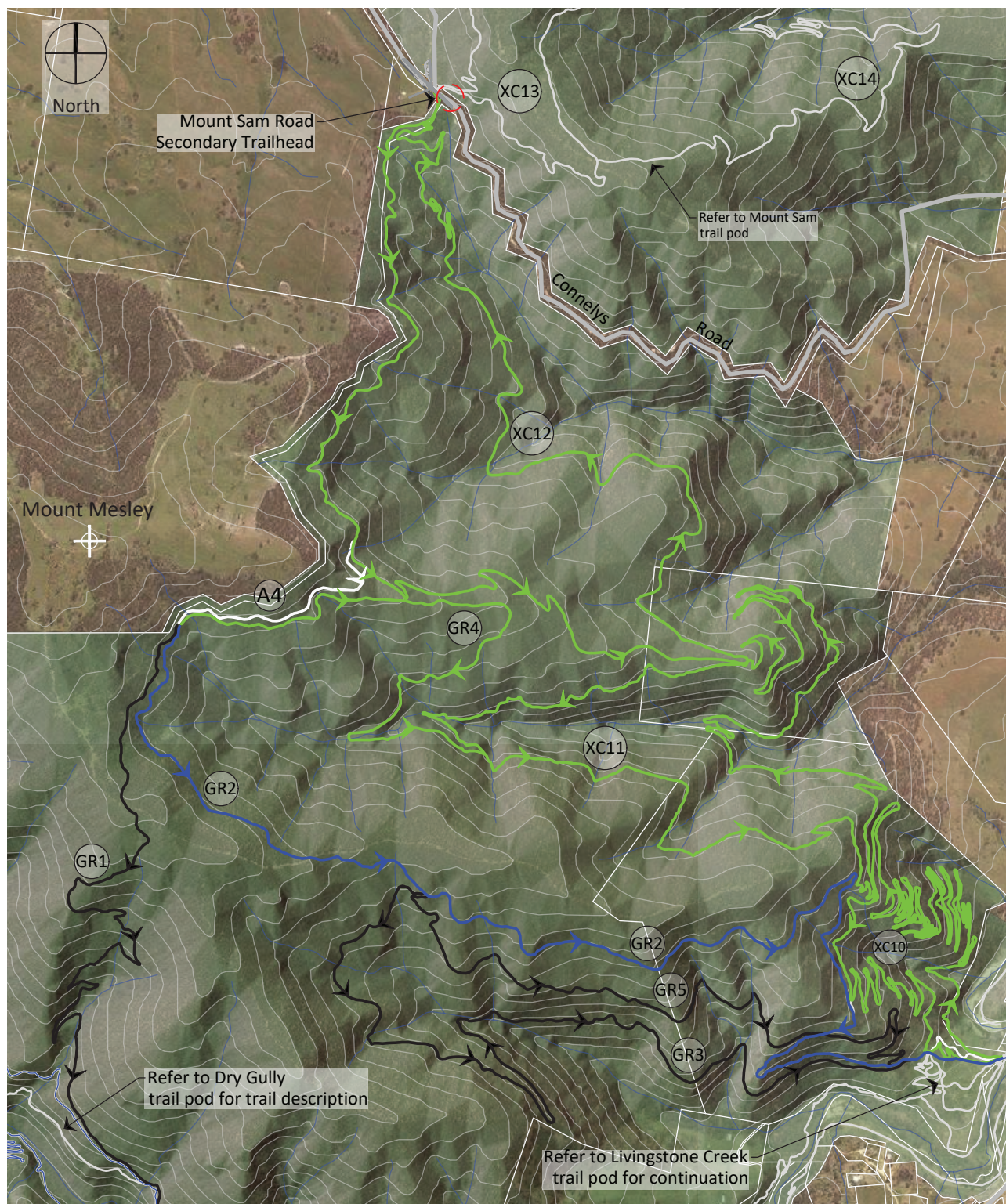


Map 2 - Mount Sam Trail Pod



Map 3 - Mount Mesley Trail Pod

Trail no.	Difficulty	length kms	Trail no.	Difficulty	length kms
A4	● Easy	1.06	GR5	◆ Difficult	3.28
GR1	◆ Difficult	4.03	XC10	● Easy/intermediate	10.21
GR2	■ Intermediate	6.53	XC11	● Easy/intermediate	9.17
GR3	◆ Difficult	4.68	XC12	● Easy/intermediate	9.48
GR4	● Easy/intermediate	2.98			



0 .1 .25 .5 1. kms

Map 4 - Dry Gully Creek Trail Pod

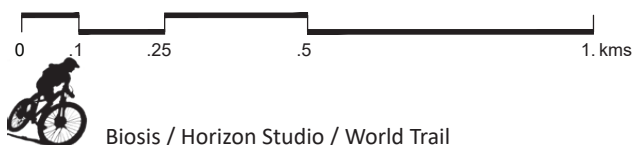
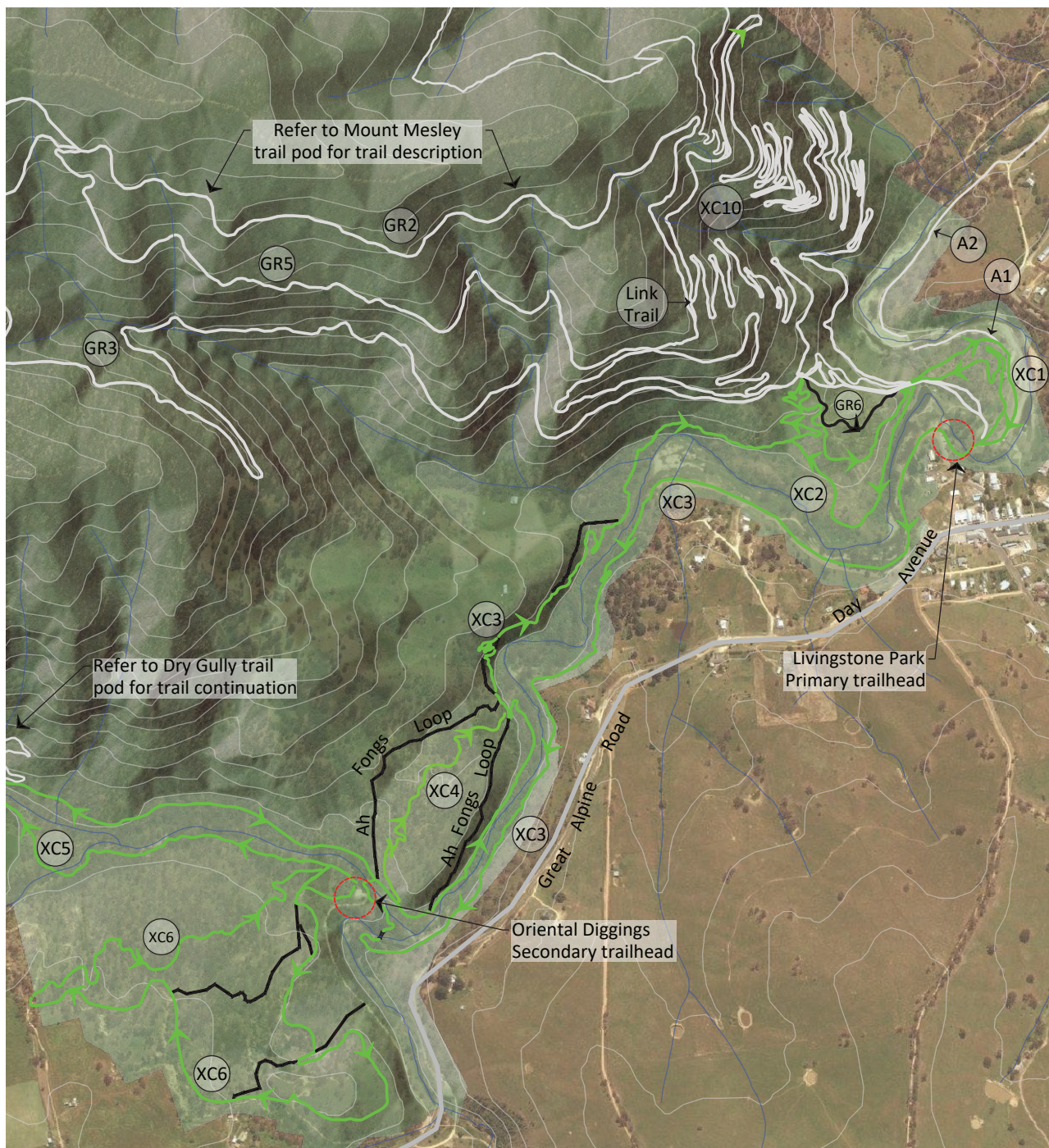


Map 5 - Livingstone Creek Trail Pod





















North

Trail no.	Difficulty	length kms
XC1	Easy	1.34
XC2	Easy	1.99
XC3	Easy	5.88
XC4	Easy/Intermediate	0.95
XC5	Easy	2.53
XC6	Easy	3.76
GR6	Difficult	0.42



Map 6 - Livingstone Park detail - Livingstone Creek Trail Pod

Legend	Trail no.	Difficulty	length kms
 MTB trail	A1	 Very easy	0.21
 Shared trail	A2	 Very easy	0.96
 Walking trail	A3	 Easy	0.37
 Riding direction	XC1	 Easy	1.34
 Redundant trail	XC2	 Easy	1.99
 Vehicle access	XC3	 Easy	5.88
	XC9	 Easy	9.21
	XC10	 Easy	10.21
	GR2	 Intermediate	6.53
	GR3	 Difficult	4.68
	GR5	 Difficult	3.28
	GR6	 Difficult	0.42



North



Map 7 - Oriental Claims detail - Livingstone Creek Trail Pod

Legend



MTB trail



Shared trail



Walking trail

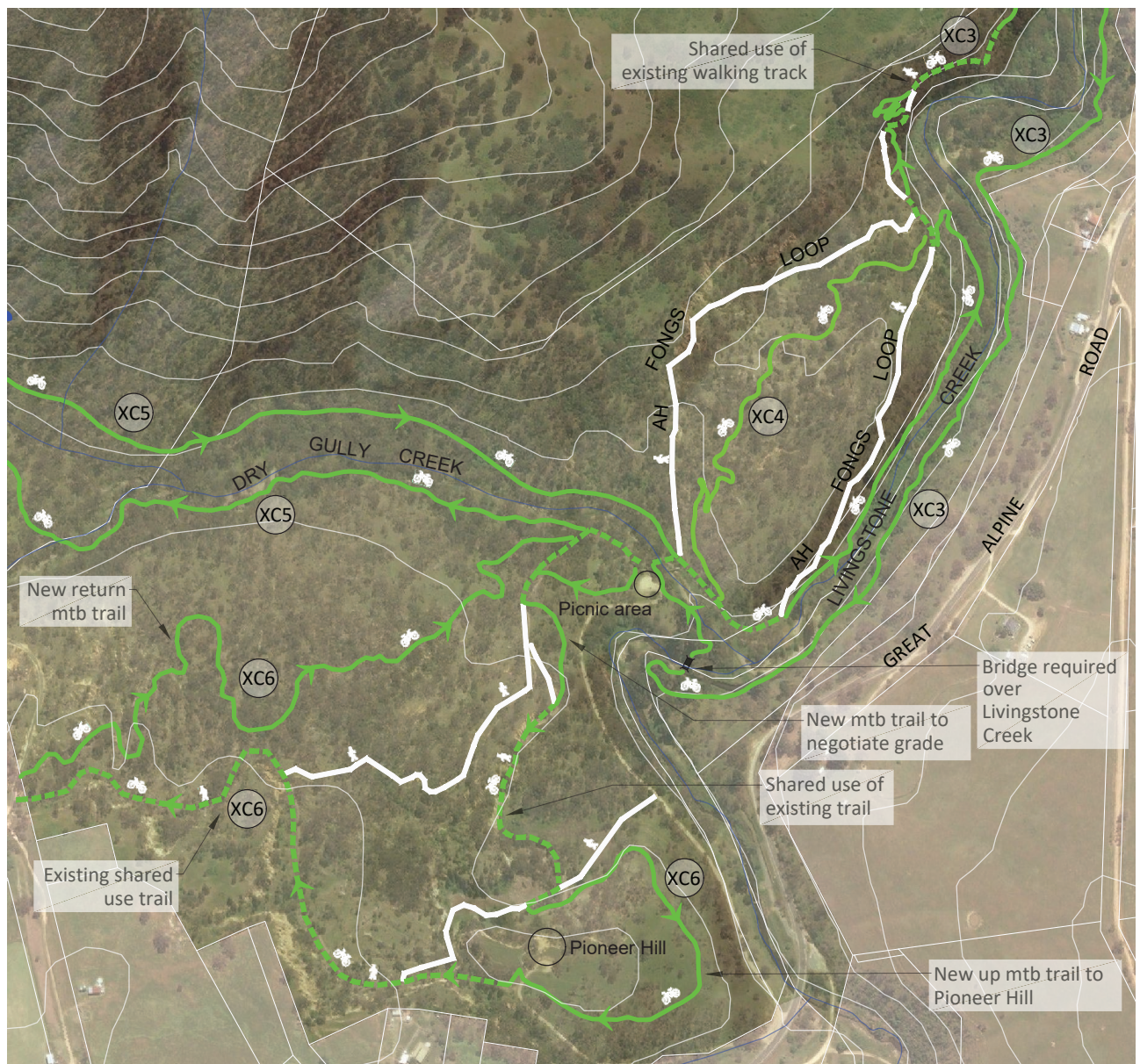


Riding direction







North


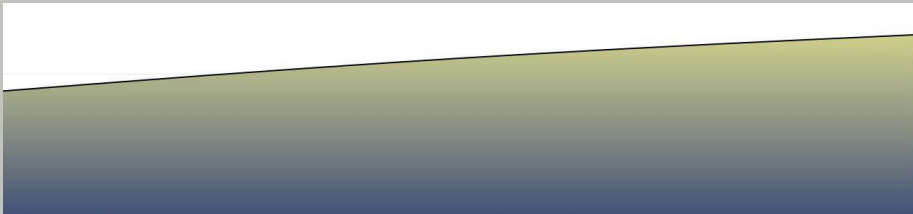
Trail no.	Difficulty	length kms
XC3	Easy	5.88
XC4	Easy/Intermediate	0.95
XC5	Easy	2.53
XC6	Easy	3.76




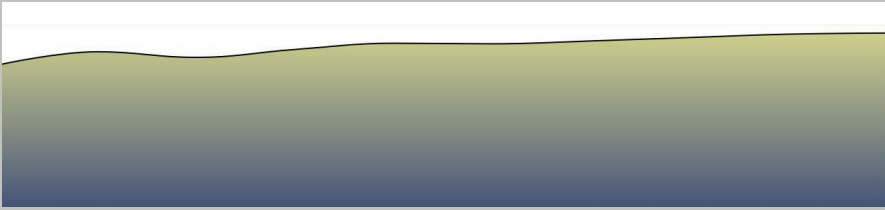
Access Trails

Trail name:	Access 1 - Shared Trail
Description:	Connecting trail providing shared access from Livingstone Park via XC1 to the Livingstone Creek crossing, (Connection to the caravan park).
Construction:	Existing trail with minor improvements required.
Difficulty:	Very Easy 
 <div> <div>627</div> <div>625</div> <div>Elevation change 2m</div> <div>0.21 kms</div> </div>	



Trail name:	Access 2 - Shared trail
Description:	Continuation of shared access between Livingstone Park and the caravan park. Commences at the east side of the proposed bridge over Livingstone Creek.
Construction:	Existing trail with minor improvements required.
Difficulty:	Very Easy 
 <div> <div>636</div> <div>627</div> <div>Elevation change 9m</div> <div>0.96 kms</div> </div>	


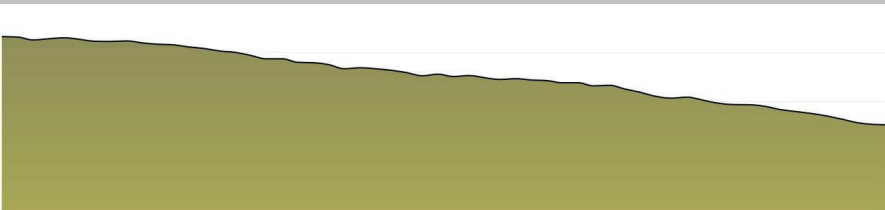
Trail name:	Access 3 - Shared trail
Description:	The designated 'up track' to top of trailhead gravity zone immediately above Livingstone Park. It will be heavily used by many of the gravity focused riders, completing multiple runs of the trailhead gravity trails.
Construction:	Realignment of existing trail - By machine
Difficulty:	Easy 
 <div> <div>679</div> <div>637</div> <div>Elevation change 42m</div> <div>0.37 kms</div> </div>	




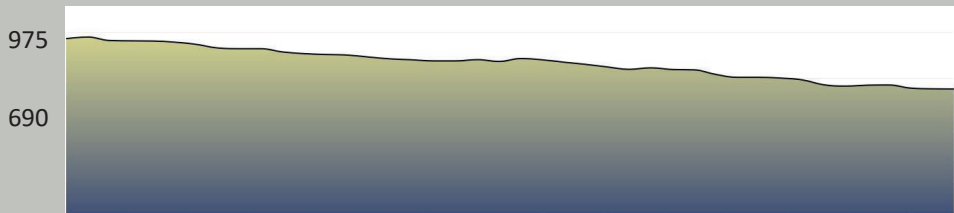
Trail name:	Access 4 - Shared trail
Description:	Provides access to the starting point for all the dedicated gravity trails near the summit of Mount Mesley. Accessed from Connley's Road by following the descending portion of XC 12, until the start of Access Track 4.
Construction:	New trail in forest - 90% by machine, 10% by hand.
Difficulty:	Easy 
	


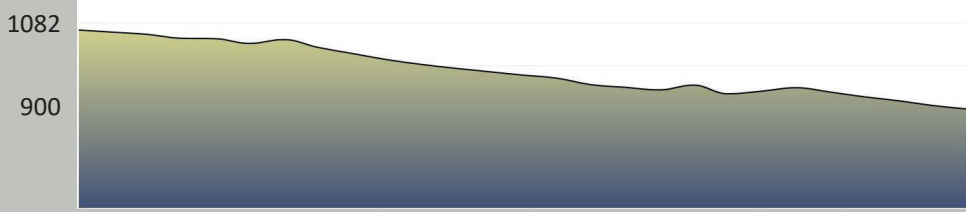
Gravity Trails



Trail name:	GR 1
Description:	Gravity trail commencing on the Mount Mesley ridge line and connecting with XC 8 to continue on to Livingstone Park.
Construction:	Steep terrain - 75% by machine, 25% by hand.
Difficulty:	Difficult 
	

Trail name:	GR 2
Description:	Long flowing gravity trail descending along the Mount Mesley ridgeline all the way to Livingstone Park. Connects with XC 10 via Link Trail approximately two thirds of the way down.
Construction:	Steep terrain in heavily forested area - 90% by machine, 10% by hand
Difficulty:	Intermediate 
	


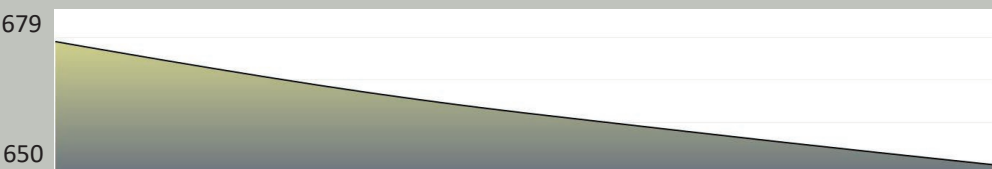


Trail name:	GR 3
Description:	Exciting alternative flowing gravity trail commencing one third of the way down XC 2 on the Mount Mesley ridge line.
Construction:	Steep terrain in heavily forested area - 90% by machine, 10% by hand
Difficulty:	Difficult 
 <div style="float: right; text-align: right;"> Elevation change 285m 4.68 kms </div>	


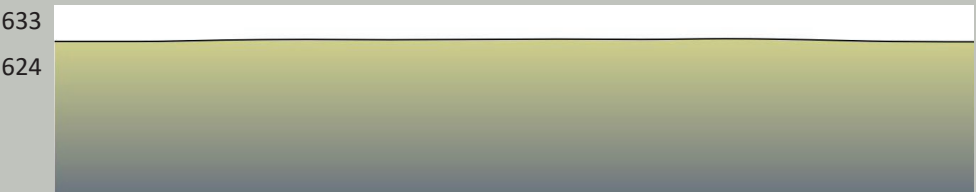
Trail name:	GR 4
Description:	Shorter descent from the high point on the Mount Mesley ridge line connection with XC 11 for return to Livingstone Park.
Construction:	Steep terrain in heavily forested area - 90% by machine, 10% by hand
Difficulty:	Easy / intermediate 
 <div style="float: right; text-align: right;"> Elevation change 182m 2.98 kms </div>	


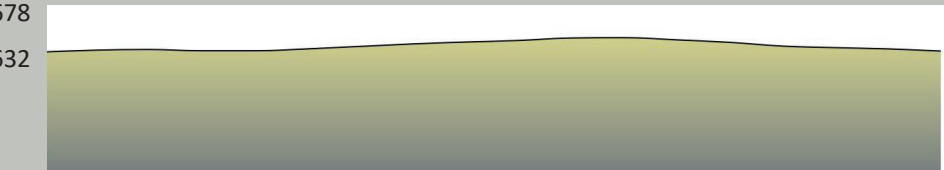
Trail name:	GR 5
Description:	Shorter descent commencing one third of the way down GR 2 on the Mount Mesley ridge line return to Livingstone Park.
Construction:	Steep terrain in remote heavily forested area - 90% by machine, 10% by hand
Difficulty:	Difficult 
 <div style="float: right; text-align: right;"> Elevation change 272m 3.28 kms </div>	




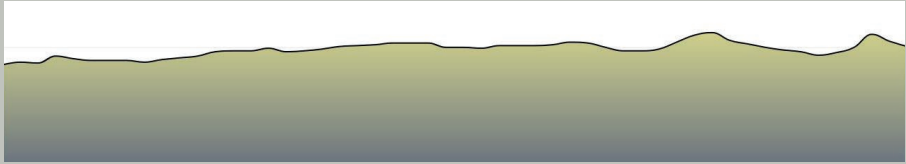
Trail name:	GR 6
Description:	Short feature gravity trail through the historic mining area immediately upslope of Living Park. Offers some exciting opportunities for creative trail building.
Construction:	Easy access from Livingstone Park - 90% by machine, 10% by hand
Difficulty:	Difficult 
 <div style="float: right; text-align: right;"> Elevation change 29m 0.42 kms </div>	


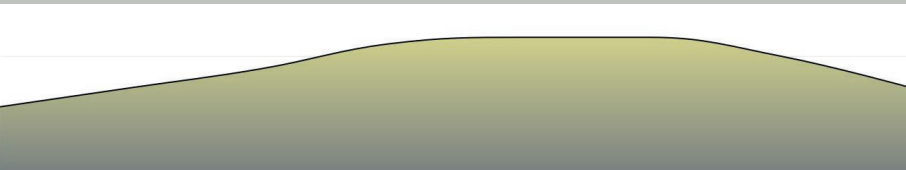
Cross-country trails


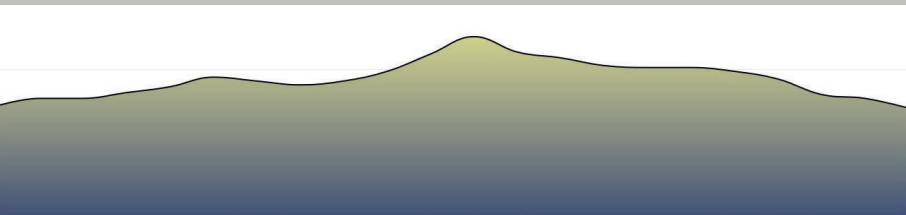
Trail name:	XC 1
Description:	XC 1 is the first XC trail from the Livingstone Park trailhead. Provides access to majority of the trail network. Includes some existing sections. Connects to lower tunnel/cross-over and provides view over the historic Livingstone Creek tunnel.
Construction:	Easy access from Livingstone Park - 100% by machine
Difficulty:	Easy 
 <div style="float: right; text-align: right;"> Elevation change 9m 1.34 kms </div>	

Trail name:	XC 2
Description:	Includes some existing sections. First half of the trail, from the lower tunnel/cross-over all the way to upper tunnel/cross-over is shared use (walkers and MTB). Descending section MTB only. End section descends through the heavily modified mullock heaps. Opportunity for creative trail design.
Construction:	Easy access along Livingstone Creek - 100% by machine
Difficulty:	Easy 
 <div style="float: right; text-align: right;"> Elevation change 46m 1.99 kms </div>	


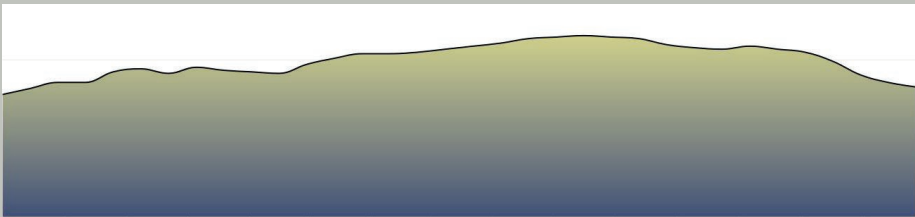



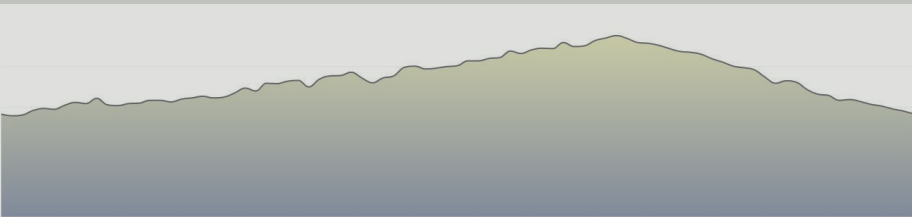
Trail name:	XC 3
Description:	Includes some existing sections. First section follows an existing vehicle track beside Livingstone Creek. While the use of a section of road is not ideal, the construction of a dedicated trail between the road and creek is not supported. Area is likely to be regularly inundated and is also subject to heavy recreational use, including by vehicles. Middle section passes through grazing lease areas, but has good conditions for trail construction. This section would ideally be constructed slightly wider to accommodate shared-use. Final section returns to Livingstone Park via a mix of new and existing trail. Australian Anchor Plant to be avoided along this trail.
Construction:	Primarily new trail along Livingstone Creek - 90% by machine, 10% by hand
Difficulty:	Easy 
<div> <div>667 630</div>  <div> Elevation change 37m 5.88 kms </div> </div>	



Trail name:	XC 4
Description:	Passes through area of heavily modified mullock heaps within the Oriental Claims. Opportunity for creative trail design. Australian Anchor Plant to be avoided along this trail.
Construction:	Relative easy access - 90% by machine, 10% by hand
Difficulty:	Easy / intermediate 
<div> <div>663 652</div>  <div> Elevation change 11m 0.95 kms </div> </div>	

Trail name:	XC 5
Description:	Lower Dry Gully Creek loop. Provides access to potential campsite area along Dry Creek. . Starts and finishes in Oriental Claims. Protection of Australian Anchor Plant required on this trail. Trail re-aligned to avoid Clover Glycine.
Construction:	Accessible from Oriental Claims / Dry Cully - 90% by machine, 10% by hand
Difficulty:	Easy 
<div> <div>692 655</div>  <div> Elevation change 37m 2.53 kms </div> </div>	







Trail name:	XC 6
Description:	Passes through area of heavily modified mullock heaps. Opportunity for creative trail design. Mix of existing and new trails. Takes riders to lookout over Oriental Claims. Protection of Australian Anchor Plant required on this trail. Trail re-aligned to avoid Clover Glycine
Construction:	Mix of existing and new trail, mostly with good access - 90% by machine, 10% by hand
Difficulty:	Easy 
 <div style="float: right; text-align: right;"> Elevation change 39m 3.76 kms </div>	


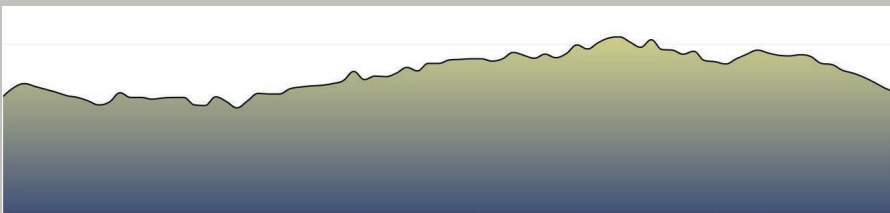
Trail name:	XC 7
Description:	Stand-alone loop in southwest extent of site. Low priority. Not assessed in detail.
Construction:	Steep terrain requiring many switchbacks - 60% by machine, 10% by hand
Difficulty:	Easy / Intermediate 
 <div style="float: right; text-align: right;"> Elevation change 197m 9.81 kms </div>	

Trail name:	XC 8
Description:	Mid Dry Gully Creek loop. Very steep and rocky. Requires considerable hand build and a number of bridges.
Construction:	Difficult terrain in Dry Gully - 75% by machine, 25% by hand
Difficulty:	Intermediate 
 <div style="float: right; text-align: right;"> Elevation change 197m 7.74 kms </div>	

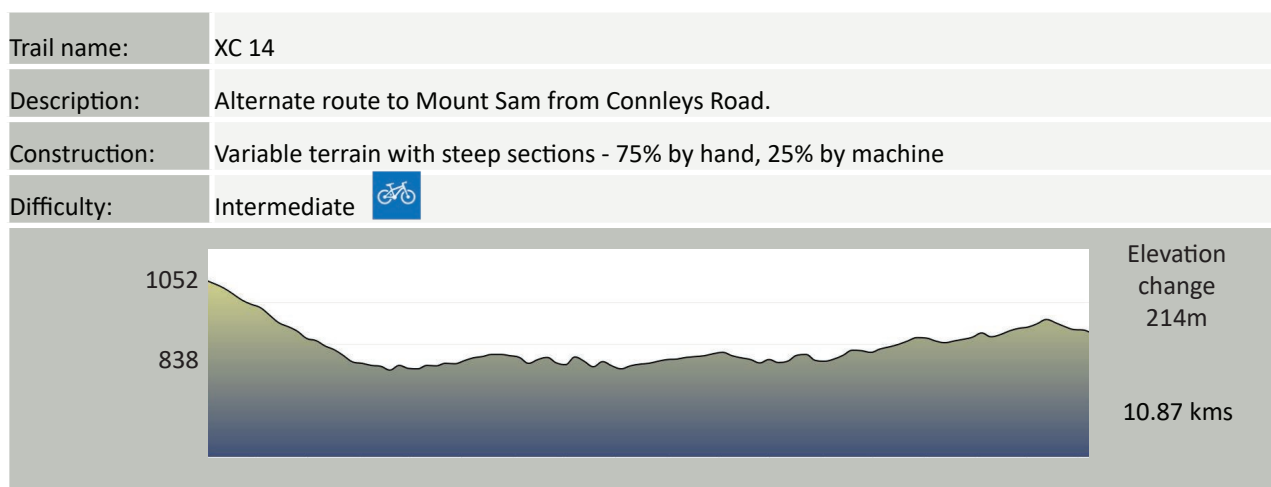
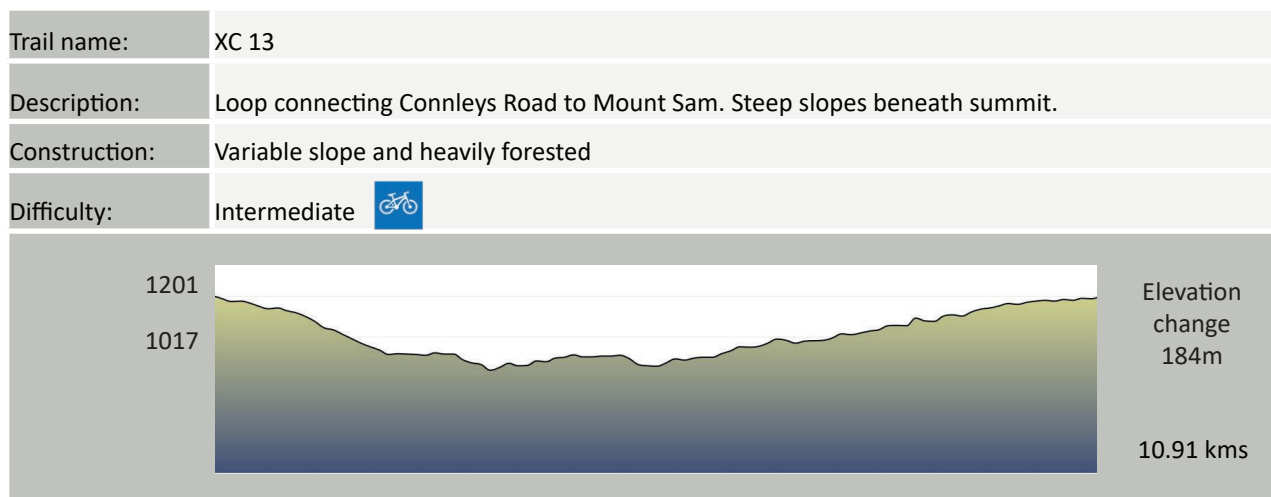
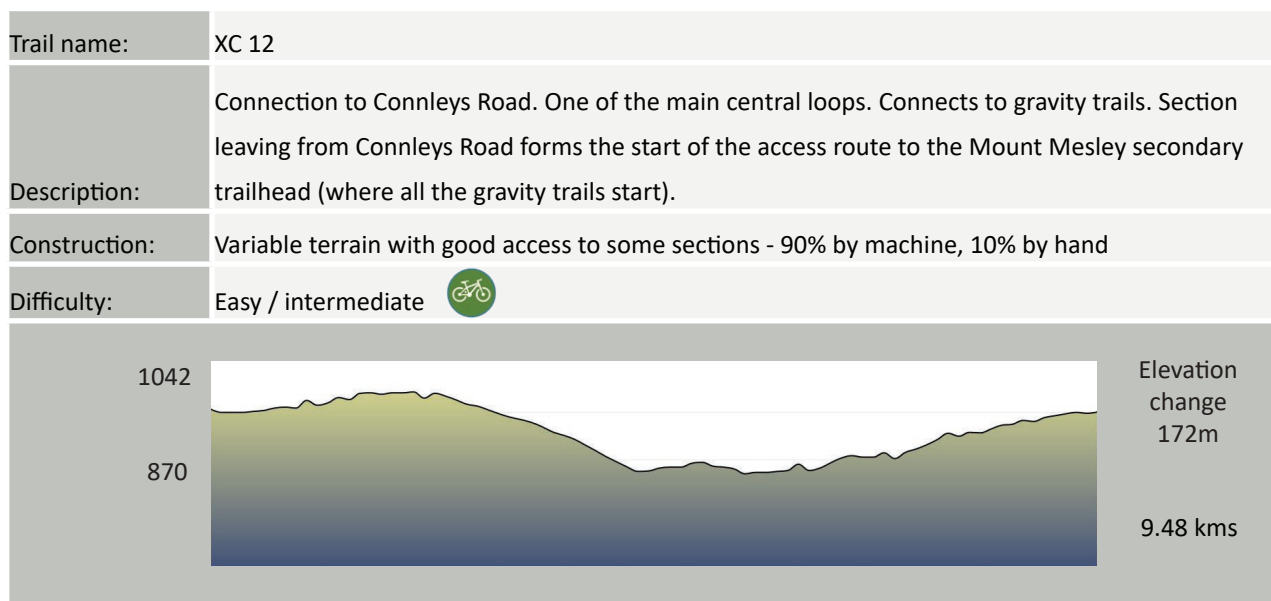


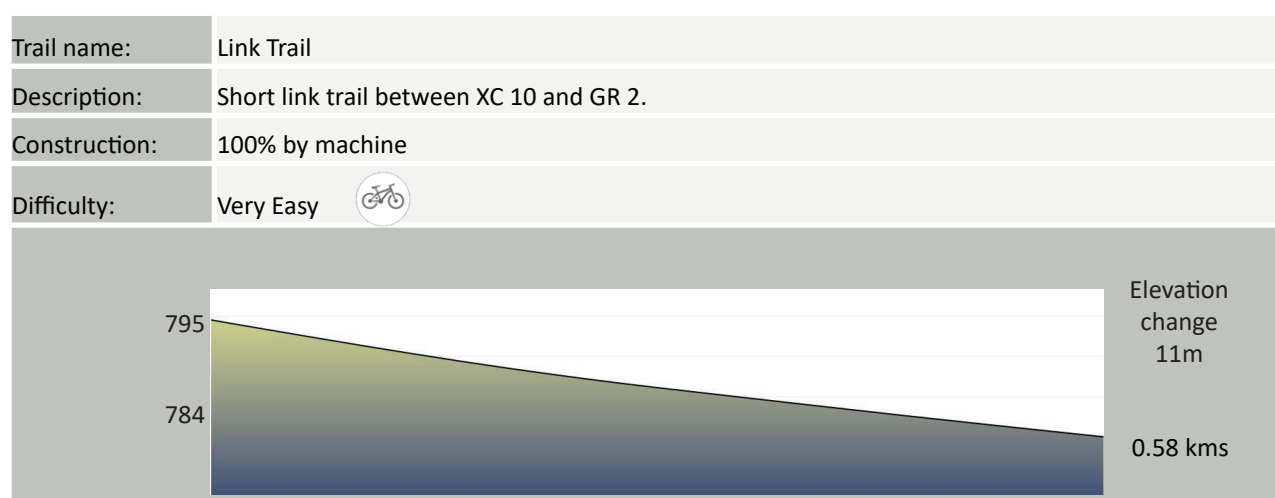
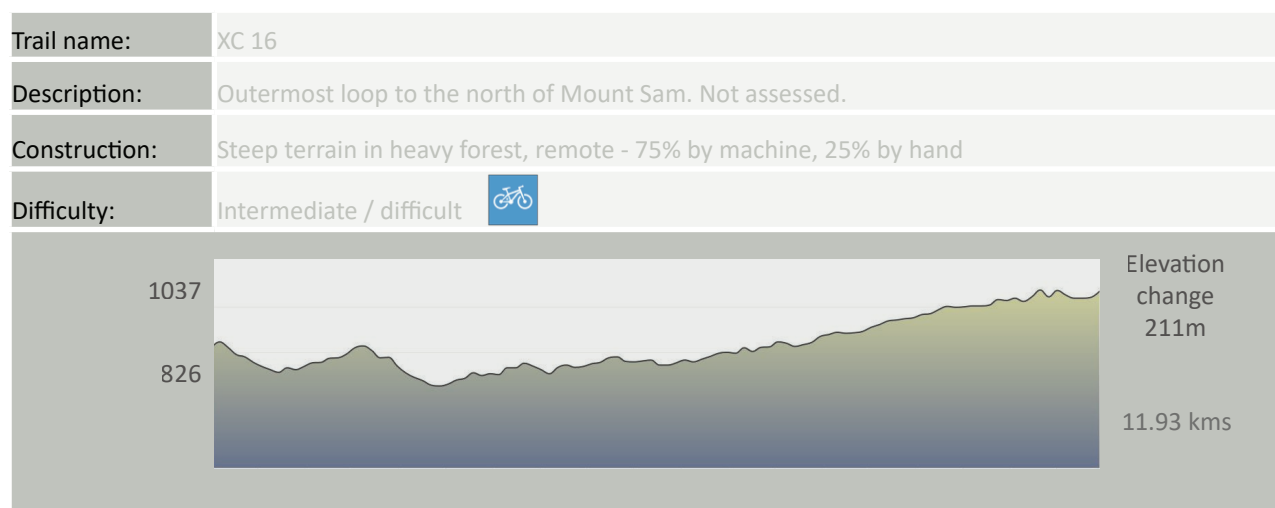
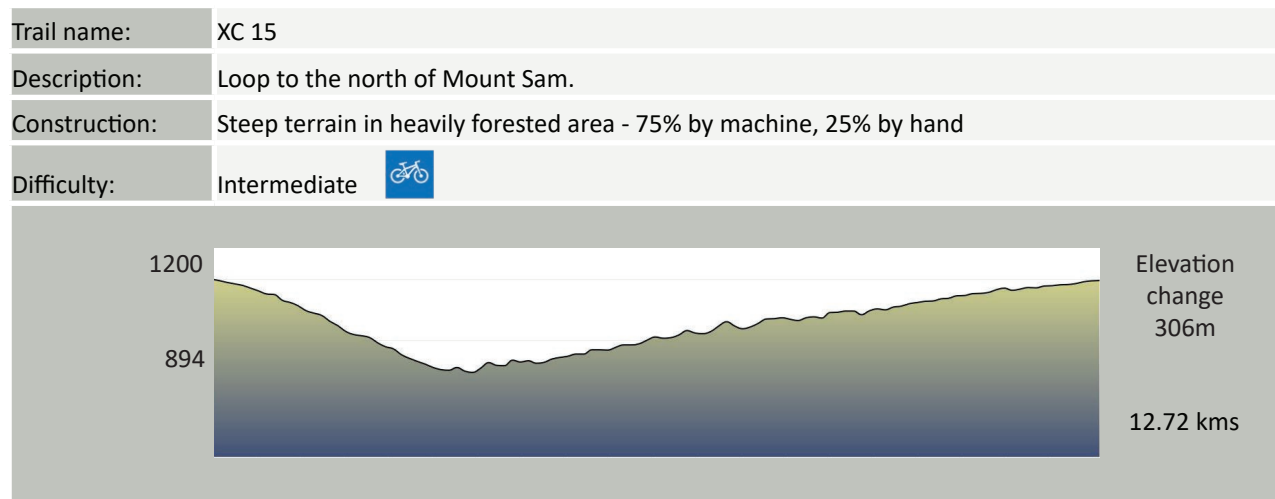
Trail name:	XC 9		
Description:	Located in the upper reaches of Dry Gully Creek. Very steep and rocky terrain. Requires hand build and a number of bridges.		
Construction:	Difficult terrain in Dry Gully - 75% by machine, 25% by hand		
Difficulty:	Intermediate / difficult 		
	<div> <div>910</div> <div>764</div>  </div> <div> Elevation change 146m 9.21 kms </div>		

Trail name:	XC 10		
Description:	Very important trail, heading north from Livingstone Park towards Connleys Road. Steep slopes and high number of switchbacks potentially prevent the proposed rating. Need to explore opportunity of using private property to north to avoid steep sections.		
Construction:	Steep terrain requiring many switchbacks - 60% by machine, 40% by hand		
Difficulty:	Easy / intermediate 		
	<div> <div>910</div> <div>633</div>  </div> <div> Elevation change 199m 10.21 kms </div>		

Trail name:	XC 11		
Description:	Middle loop between Livingstone Park and Connleys Road. Connects to XC 12 and GR 4		
Construction:	Steep terrain - 90% by machine, 10% by hand		
Difficulty:	Easy / Intermediate 		
	<div> <div>910</div> <div>789</div>  </div> <div> Elevation change 123m 9.51 kms </div>		







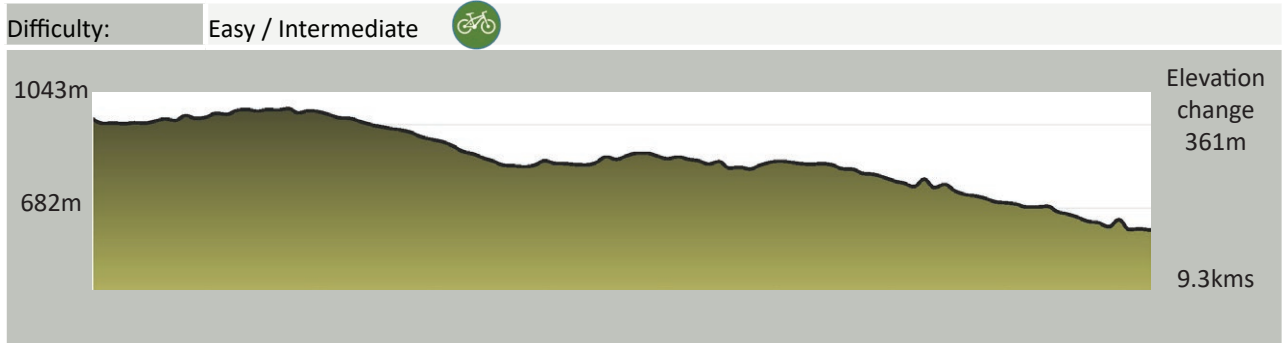
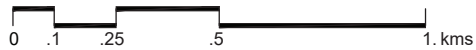
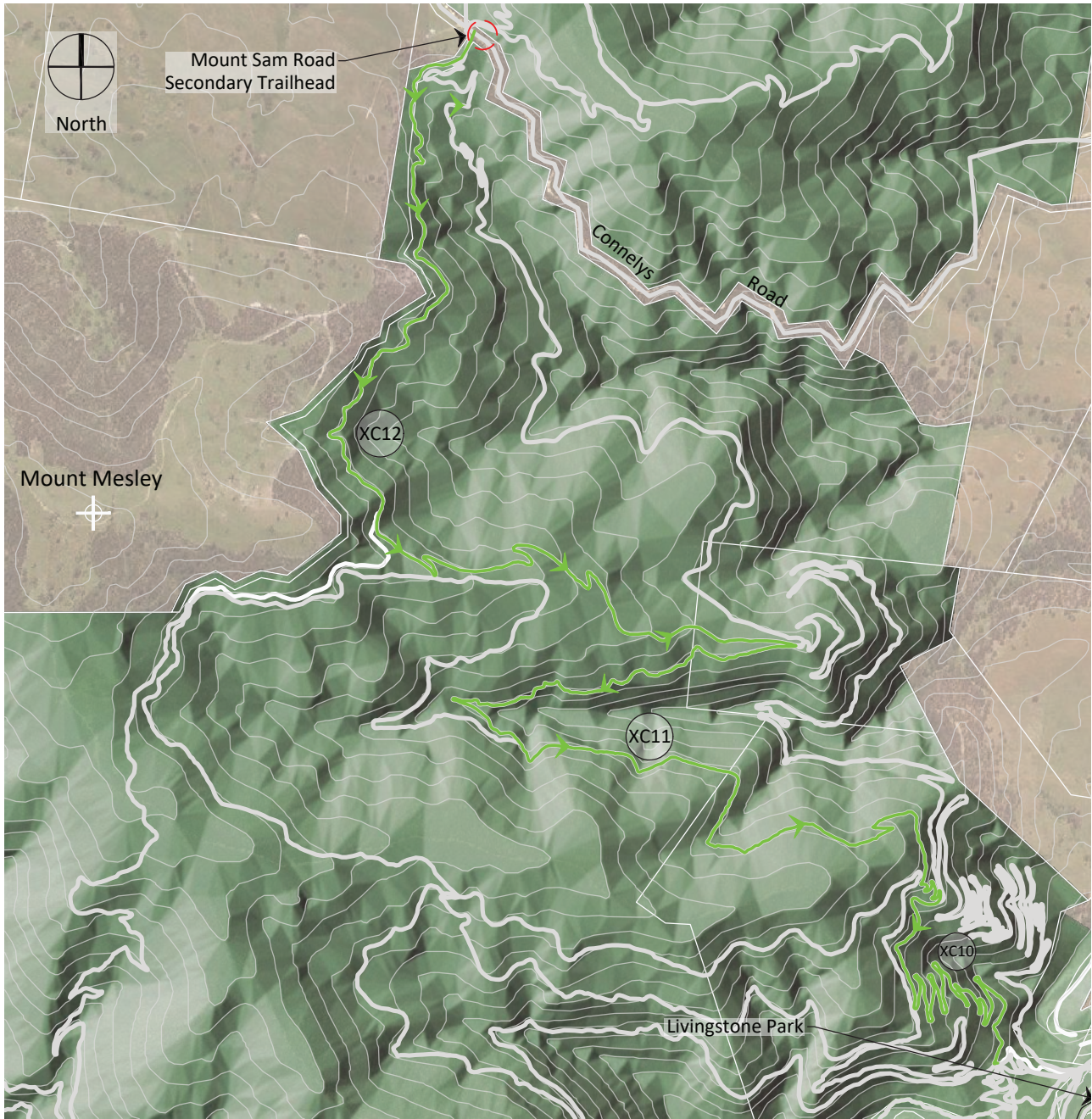
5.3 Key All Mountain experiences

All mountain riding experience is achieved through the combining of a number of trails or trail sections. The Omeo mountain bike trail network has potential for numerous possible 'All Mountain' riding experiences. This section describes the three key 'All mountain' experiences.

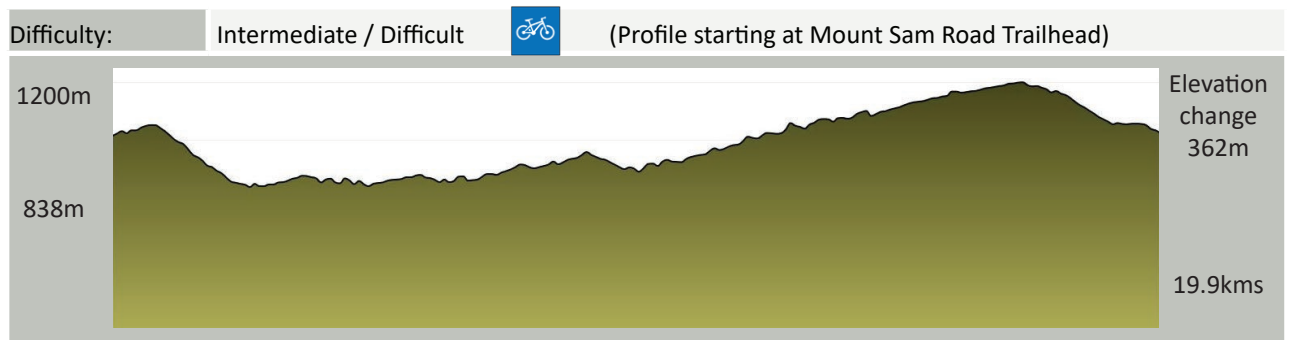
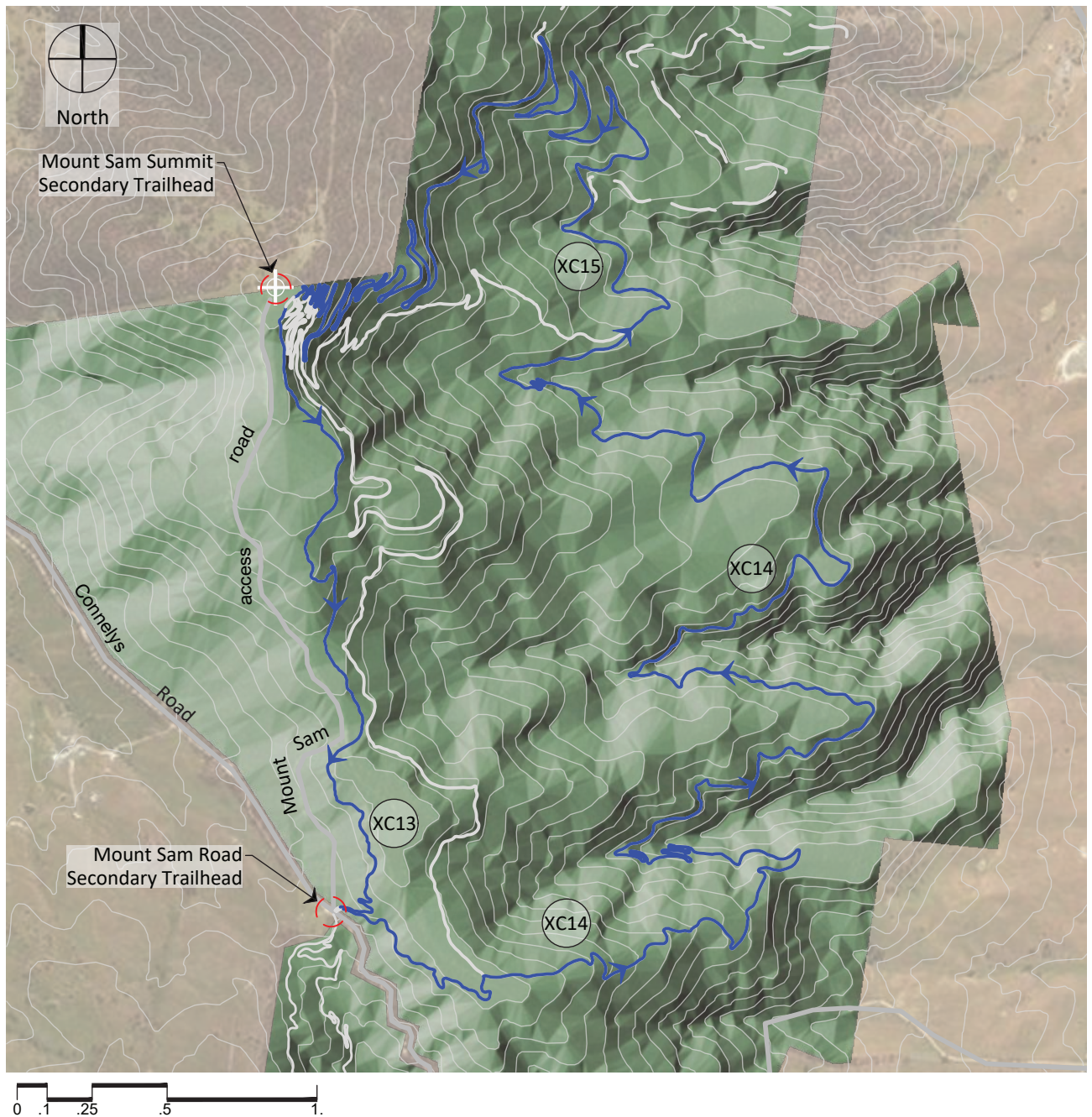
- Mount Mesley drop - Trails XC 12, XC 11 and XC10.
- Mount Sam loop - trails XC 14, XC 15 and XC 13.
- Dry Gully loop - trails XC 5, XC 8 and XC 9.



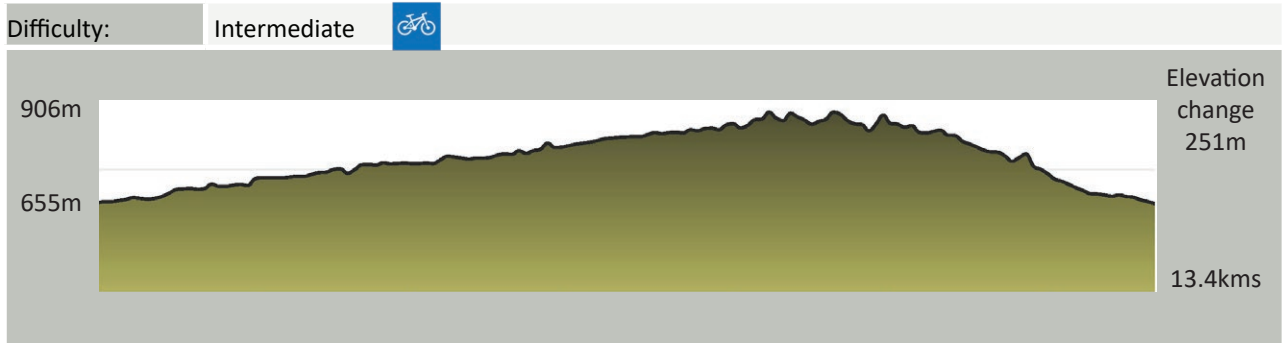
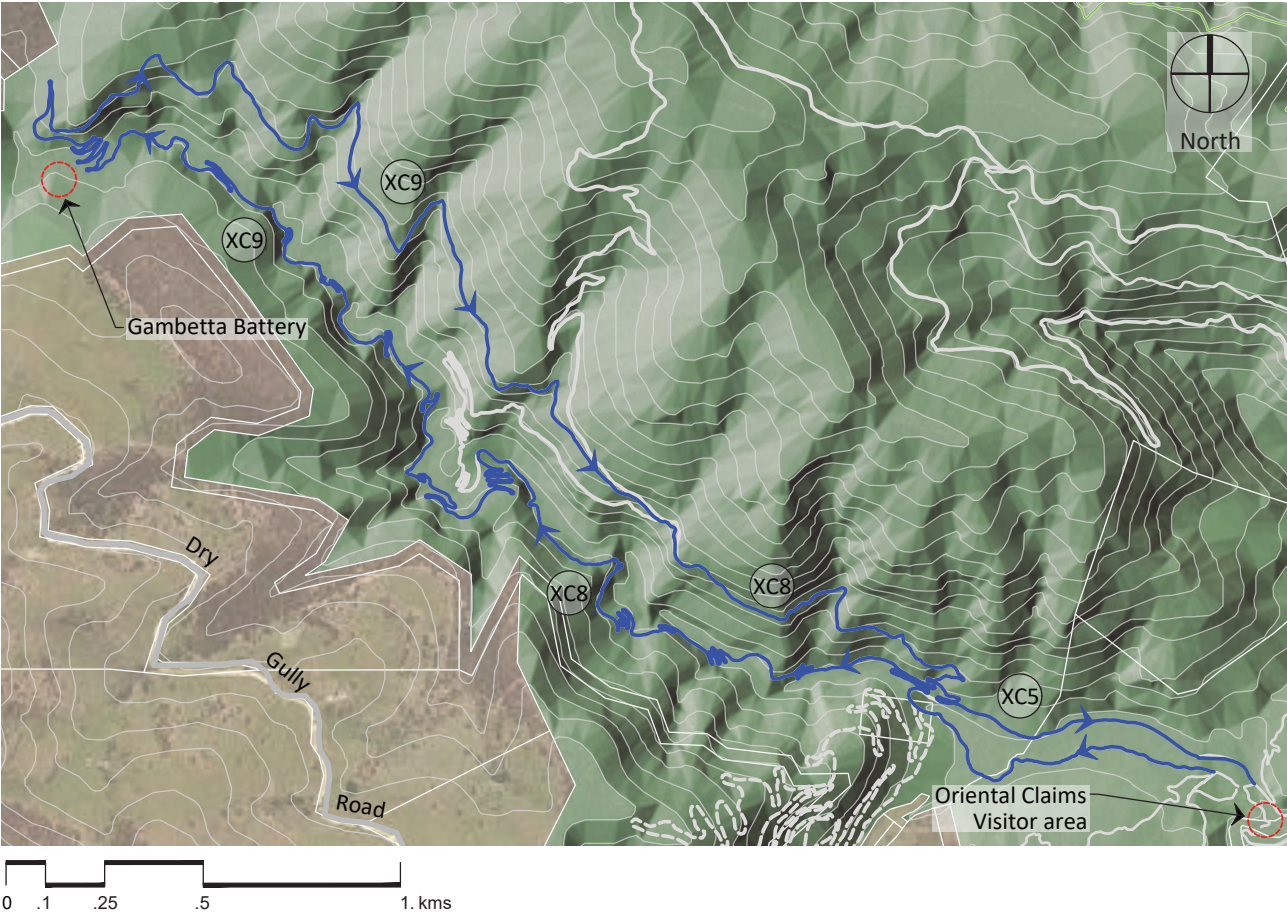
Map 8 - Mount Mesley Drop - XC 12, XC 11 and XC 10



Map 9 - Mount Sam loop - XC 14, XC 15 and XC 13



Map 10 - Dry Gully Creek loop - XC 5, XC 8 and XC 9





6. Trail Construction



This section provides the detail of trail construction techniques and methodology including site environmental management and the management of Aboriginal cultural heritage found during the activity. Construction activity includes the construction of new trails, modification of existing trails, construction of structures including bridges, elevated structures, low level bridges and the installation of signage.

This Trail Construction Plan has been developed from the team's collective experience in the design and construction of mountain bike trails and guidance from the following references:

- Australian Mountain Bike trail Guidelines, Mountain Bike Australia, 2019;
- Trail Solutions: IMBA's Guide to Building Sweet Single track, International Mountain Biking Association, 2004;
- Managing Mountain Biking: IMBA's Guide to Providing Great Riding, International Mountain Bicycling Association, 2007.

Application of the following construction principals and techniques must take into account the immediate conditions in which the trail construction is to be constructed. Specific site aspects to consider include slope, soil texture, vegetation including large trees and drainage lines.



6.1 General

6.1.1 Pre-construction trail inspection

Prior to the commencement of construction the trail alignments must be inspected by Council's appointed Project Manager and the contractor's appointed supervisor, to confirm the construction techniques to be used and identify any specific environmental or cultural heritage issues that need to be addressed during the construction activity.

Identified specific issues are to be marked in the field and recorded including photos, and an appropriate action determined and documented.

An ecologist and heritage advisor should be present for this initial mark out phase to ensure important values are identified and avoided.

6.1.2 Construction period

Trail construction is only to be carried out when ground conditions are suitable, e.g., not during periods of significant rain events, and weather conditions do not place construction personnel or equipment in danger, e.g., days of extreme weather. The appointed contractor must monitor the forecast weather conditions and plan the construction activity to ensure continuity of works and the safeguard of personnel and equipment at all times.

6.1.3 Induction

All personnel participating in the construction activity must complete the Cultural Heritage, Environmental and OH&S inductions prior to commencement of works.

The Cultural Heritage induction must be carried out by the appointed Heritage Advisor, in collaboration with the representatives of the Registered Aboriginal Parties.

6.1.4 Site access

The contractor and all sub-contractors must adhere to the site access plan and only park vehicles and machinery in the designated locations.

No work, parking of vehicles, machinery or storage of equipment is permitted outside of the designated locations as described on the Site Access Plan.

Equipment and trail construction contractors must remain within the trail corridor during the construction activity.

6.1.5 Bunting and Marking

Identified areas of environmental or cultural significance including waterways in close proximity to the trails are to be marked using high visibility bunting or rope to restrict access and storage of equipment and or materials.

Parking areas and equipment / materials storage areas are to be clearly delineated with high vis bunting and or rope.

6.1.6 Construction signage and notices

Access points to the worksites are to be clearly identified with temporary construction signage stating authorised access only.



6.1.7 Equipment preparation and wash down

All equipment including hand tools and footwear must be thoroughly cleaned prior to entering the work site to avoid the spread of weeds and pathogens or introduce any foreign material that may impact on the environment. Wash down of plant and equipment must take place at an approved wash down location to be approved by the Council Project Manager.

All machinery must remain within the construction site during the construction period or it must be re cleaned every time it re-enters the site.

Hand tools should be clean, disinfected and free of any soil prior to entering the site.

Vehicles used to access the site should be clean and only use existing access tracks or preferably be kept outside of the work site.

6.1.8 Sediment control

The construction contractor must implement measures to protect waterways and drainage lines and minimise the potential for soil disturbance and erosion.

Sediment fencing must be installed where there is potential for sediment transport and or erosion as a consequence of the construction activity. A sediment fence is a temporary barrier of permeable geotextile or geotextile wrapped hay bales staked to the ground.

Sediment fencing should be inspected regularly, cleaned of debris and replaced where required.

6.1.9 Storage of plant and equipment

Plant and equipment should remain in the construction site for the duration of the project to minimise the potential for the transference of weeds and or pathogens. It is recommended that machines remain at the work site at the end of each day. Where it is necessary to remove plant and equipment from the worksite it must be transported via an approved route.

Hand tools should be stored in work vehicles or other pre- approved secure location. Tools should not be left on the trail at the end of each day. Tools should not be used in areas outside of the worksite for the duration of the trail construction period to avoid the spread of weed and pathogens.

6.1.10 Qualified operators

The contractor must ensure that all persons engaged for the works including employees and sub-contractors are suitably qualified and trained to carry out the respective tasks and operate the respective plant and equipment.



6.3 Management of Aboriginal cultural heritage found during the activity

The following draft recommendations have been extracted from the Omeo Mountain Bike Trail, Omeo, Cultural Heritage Management Plan, 16644. Adherence to the final conditions is mandatory and not negotiable. Finalisation of these recommendations is pending approval by the Traditional owners.

If Aboriginal cultural heritage material is found, works must stop in the relevant area and the following process be followed:

1 Discovery

- a. If suspected Aboriginal cultural heritage is identified, all activity within a 10 metre buffer must stop. The activity can proceed outside the buffer.

The suspected Aboriginal cultural heritage must be left in place, and protected from harm.

2 Notification

- a. The person who identified the suspected Aboriginal cultural heritage must notify the person in charge of the activity.
- b. The person in charge of the activity must notify the Secretary, Department of Premier and Cabinet of the identification of suspected Aboriginal cultural heritage within one working day of its discovery.
- c. The person in charge of the activity must notify a heritage advisor and any appointed Registered Aboriginal Party of the identification of suspected Aboriginal cultural heritage within one working day of its discovery.

3. Assessment

- a. The person in charge of works must ensure that the 10 metre buffer is barricaded around the location of the suspected Aboriginal cultural heritage within one working day of its discovery.
- b. The heritage advisor must attend the Activity Area within two working days of notification of the suspected Aboriginal cultural heritage and, in consultation with any appointed Registered Aboriginal Party:
 - Fully assess and if required, record the Aboriginal cultural heritage.
 - Advise and make recommendations in relation to appropriate management measures for the Aboriginal cultural heritage, to the person in charge of the activity.
- c. The person in charge of the activity, upon receipt of the assessment and recommendations from the heritage advisor and any appointed Registered Aboriginal Party, must provide the Secretary, Department of Premier and Cabinet with an indicative impact mitigation or salvage strategy.

4. Impact mitigation or salvage

- a. If the Aboriginal cultural heritage is assessed as being of low scientific significance and/or does not meet the threshold for registration as an artefact scatter or multi-component Aboriginal place:
 - i. The Aboriginal cultural heritage can be recorded and collected by a heritage advisor; and
 - ii. The activity may continue within the buffered area after the salvage has been completed to the satisfaction of the heritage advisor and any appointed Registered Aboriginal Party.
- b. If the Aboriginal cultural heritage is assessed to be of high scientific significance and/or meets the threshold for registration as an artefact scatter or multi-component Aboriginal place:

An appropriate impact mitigation or salvage strategy must be prepared by the heritage advisor, in consultation



with appointed Registered Aboriginal Party. In the absence of any appointed Registered Aboriginal Party, the impact mitigation of salvage strategy must be approved by the Secretary, Department of Premier and Cabinet.

- i. Once the impact mitigation or salvage strategy has been approved it must be implemented by the person in charge of works, in accordance with any conditions required by any appointed Registered Aboriginal Party or the Secretary, Department of Premier and Cabinet.
- ii. The activity may continue within the buffered area after the salvage has been completed to the satisfaction of the heritage advisor and any appointed Registered Aboriginal Party.

5. Custody

- a. The treatment of salvaged Aboriginal cultural heritage must be in accordance with the direction of any appointed Registered Aboriginal Party or in the absence of a Registered Aboriginal Party, the Secretary, Department of Premier and Cabinet, and relevant Aboriginal Victoria guidelines and practice notes.
- b. All details of the location and nature of the Aboriginal cultural heritage must be provided to the VAHR.

6.4 Discovery of suspected human remains

The following recommendations have been extracted from the Omeo Mountain Bike Trail, Omeo, Cultural Heritage Management Plan, 16644. Adherence to these conditions is mandatory and not negotiable.

If any suspected human remains are discovered, you must contact the Victoria Police and the State Coroner's Office immediately. If there are reasonable grounds to believe that the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be contacted on 1300 888 544. This advice has been developed further and is described in the following 5-step contingency plan:

1 Discovery

- a. If suspected human remains are discovered, all activity must stop.
- b. The remains must be left in place, and protected from harm or damage.

2 Notification

- a. If suspected human remains have been found, the State Coroner's Office and the Victoria Police must be notified immediately.
- b. If there is reasonable grounds to believe the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be immediately notified on 1300 888 544.
- c. All details of the location and nature of the human remains must be provided to the relevant authorities.
- d. If it is confirmed by these authorities the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must report the existence of them to the Victorian Aboriginal Heritage Council in accordance with section 17 of the Aboriginal Heritage Act 2006.



3 Impact Mitigation or Salvage

- a. The Victorian Heritage Council, after taking reasonable steps to consult with any Aboriginal person or body with an interest in Aboriginal Ancestral Remains, will determine the appropriate course of action as required by section 18(2)(b) of the Aboriginal Heritage Act 2006.
- b. An appropriate impact mitigation or salvage strategy as determined by the Victorian Aboriginal Heritage Council must be implemented by the Sponsor.

4 Custody

- a. The treatment of salvaged Aboriginal Ancestral Remains must be in accordance with the direction of the Victorian Aboriginal Heritage Council.

5 Reburial

- a. Any reburial site(s) must be fully documented by an experience and qualified archaeologist, clearly marked and all details provided to Aboriginal Victoria.
- b. Appropriate management measures must be implemented to ensure the Aboriginal Ancestral Remains are not disturbed in the future.



6.2 Trail Construction methodology

6.2.1 Sustainable construction principles

Sustainable trail construction helps to minimise the potential impact on the surrounding natural environment and minimise trail maintenance requirements. These principles have been widely adopted by the trail construction industry and are endorsed by MTBA.

1) The Half rule

A trail grade should not exceed half the grade of the slope or side slope that the trail traverses. If the trail is more than half of the side slope grade, water will not be able to shed off the trail and will flow down the trail causing erosion.

2) The Ten percent average rule

The overall grade of a trail should be 10% or less. However short sections of the trail may exceed 10% as long as the average remains equal or less than 10%.

3) Maximum sustainable grade

The maximum sustainable trail grade is typically 15-20 percent however this is dependent on a range of factors including site specific conditions, the number of users and the level of trail difficulty.

4) Rolling grades and knicks

A knick is a semi-circular, shaved down section of the trail that is canted to the outside to draw water off the trail.

5) Grade dips and reversals

Grade reversals are points at which the trail gradient changes from down to up (or up to down), creating a low point where water is pushed off the trail.

The more frequent the grade reversals, the smaller the amount of water that needs to cross at each point thereby reducing the potential erosion and the need for drainage infrastructure.

6) Outslope

Outslope is the grading across a trail, (crossfall), so that water naturally flows off the trail. Outsloping allows run-off to sheet off the trail and avoids the need to concentrate the run-off to specific points on the trail. As a general rule outsloping should not exceed 5% however this may vary according to site specific conditions. Outslopes are not appropriate near berms or banked turns or in some loose soil types.



6.2.2 Trail alignment clearing

Prior to the commencement of excavation it is necessary to remove all shrubs and small tree limbs from within the construction corridor. The construction corridor is defined as the horizontal space from the top of the upslope batter to the toe of the downslope batter and a vertical clearance of 2.5 metres. Ground covers can remain in place as these will be removed during the trail excavation.

- All vegetation to be removed is to be cut into small pieces and dispersed throughout the surrounding area. Stockpiling of cut material is not permitted. Do not place vegetative materials in creek lines, drainage (nicks, grade reversals, sumps, etc), or other locations where they would prevent the free flow of water.
- No large trees or major tree limbs are to be removed. Trees should be used to add to the rider experience and to anchor the trail and prevent shortcutting. Overhanging small branches that encroach on the trail corridor should be trimmed. Limbs are to be cut flush with the tree trunk and ensure that removal will not tear or strip bark from the tree.

Typical Section 1 - vegetation clearing

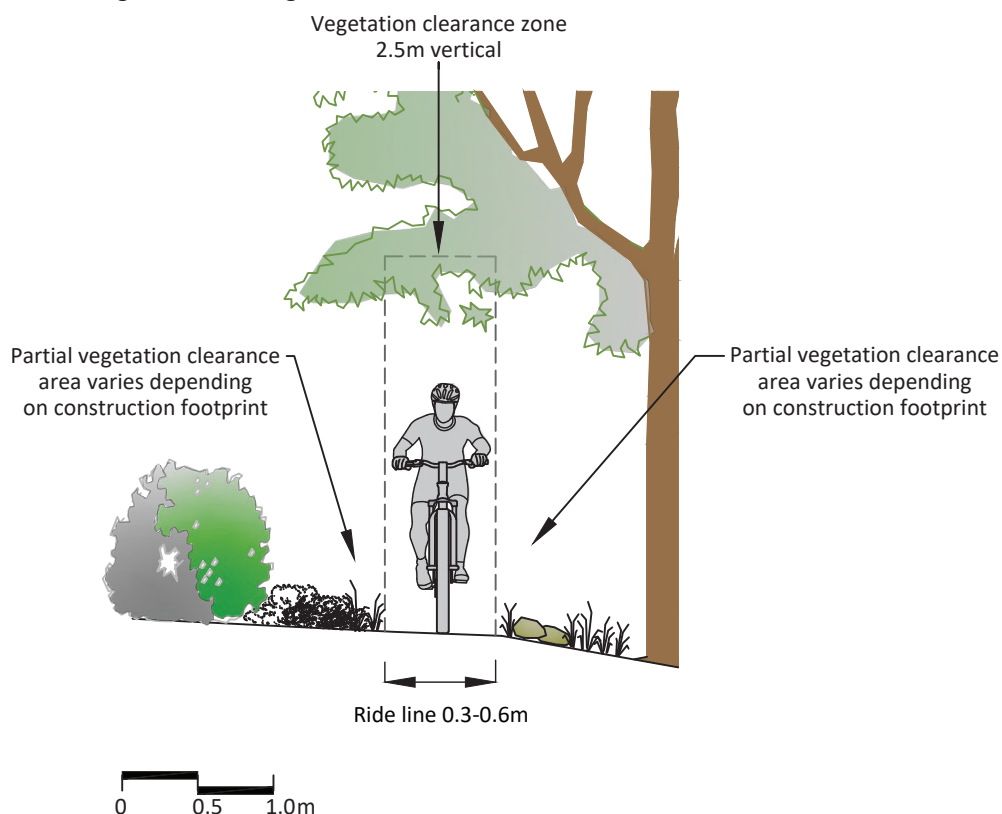


Table 7 Construction zones versus terrain side slope

Terrain cross slope	Ride line	Bench width	Veg. clearing width	Partial veg. clearing width	Total impact
5:1 (20%)	0.3 - 0.6 m	1.2m	0.77 m	0.72 m	1.49 m
2:1 (50%)	0.3 - 0.6 m	1.2 m	0.98 m	0.77 m	1.75 m
1:1 (100%)	0.3 - 0.6 m	1.2 m	1.79 m	0.61 m	2.4 m

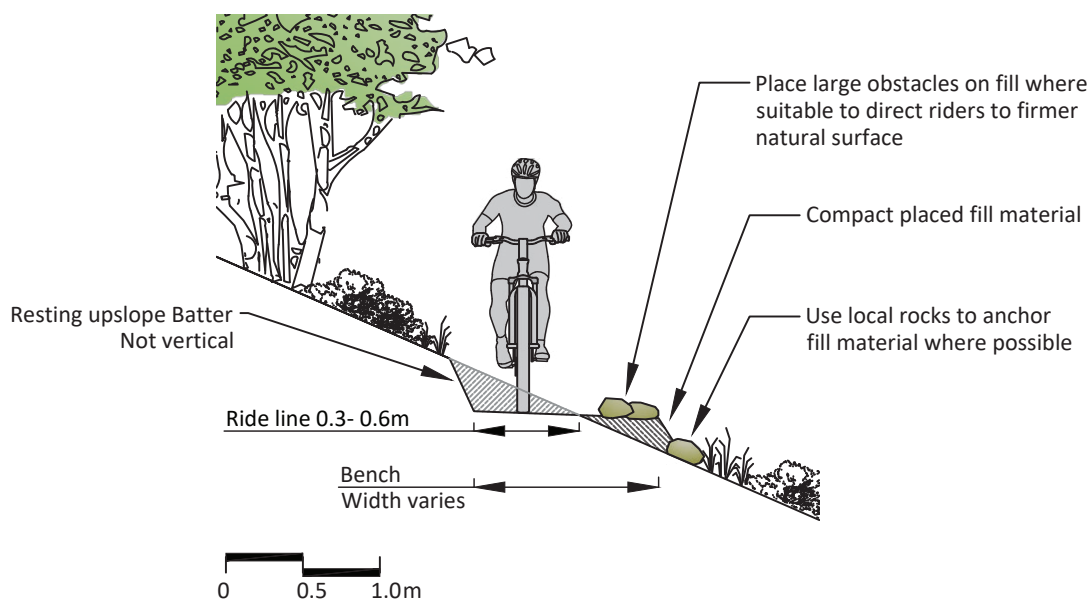


6.2.3 Trail excavation

Trail excavation is to be cut and fill technique to construct a bench. Excavated material from the upslope is to be used to build up the bench on the lower slope. The fill material used to build up the downslope side must be free of vegetative material to ensure adequate compaction and binding. Excavation is typically carried out by machine however excavation by hand method may be necessary in sensitive locations, e.g., around significant tree roots.

- Where excavation is to be carried out by machine, the constructed bench must be sufficiently wide enough to accommodate the full width of the machine to provide a safe working platform. The machine must not have a width greater than 1.0 metre and must have rubber tracks to minimise the potential for disturbance of the immediate environment.
- Excavated material may be moved locally back or forwards along the trail to where fill material is required. The final bench should be constructed with a slight out-slope, maximum 5% grade, to allow for the shedding of water from the trail.
- On steeper slopes it may be necessary to anchor or retain the downslope / fill material. This can typically be done using rock excavated during the trail construction or sourced locally.
- The ideal ride line is typically on the inner side of the bench, at the toe of the upslope batter where the surface is firmest. Obstacles are deliberately placed on the constructed bench to direct riders to the preferred ride line on the firmest surface and to also manage their speed. Larger obstacles work best and can be moved into position by the excavator, (machine). Smaller obstacles can be moved by hand.
- The final bench must be free of loose material including small rocks and any vegetative material, and must be compacted either by machine track rolling, compaction machine or other approved method.

Typical Section 2 - Cut / Fill Bench

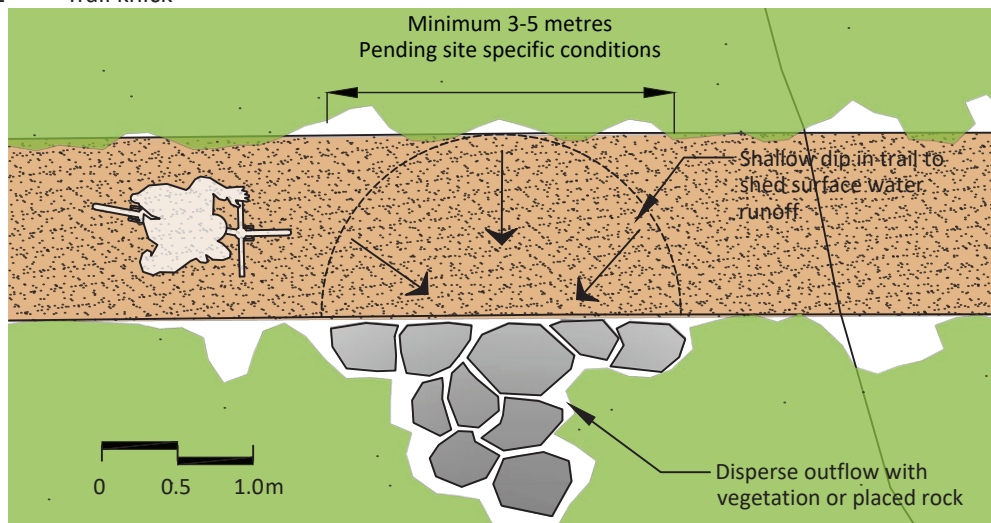


6.2.4 Drainage

Diverting surface water off the trail is critically important to achieving sustainable trails. Running water erodes the tread and support structures resulting in the deposition of sedimentation. Standing water can result in soft boggy conditions, causing tread and support structure failure. The most effective way to address these risks is by out-sloping the tread and drainage treatments including knicks, rolling grade dips and grade reversals.

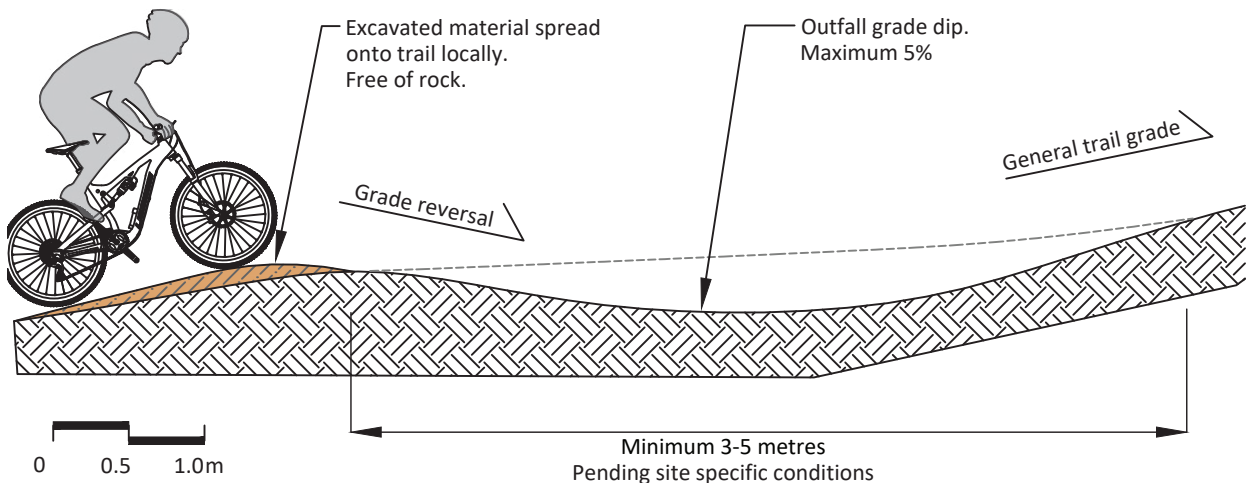
- A knick is where the trail is lowered for a short section providing an exit point for surface water. Knicks should be located where there is vegetation immediately adjacent to the trail or area to lay rock to assist with dispersing the run off.

Typical Plan 1 - Trail knick



- Grade reversals are where the trails changes from up direction to downward direction to provide a point to discharge surface run off. Grade reversals break the trail into smaller catchments reducing the potential for large water flows to form.

Typical Section 3 - Grade reversal

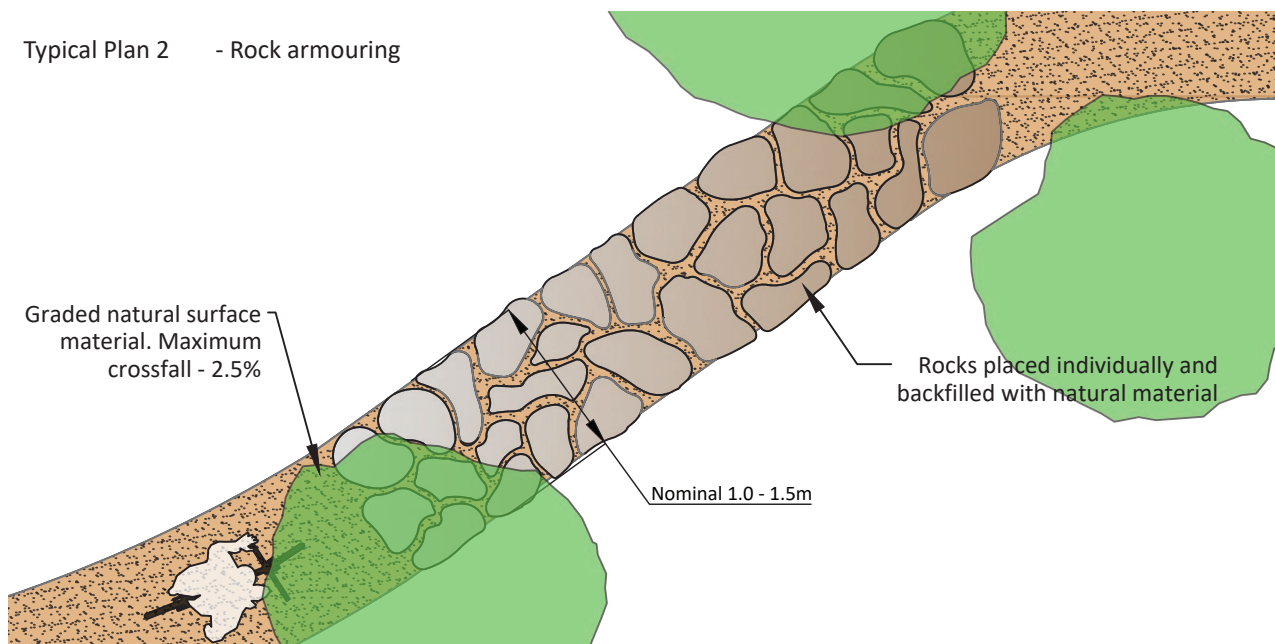


6.2.5 Rock armouring

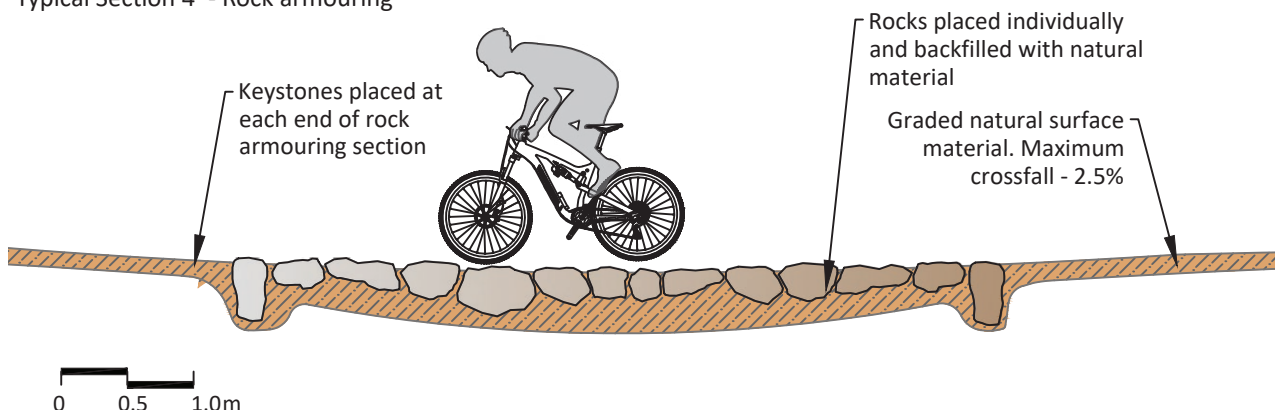
Rock armouring is a technique used to harden the trail where there is potential for soil to be displaced from water run off or trail users, typically where the trail is constructed on steep slopes. It can also be used in high traffic areas or areas where soils are unstable.

- Use locally sourced rocks discovered during trail excavation where possible. Where additional rock is required it must be sourced from an approved location, for example, nearby quarry. In situations where rock is in short supply alternative products such as artificial rock matting may be used upon approval by Council's project manager.
- Rocks should be typically between 300 to 600 mm dia., preferably with flat top and bottom surfaces.
- Rocks are to be anchored into the site by excavating soil from the site and placing the rocks into the excavated area. Some of the excavated material can be used to lock the positioned rocks firmly into place, the remaining material can be used as fill material on the immediate and adjacent trail bench.
- Rocks are to be positioned and secured from the downhill / lower side and working up with the aim of achieving a consistently flat and secure surface.
- Smaller rocks can be used to assist with locking the larger rocks into position.

Typical Plan 2 - Rock armouring



Typical Section 4 - Rock armouring

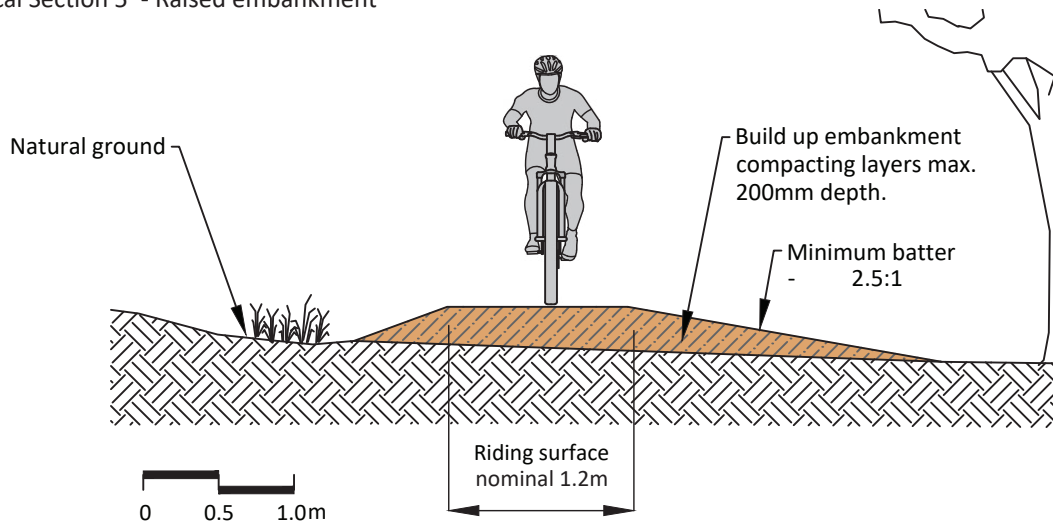


6.2.6 Raised embankment

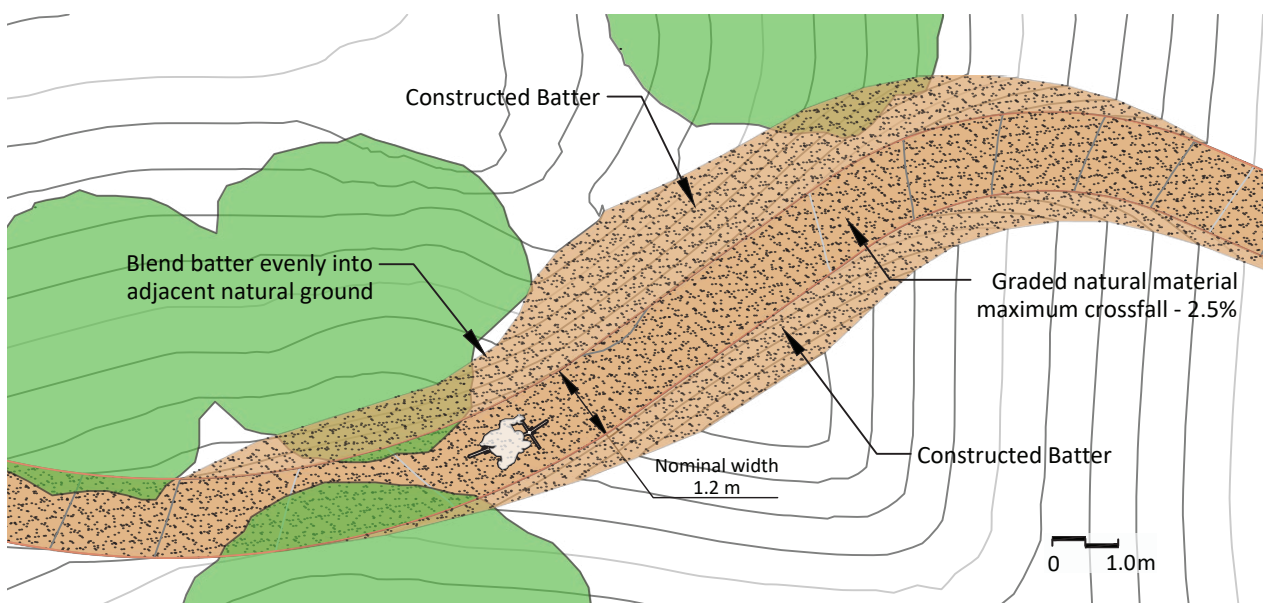
It may be necessary to raise the trail in certain locations to avoid wet areas or to improve rideability through changing the vertical alignment. This is achieved by using fill material to build up the trail.

- Fill material must be sourced locally, from the adjacent trail excavation where possible. If additional material is required then it must be sourced from an approved location and certified weed free.
- The placed fill material must be compacted in layers no deeper than 150 mm. It may be necessary to place and compact a number of layers to achieve the required lift in the trail alignment.
- The raising of the trail alignment must not impede any drainage lines or trap surface runoff. It may be necessary to place drainage pipes intermittently along the base of the raised embankment to allow for the free flow of water.
- Rocks can be placed at the toe of the embankment to stabilise the batter and protect the bottom section from erosion.

Typical Section 5 - Raised embankment



Typical Plan 3 - Raised embankment



6.2.7 Tree root protection

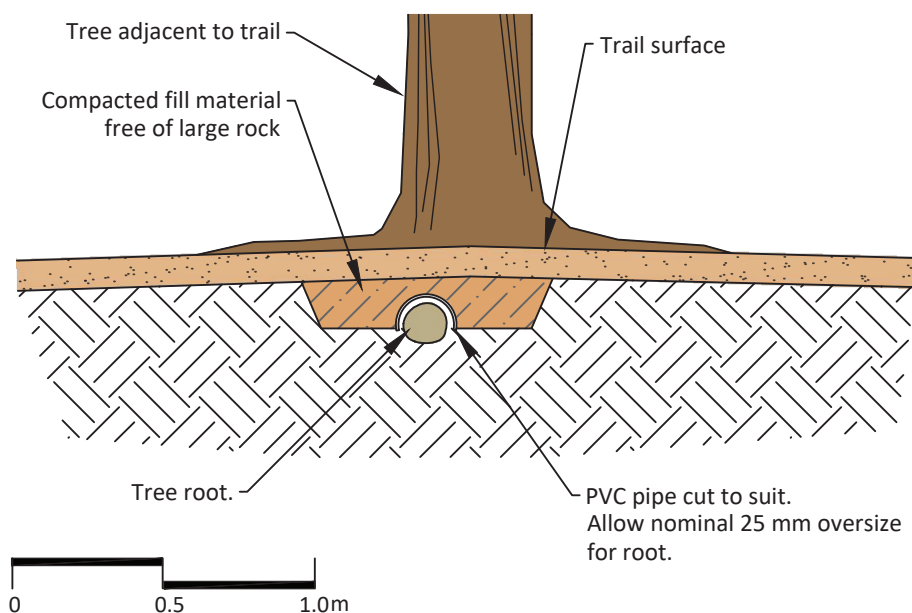
Trail alignments have been designed to avoid impacting on large trees as much as can be practically achieved in a forest. However given the length of trail to be constructed it is impossible to completely avoid some construction in the root zone. The following guidelines apply to all sections of the proposed Omeo Mountain Bike Trail Network.

- Excavation within the Tree Protection Zone must be minimised to no more than 100 mm depth where practicable or undertaken by hand or other root sensitive methodology to minimise the impact to tree roots.
- Roots greater than 80 mm diameter must not be damaged/severed without the approval of a qualified arborist. If encountered, an alternate construction method must be considered (e.g., raising the trail over the root with the placement of fill with rock support to minimise compaction) or a suitably qualified arborist consulted.
- Excavation within the Structural Root Zone of a tree must be avoided where practicable. If excavation within the structural root zone is required, then the trail should be aligned to minimise the impact (typically by aligning upslope of adjacent trees) and excavation undertaken by hand or other root sensitive method in consultation with a suitably qualified arborist.

Given the difficulty of calculating the Structural Root Zone, (SRZ), for all trees on site, these can nominally be considered as:

- Trees <150 mm diameter: SRZ 1m radius[2]
- Trees >150 mm<250 mm diameter: SRZ 1.5 m radius[3]
- Trees >250 mm<400 mm diameter: SRZ 2.3 m radius
- Trees >400 mm<600 mm diameter: SRZ 2.7 m radius
- Trees >600 mm<800 mm diameter: SRZ 3 m radius
- Trees >800 mm diameter: SRZ 3.5 m radius

Typical Section 6 - root protection

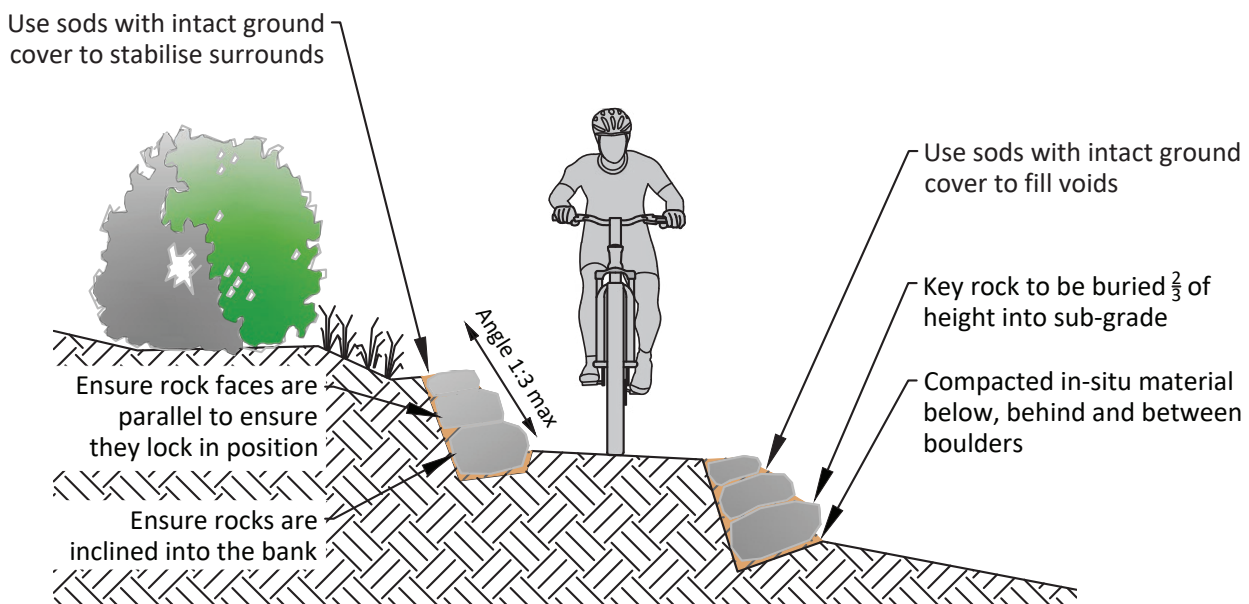


6.2.8 Dry Rock walling

Dry rock walling can be used to retain the cut or fill batters where the side slope is steep and there is a risk that the batters will collapse. Dry rock walling is typically no taller than 0.5 metres.

- Use rock of nominal size 300-600 mm diameter. Small rock can be used to assist with locking in the larger rock.
- The base rock layer must be keyed into the slope, not simply resting on the surface. Excavation of a small trench is necessary to achieve adequate keying.
- Subsequent rock layers can be laid 'dry', on top of the base rock layer, using clean fill from the trail excavation and small rock to lock the rock together.
- Dry rock walling must be laid back / not vertical, for the rock walling to successfully retain the batter and minimise the potential for a collapse in the future.

Typical Section 7 - Dry rock walling

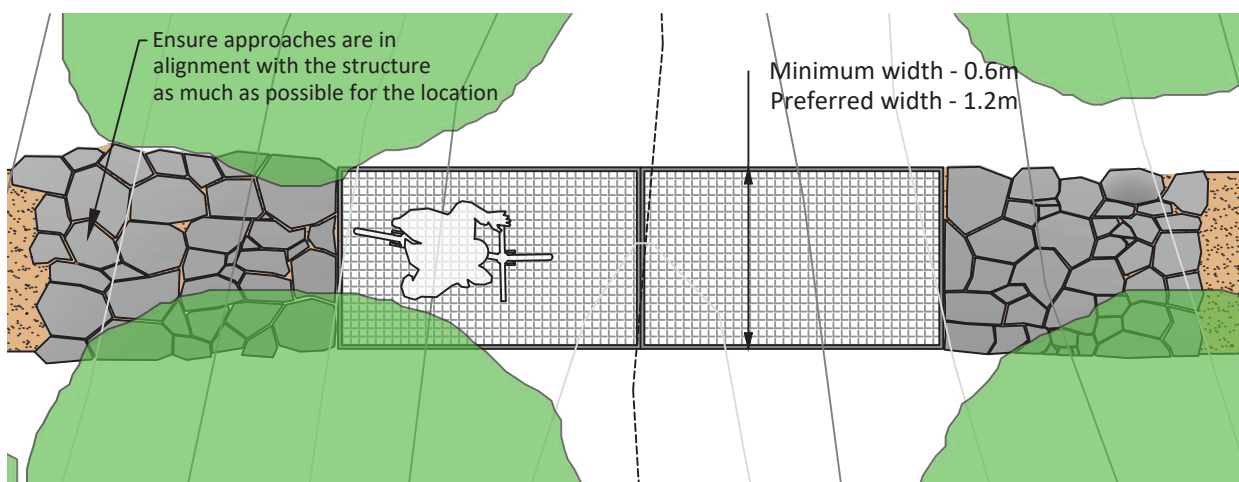


6.2.9 Low level bridges

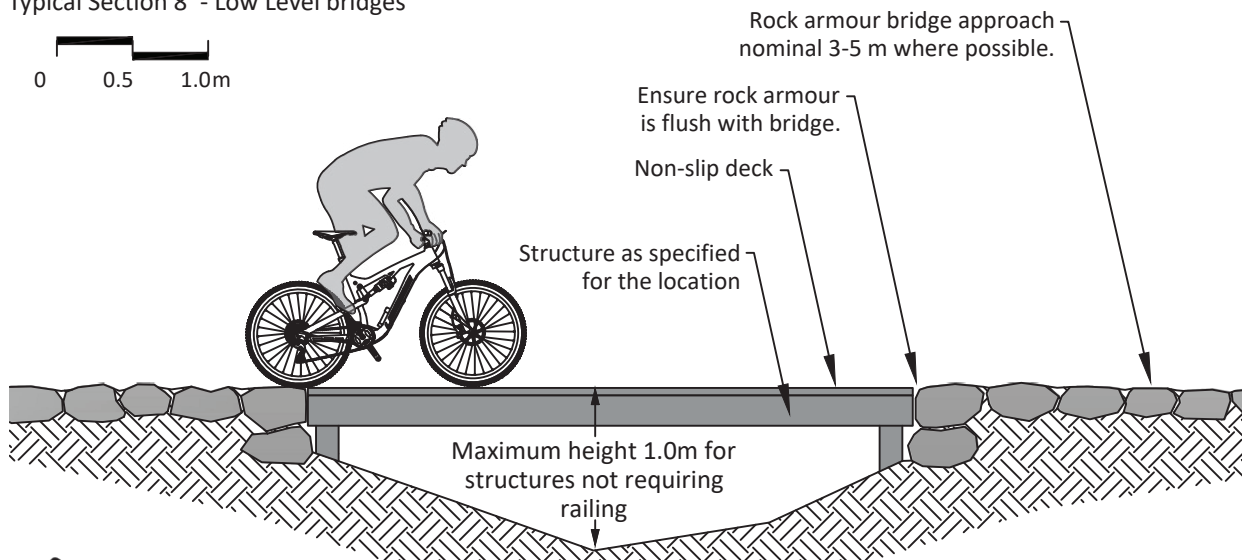
Low level bridges or elevated cycle paths are sometimes used where the trail crosses a waterway or soft boggy areas. Low level bridges are typically less than 1.0 metres above ground level so to avoid the requirement for a handrail. Careful attention is required for the siting of low level bridges to avoid the requirement for a handrail where possible.

- Low level bridges should be designed and placed so as to be as short, straight and level as possible.
- The approach and exit should be in line with the bridge as much as is practical for the specific location.
- The trail design should naturally slow riders on their approach to the bridge, ensuring that they don't enter at high speeds.
- Rock armouring for 3 to 5 metres at the approach and exit of the bridge is recommended to manage the potential degradation of the trail as a consequence of heavy braking. Armouring also helps to shed mud and dirt from bike tires prior to mounting the bridge.
- While there is a range of decking products available in the market Fibre Reinforced Plastic, (FRP) grated mesh is recommended for it's durability and slip resistance.
- Supporting frame should be made of galvanised steel for durability.

Typical Plan 4 - Low Level bridges



Typical Section 8 - Low Level bridges



7. Trail infrastructure



This section outlines the key infrastructure required to support the mountain bike trail network including:

- Signage
- Trailhead parking and load / unload areas
- Significant on trail structures including bridges and trail overpass / underpass structures.



7.1 Signage

Signage is a vital component of a successful mountain bike trail network providing trail users with important information to ensure a safe and enjoyable ride. Signage needs to be clearly visible, standing out from the surroundings and located at key decision points at the trail beginning, intersections and significant ride features.

Basic information includes trail difficulty, direction and distance. Other helpful information includes safety information, rider code of conduct, emergency contacts and accessible support facilities, e.g., local medical centre, ambulance, police. Interpretive information on the local environment, historical heritage and or Aboriginal heritage can add significant value to the riding experience however it should be provided separately from the essential trail information.

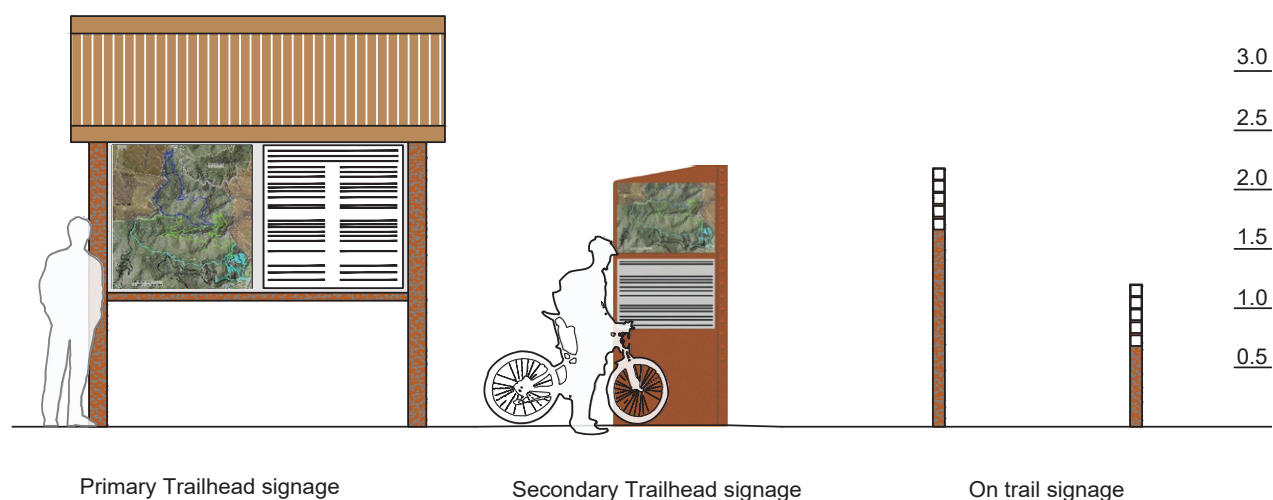
Signage needs to be made of robust materials to cope with the varying climatic conditions, minimise the potential for abuse and to minimise maintenance requirements. Good signage should also be sufficiently adaptable to accommodate possible changes in the network and the requirement to update the messaging.

MTBA trail rating symbols are the adopted standard for mountain bike trail signage in Australia and these should be used for the Omeo MTB trail network to minimise the potential for confusion and misreading of trail signage.

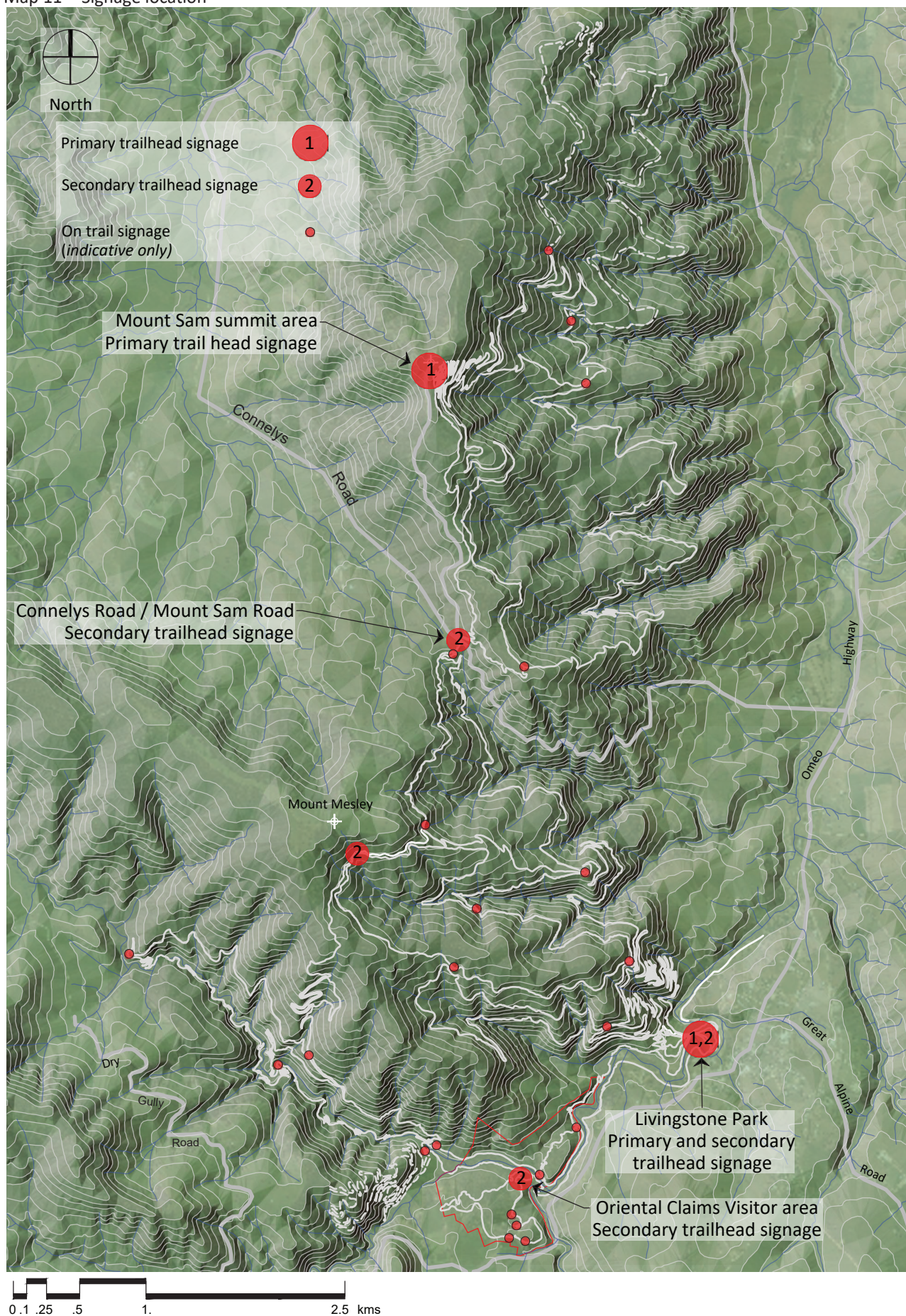
7.1.1 Trail Signage hierarchy

There are two types of trail signage - 1) trailhead signage and 2) on trail signage. Both types of signage provide valuable information on trail difficulty, direction and distance with trail head signage being more comprehensive and providing greater detail on the trail network, riding etiquette and the environmental and cultural features of the area. Given the scale of the Omeo Mountain Bike Network and the number of access points it is recommended that there should be two levels of trail head signage - primary and secondary.

Figure 4 - Typical signage types



Map 11 - Signage location



7.1.2 Trailhead signage

Trailhead signage should include an overview of the entire trail network, general information on terrain, climate and weather, Rider Code of Conduct and emergency information. The signage should be large enough to be clearly visible to all visitors to the trailhead and to accommodate all the required information. Trailhead signs can be more than basic structures and can add character to the location as well as promoting the mountain bike trail network.

Trailhead signage typically requires structural design given their general size and exposure to wind and weather.



7.1.3 On trail signage

On trail signage includes trail information, (location reference for emergency response, trail name, difficulty, distance and direction), and cautionary signage.

On trail signage provides trail users with vital information including:

- Trail difficulty
- Direction of travel
- Distances
- Difficult features, e.g., drop offs.
- Difficult and or alternative riding lines, (A and B lines).

On trail signage should be:

- Made of a durable material capable of withstanding local climate and weather conditions, e.g., galvanised or powder coated steel.
- Be of sufficient height to be clearly visible to trail users, nominal 0.8 - 1.8m depending on site specific conditions - height of vegetation, local weather.
- Positioned no closer than 0.5m to the trail to ensure it does not present a hazard to trail users.



7.2 Trailheads

Having adequate trailhead infrastructure is important to ensure riders are properly informed and prepared for the riding experience. Signage should be located to be clearly visible and accessible to all potential riders and the actual trail beginning clearly marked.

Adequate parking and set down area should be provided for the key trailheads. Where there is limited space for dedicated parking spaces additional area should be provided for set down, (unloading).

There are four key trailheads identified for the Omeo mountain bike trail network including:

1. Livingstone Park - Primary Trailhead
2. Mount Sam Road junction - Secondary trailhead
3. Mount Sam Summit - Primary trailhead
4. Oriental Claims day visitor area - secondary trailhead.

The following concept plans and images describe the possible configuration of the Livingstone Park, Mount Sam Road and Mount Sam summit trailheads. Further consultation with Parks Victoria is required to resolve the location of signage and modification of existing infrastructure for the Oriental Claims trailhead.



7.2.1 Livingstone Park trailhead

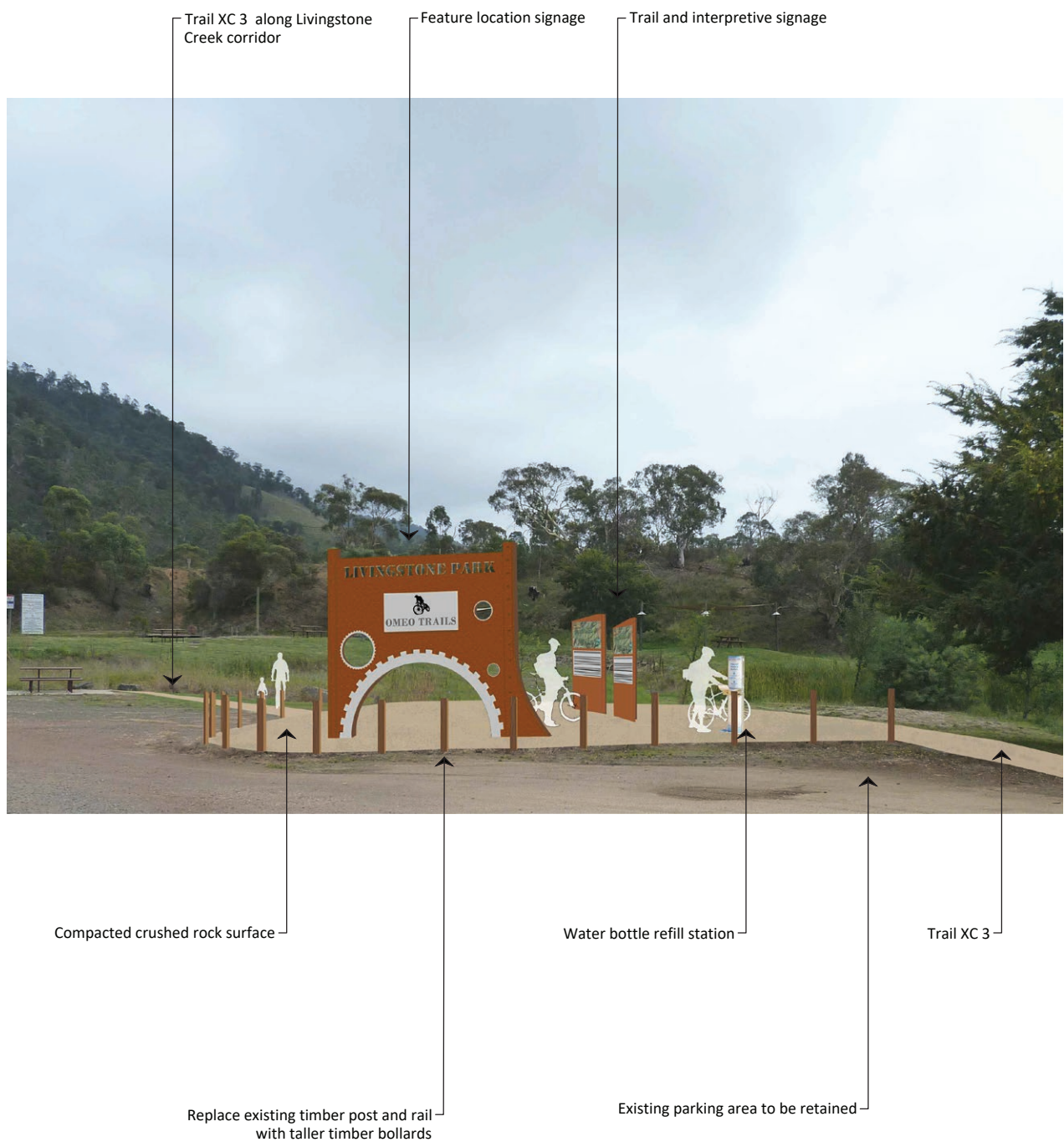


Figure 5 - Livingstone Park trailhead concept image



Plan 5 - Livingstone Park Trailhead concept

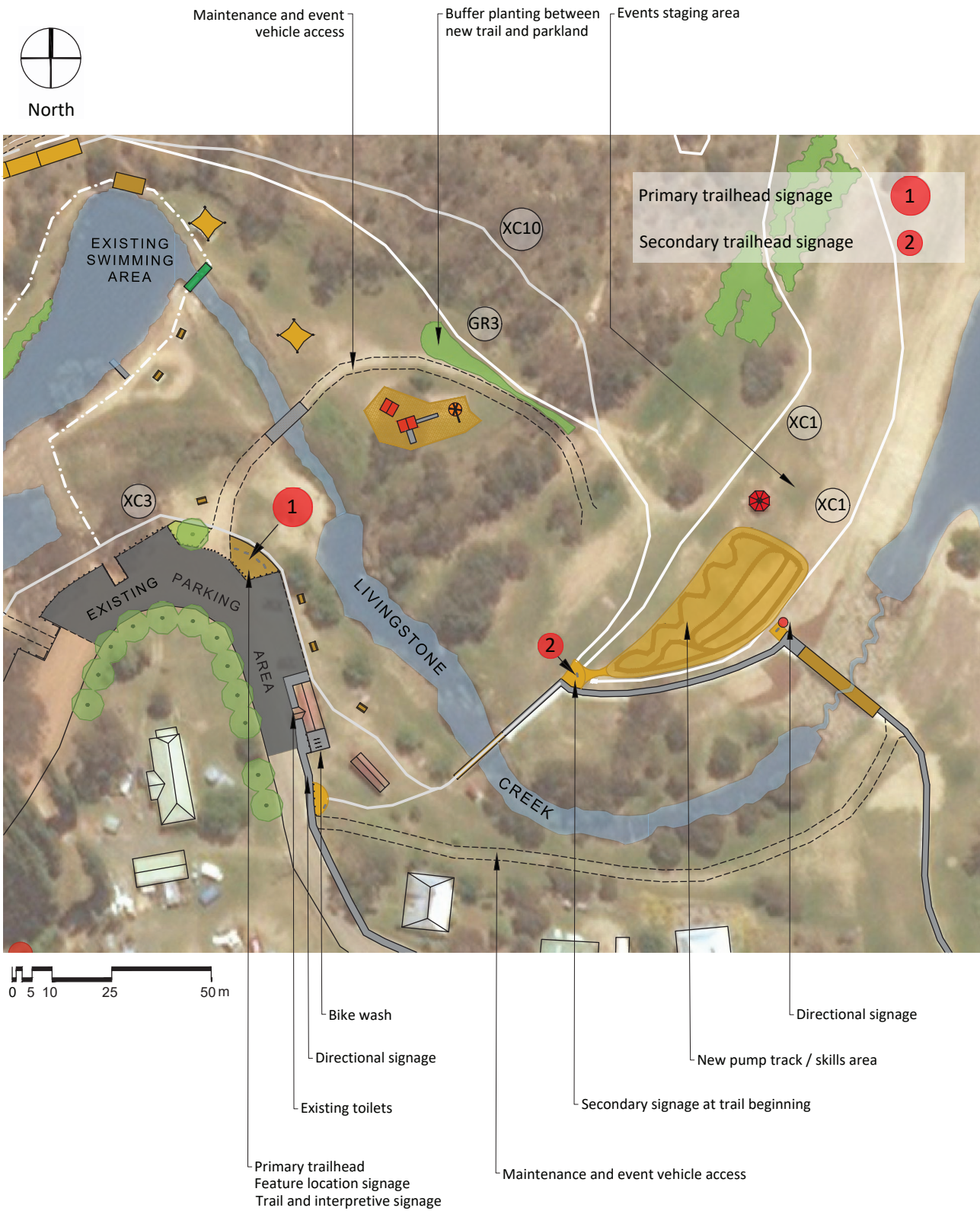




Figure 6 - Livingstone Park trailhead concept image



Plan 6 - Mount Sam Road Trailhead concept





Figure 7 - Mount Sam Road trailhead parking and set down area



Figure 8 - Mount Sam Road trailhead signage and road crossing



Plan 7 - Mount Sam summit Trailhead concept

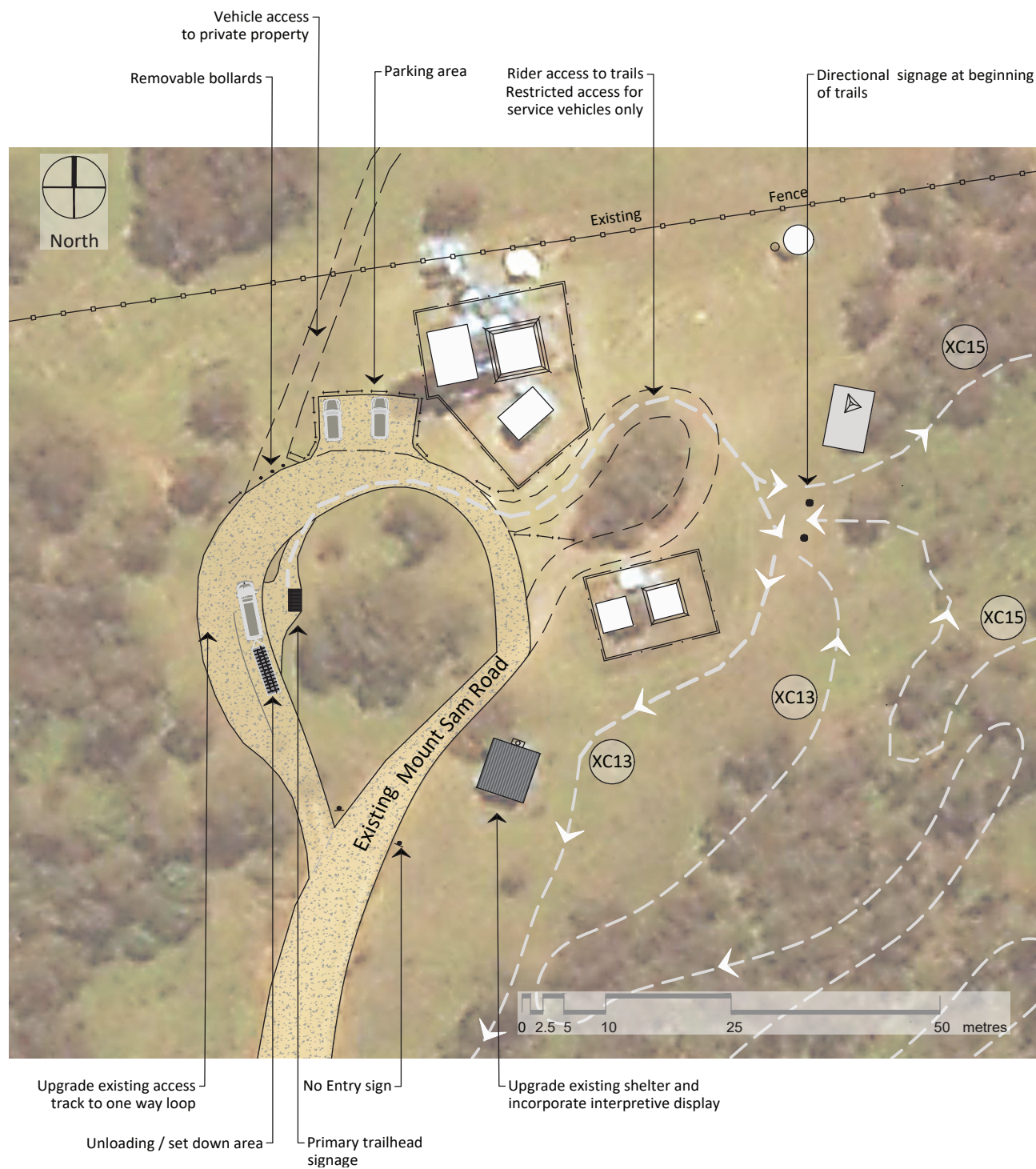
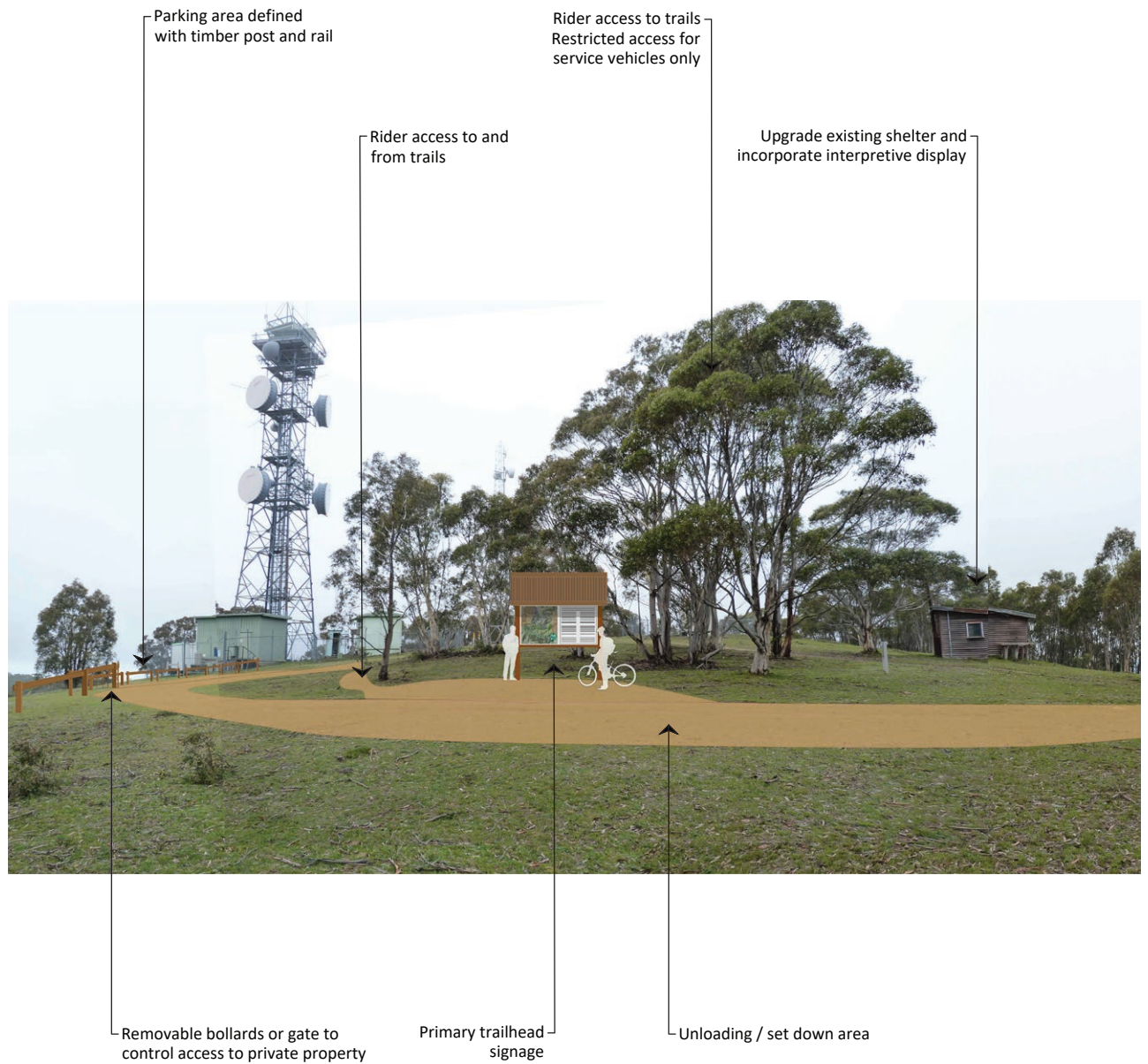


Figure 9 - Mount Sam summit trailhead concept image



7.3 Bridges and structures

There are four locations that require substantial structures to connect trail sections and manage conflicting trails. These are all located in the Livingstone Creek Trail Pod with the exact locations described in the following plan.

Map 12 - Bridge and structures location



7.3.1 Structure 1 - Livingstone Park to Caravan Park Bridge

This bridge is critical to the trail network providing a vital link from the northern reaches of the township including the caravan park to Livingstone Park, the primary trail head. Initial discussions with North East Catchment Management Authority, (NECMA), confirm that a bridge is the only viable option for safe crossing of the waterway which is prone to flooding.

The size and location of this bridge requires detailed structural design and approval by NECMA. The bridge is included in the Draft Omeo Mountain Bike Park Cultural Heritage Activity Area which will be evaluated by Aboriginal Victoria.

Map 13 - Livingstone Park to Caravan Park Bridge



Figure 10 - Livingstone Park to Caravan Park Bridge concept image



7.3.3 Structure 2 - Trail overpass / underpass, lower Livingstone Park

Trail overpass / underpass structures assist to manage intersecting trails travelling in opposing directions. The structures can add value to the rider experience and a visual feature for the location is thoughtfully designed. Overpass / underpass structures require certified structural design.

Map 14 - Trail overpass / underpass - lower Livingstone Park

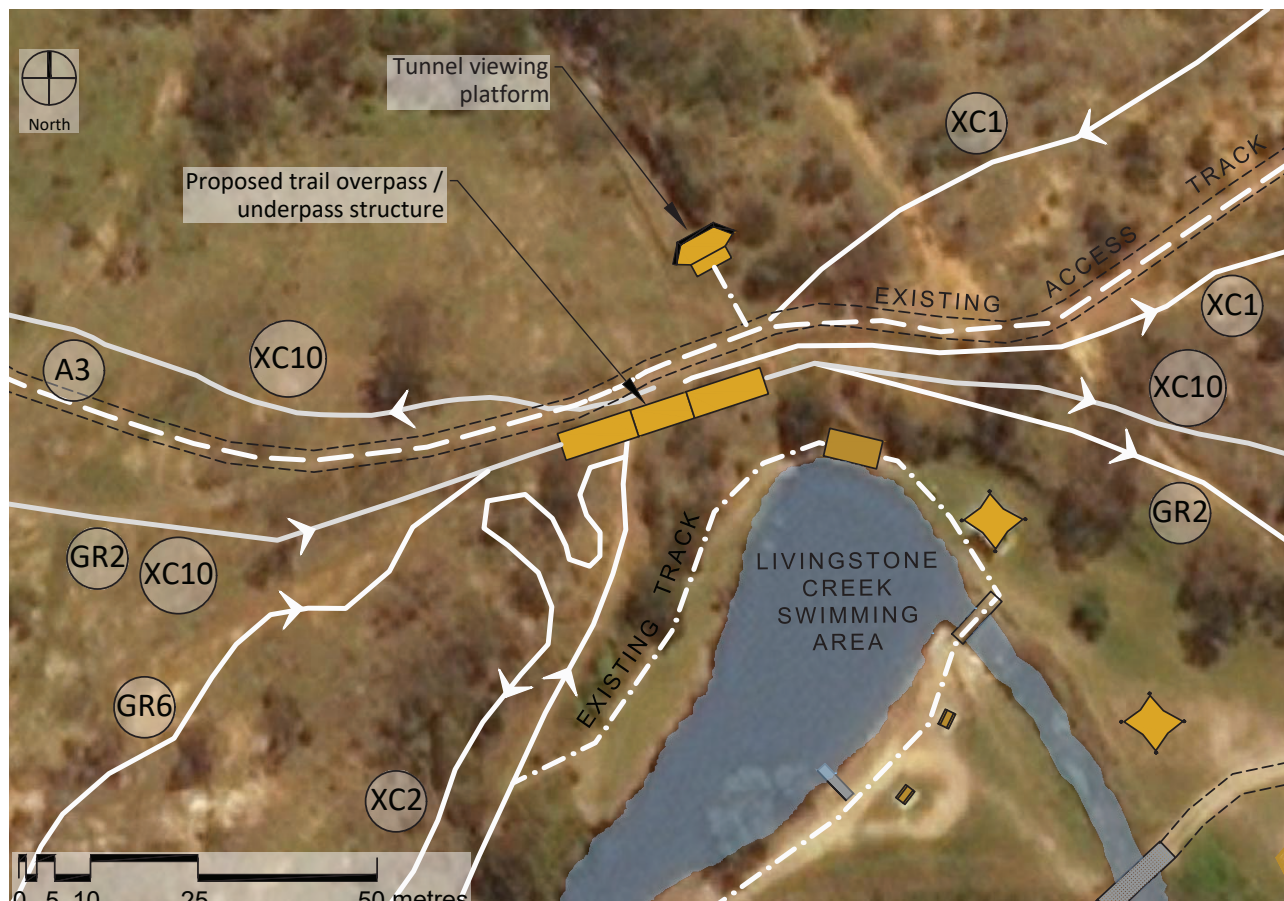


Figure 11 - Trail overpass / underpass - lower Livingstone Park concept image



7.3.4 Structure 3 - Trail overpass / underpass, upper Livingstone Park

Map 15 - Trail overpass / underpass - Upper Livingstone Park

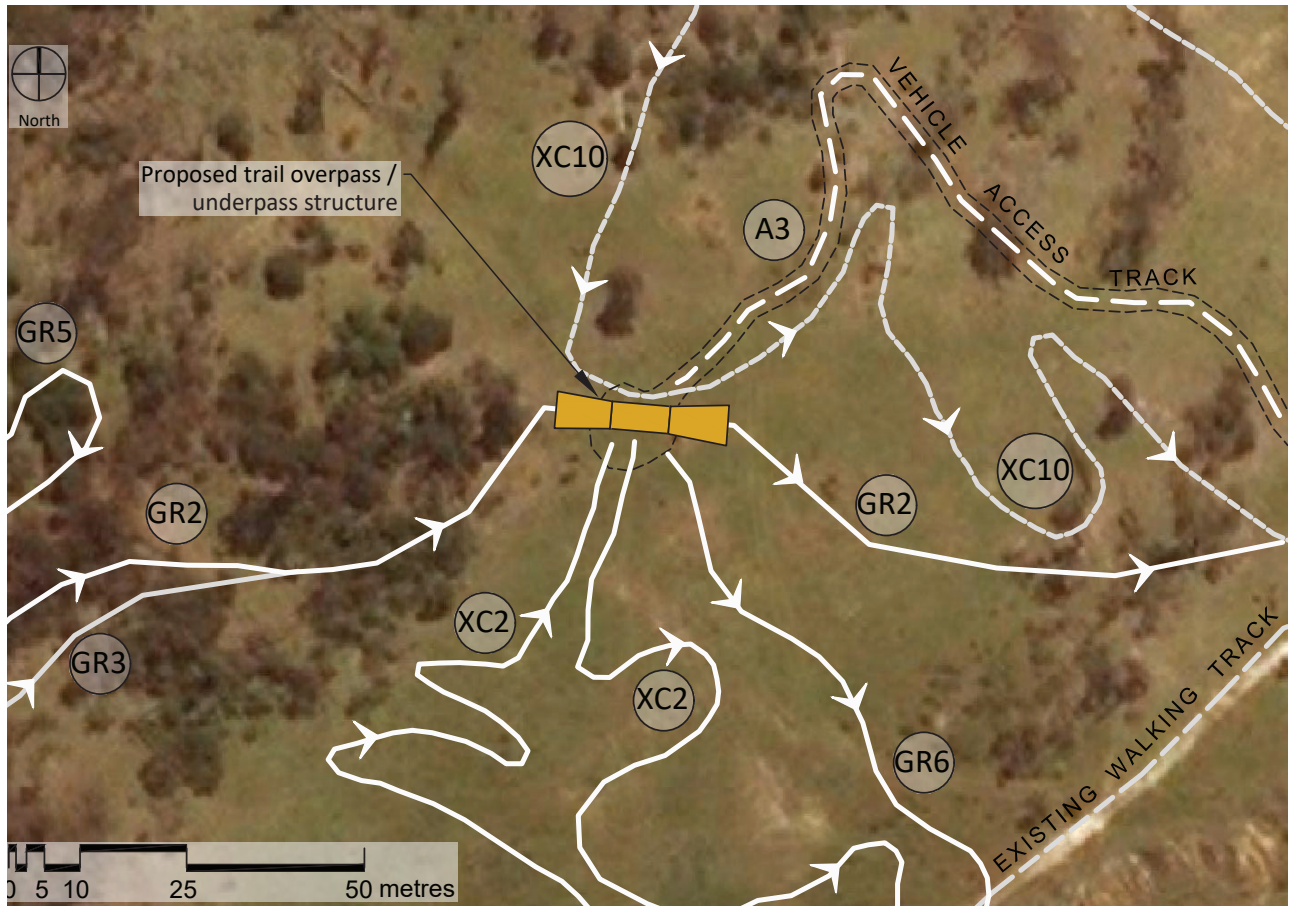


Figure 12 - Trail overpass / underpass - upper Livingstone Park concept image



7.3.2 Structure 4 - Livingstone Creek Bridge, Oriental Claims

This bridge will allow trail users to conveniently cross Livingstone Creek near to the Oriental Claims visitor area and avoid any conflicts with vehicles from having to travel along the access road. Livingstone Creek is also prone to flooding and so the bridge will need to have a significant span to be above the typical flood zone. The proposed bridge connects the outgoing trail XC2 to the Dry Gully Creek trails and the Oriental Claims trails including the XC2 return section.

Map 16 - Livingstone Creek Bridge - Oriental Claims

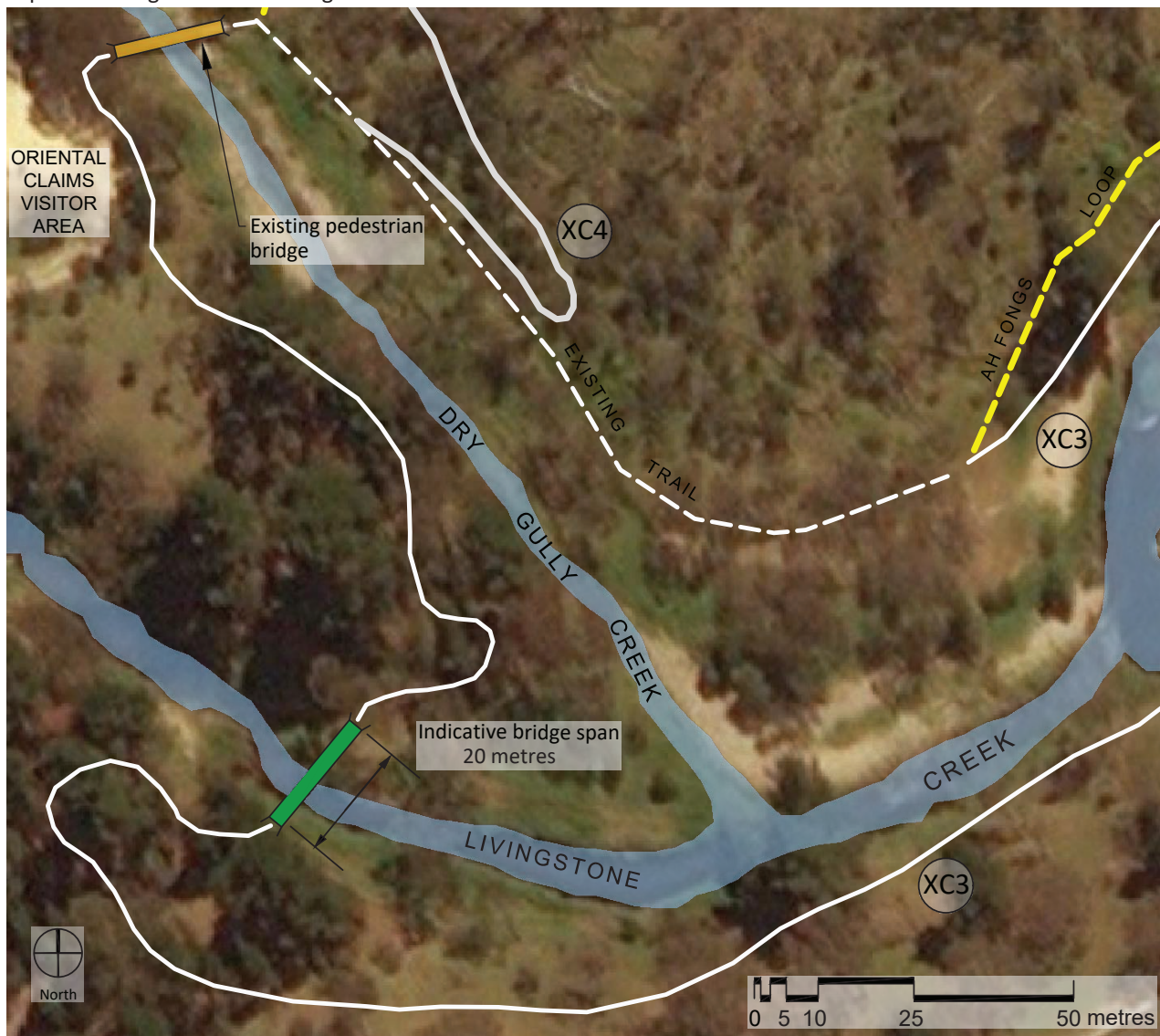


Figure 13 - Livingstone Creek Bridge - Oriental Claims concept image



Figure 14 - Example trail infrastructure

Bridges



Trail overpass / underpass



8. Implementation



8.1 Implementation Strategy

Trail implementation should be staged to keep the mountain bike market engaged with the roll out of new trails over a period of time. This approach provides a gradual build up of interest from the mountain bike market as early visitors seek out new trails as they are developed and the remainder of the market follows as they find out about the trails through active marketing, social media and or word of mouth.

The following principles provide guidance for the prioritisation of trails for construction:

- Commence implementation from the primary trailhead and shuttle drop off points and work outwards.
- Provide a mix of trail experience / trail difficulty sufficient to cater for all levels of rider abilities in each stage - Easy / Intermediate / Difficult and both Cross-country and Gravity.
- Provide a headline, (Hero), trail at each stage that can be the focus for marketing of the trail development.

The project team has prioritised the trails using this criteria and ranking trails as either High, Medium or Low priority. Section 8.2 on page 76 contains the results of the prioritisation process.

- High Priority trails constitute the core network with trails either commencing or ending at the primary trailhead, Livingstone Park. With a mix of trail experience suitable for all riding abilities these trails should be implemented as a comprehensive first stage to provide something for all types of mountain bike enthusiasts.
- Medium Priority trails are the logical extension of the core network with additional trails provided in all trail pods. These trails can be implemented at the same time or over a number of seasons depending on the level of market attraction required.
- Low priority trails constitute the most remote cross country trails within the Livingstone Creek, Dry Gully and Mount Sam trail pods. These trails can be implemented independently depending on the level of market attraction required.

Trails 7 and 16 are recognised as Future Trails as detailed ecological assessment is required to determine the likely impacts on native vegetation and the offset requirements. Implementation of these trail will depend on the success of the previously implemented trails and the need to further stimulate interest in the Omeo as a nationally significant mountain bike destination.

Other factors that need to be considered for successful implementation include:

- Council's capacity to manage one or more contractor;
- Contractor availability;
- The contractor's resources including plant, equipment and labour.
- Seasonal weather conditions - rain in winter / potentially high fire danger in the peak of summer.

8.2 Cost Estimate

A cost estimate for the construction of each trail has been prepared in accordance with the assigned trail priority. The cost estimate has been determined with consideration of the most suitable construction method, by machine or by hand, and an estimation of the trail infrastructure required. The cost estimate is included as Appendix 7.



8.3 Recommended trail prioritisation

Table 8 - High priority trails

Trail name	Difficulty	Length - kms
Access 1	Very Easy	0.21
Access 2	Very Easy	0.96
Access 3	Easy	0.37
Access 4	Easy	1.06
XC1	Easy	1.34
XC2	Easy	1.99
XC3	Easy	5.88
XC 10	Easy / Intermediate	10.21
XC11	Easy / intermediate	9.51
XC12	Intermediate	9.48
GR 2	Intermediate	6.53
GR3	Difficult	4.68
GR 4	Easy / intermediate	2.98
Total High Priority		55.19

Table 9 - Medium priority trails

Trail name	Difficulty	Length - kms
XC5	Easy	2.53
XC6	Easy	3.76
XC13	Intermediate	10.91
XC 14	Intermediate	10.87
Link Trail	Intermediate	0.06
GR 1	Difficult	3.96
GR 5	Difficult	3.28
GR 6	Difficult	0.42
Total - Medium Priority		35.77

Table 10 - Low priority trails

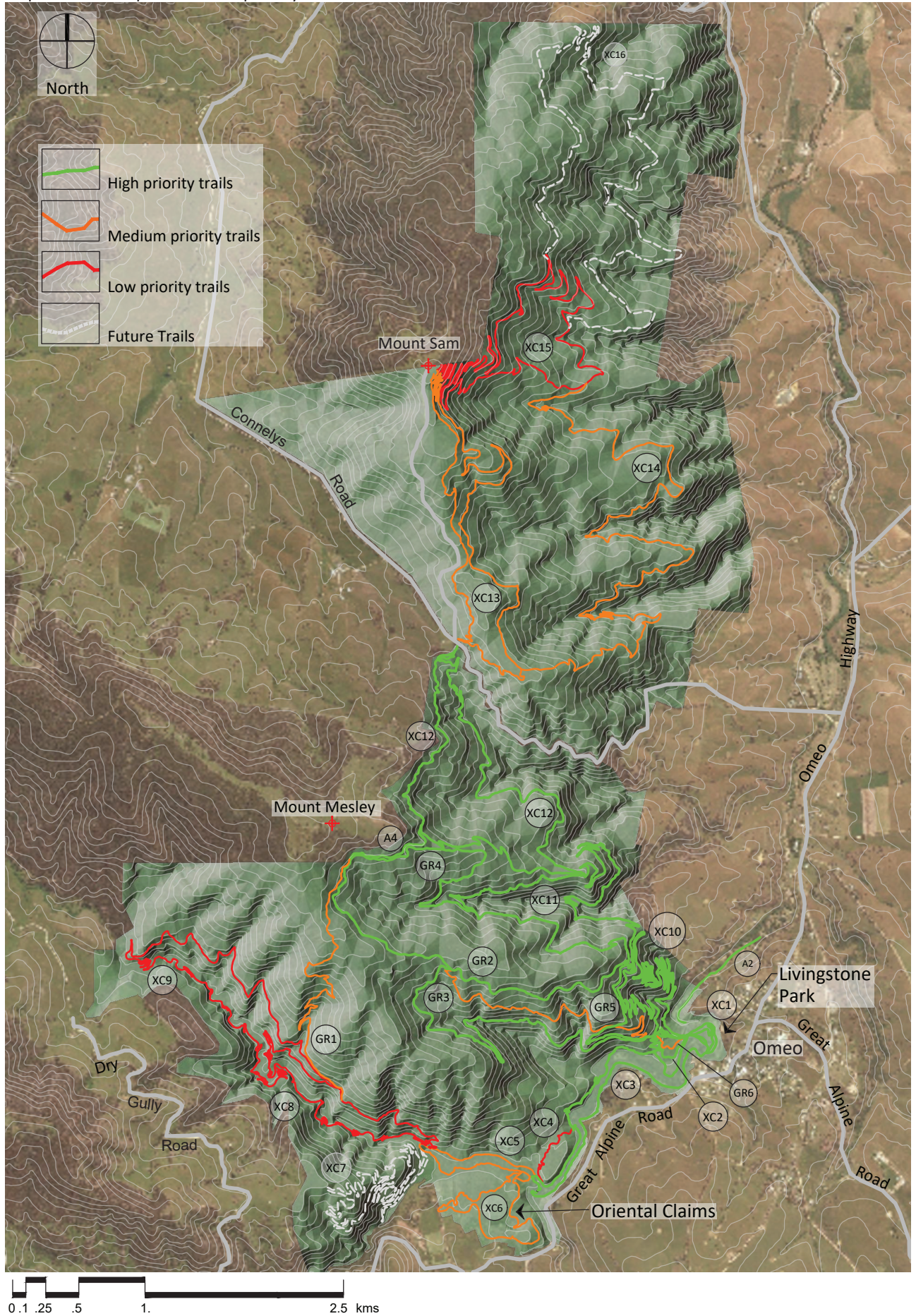
Trail name	Difficulty	Length - kms
XC4	Easy / Intermediate	0.95
XC8	Easy	7.74
XC 9	Easy / Intermediate	9.21
XC15	Intermediate	12.72
Total Low Priority		30.62

Table 11 - Future trails

Trail name	Difficulty	Length - kms
XC7	Intermediate	9.81
XC16	Intermediate / Difficult	11.93
Total Low Priority		21.74



Map 17 - Trail implementation priority



8.4 Construction duration

Assuming that construction is carried out by teams of three to four people with all the necessary equipment to operate independently, it is the project team's opinion that each construction team could complete up to 60 metres of trail per day in normal operating conditions. This is a reasonable estimate given the terrain and site specific conditions of the project site and the potential for delays due to inclement weather.

The following table provides an indication of the likely timeframes for implementation and this can be used to inform construction contractor procurement.

Table 12 - Estimated Construction duration - High priority trails - 54.85 kms

No. of Teams	Antipated productivity rate (m/day)	Duration - Days	Duration - Weeks
1	60	914	131
2	120	457	65
3	180	304	43
4	240	228	33
5	300	183	26

Table 13 - Estimated Construction duration - Medium Priority - 35.84 kms

No. of Teams	Antipated productivity rate (m/day)	Duration - Days	Duration - Weeks
1	60	597	85
2	120	299	43
3	180	199	28
4	240	149	21
5	300	119	17

Table 14 - Estimated Construction duration - Low Priority 30.62 kms

No. of Teams	Antipated productivity rate (m/day)	Duration - Days	Duration - Weeks
1	60	510	73
2	120	255	36
3	180	170	24
4	240	127	18
5	300	102	14.5

Table 15 - Estimated Construction duration - Future trails - 21.74 kms

No. of Teams	Antipated productivity rate (m/day)	Duration - Days	Duration - Weeks
1	60	510	73
2	120	255	36
3	180	170	24
4	240	127	18
5	300	102	14.5





9. Approval Strategy and Environmental Management Framework



9.1 Relevant legislation and stakeholders

The Omeo mountain bike project is impacted by Commonwealth and State legislation. An assessment has been undertaken to determine the likely approvals processes required to enable the project to be constructed. It is likely that the following approvals will be required for the project:

- Planning Permit under the East Gippsland Planning Scheme
- Public Land Manager consent – required prior to submitting any planning permit under the PCRZ
- Protected Flora permit under the *Flora and Fauna Guarantee Act 1988*
- Cultural Heritage Management Plan under the *Aboriginal Heritage Act 2006*
- Approval/ consent under the *Heritage Act 2017* to develop a place on the Victorian Heritage Register
- Works on waterways permit required from North East Catchment Management Authority.

As part of the approvals process for this project it will be important for Council to engage with key agencies and stakeholders, these include:

- DELWP (Public Land, Biodiversity, Forest and Fire Management)
- Parks Victoria
- East Gippsland Shire Council (internal departments include planning)
- North East Catchment Management Authority
- Aboriginal Victoria
- Traditional Owners
- Heritage Victoria
- Country Fire Authority
- Relevant communications and electricity providers (where existing infrastructure is likely to be impacted).

The relevant legislation and required approvals cover planning, biodiversity and heritage matters and are summarised in Table 16 below.



Table 16 - Relevant legislation and required approvals

Legislation / policy	Relevant feature on site	Permit / approval required	Notes
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	<p>Clover Glycine (listed as Vulnerable) recorded within the assessment corridor.</p> <p>Potential habitat for Greater Glider and White-throated Needletail (listed as Vulnerable).</p>	Referral not recommended as significant impact to matters of national environmental significance considered unlikely. East Gippsland Shire may choose to refer the project for legal certainty.	<p>Populations of Clover Glycine have been avoided through targeted survey effort and realignment of proposed trails in the Oriental Claims Historic Area.</p> <p>Potential habitat for Greater Glider is associated with forested areas supporting higher densities of hollow-bearing trees. All canopy trees will be avoided during trail construction and any selective removal or trimming of trees for safety reasons is likely to be minor in nature.</p> <p>White-throated Needletail is unlikely to be impacted as this species is primarily aerial.</p>
<i>Flora and Fauna Guarantee Act 1988</i>	Threatened species, Protected flora species and Victorian Temperate Woodland Bird Community present.	<p>Protected Flora Permit required.</p> <p>Actions required to avoid and minimise impacts on listed species.</p>	Site is public land and a permit is required to take or destroy protected flora.
<i>Planning and Environment Act 1987 – East Gippsland Planning Scheme</i>	Indigenous vegetation.	Planning permit required to remove, destroy or lop native vegetation under Clause 52.17.	Best practice environmental management on public land requires avoidance, minimisation and offsetting of native vegetation in accordance with the <i>Guidelines for the removal, destruction or lopping of native vegetation</i> .



Table 16 continued - Relevant legislation and required approvals

Legislation / policy	Relevant feature on site	Permit / approval required	Notes
	Land Use	Planning permit required for Informal Outdoor Recreation under the PCRZ Planning permit not required under PPRZ	Under the PCRZ Public land manager consent is required to be provided with any application. Permit application to be submitted to EGSC as responsible authority.
	Buildings and works	Planning permit required to construct a building or construct or carry out works under the PCRZ. Planning permit not required under PPRZ	Under the PCRZ Public land manager consent is required to be provided with any application. Permit application to be submitted to EGSC as responsible authority. Clause 62.02-2 exemption does not apply in the PCRZ
	Clause 62.02-2 exemption	Clause 62.02-2 of the VPPs provides an exemption from needing a permit for “building and works” associated with the construction of a bicycle pathways and trails unless specifically required.	Does not apply to land within the PCRZ
	Heritage Overlay HO234 and HO287	No Planning permit required under Clause 43.01-3	HO234 and HO287 cover areas on the Victorian Heritage Register. A permit is required under the Heritage Act 2017 instead.
	Bushfire Management Overlay		Clause 62.02-2 exemption applies. Objective of BMO and Clause 13.02 must be met.
<i>Catchment and Land Protection Act 1994</i>	Regionally controlled and restricted weeds and pest animals have been recorded in the study area.	N/A	Comply with requirements to control/eradicate pest species.
<i>Water Act 1989</i>	Multiple crossing of unnamed tributaries and Dry Gully Creek, Frenchmans Creek and Livingstone Creek.	North East Catchment Management Authority Works on Waterway permit required for some trail sections.	Seek waterway determination from North East CMA and comply with their guidelines and permit conditions.



Table 16 continued - Relevant legislation and required approvals

Legislation / policy	Relevant feature on site	Permit / approval required	Notes
<i>Environmental Effects Act 1978</i>	Removal of native vegetation and threatened species habitat impacts	An EES referral is not considered necessary as the removal of 18 hectares of understorey vegetation for the trails from least concern, depleted and vulnerable EVCs is unlikely to have regional or State significant environmental impacts.	The project is unlikely to have regional or State significant environmental impacts. East Gippsland Shire may choose to refer the project for legal certainty.
<i>Fisheries Act 1995</i>	Potential habitat for Murray Spiny Crayfish, unnamed tributaries and Dry Gully Creek, Frenchmans Creek and Livingstone Creek.	No permit required if mitigation measures are strictly adhered to and no habitat or biota are destroyed.	Mitigation measures to be implemented to avoid and minimise impacts on aquatic habitats.
<i>Environment Protection Act 1971: State Environment Protection Policy (Waters)</i>	Multiple crossing of unnamed tributaries and Dry Gully Creek, Frenchmans Creek and Livingstone Creek.	N/A	Adhere to the mitigation measures outlined in this report, particularly waterway crossings with elevated structures and sediment control.
<i>Aboriginal Heritage Act 2006</i>	Area of Cultural Heritage Sensitivity within the study area and a mountain bike trail is a high impact activity	Mandatory CHMP required and has been drafted	CHMP required and must be submitted with any planning permit application
<i>Heritage Act 2017</i>	The study area contains sites that are on the Victorian Heritage Register (VHR)	Approval required to develop sites on the Victorian Heritage Register (VHR)	Approvals required from Heritage Victoria, these are separate to any planning approvals required for the project.



9.2 Environmental Management Framework

As the Omeo Mountain Bike Complex is located within Crown land managed as State Forest, a public reserve and historic area, it transects a diverse array of ecological and cultural values. This section summarises:

- The key values identified in specialist reports in relation to environmental management and mitigation.
- The potential risks (impacts) to those values and how these have been avoided or minimised during the planning and design process.
- Mitigation measures recommended to minimise potential impacts during construction, operation and maintenance.
- Key overarching recommendations.

9.2.1 Key Values

Key ecological and cultural values identified in specialist reports include:

- Landscape values (soil, water and terrain)
- Native vegetation
- Threatened species
- Aquatic habitats (waterways)
- Aboriginal places
- Historic places.

9.2.2 Key Risks

Key risks identified in specialist reports that may result from proposed construction/operation activities associated with the mountain bike complex include:

- Permanent removal of native vegetation and fragmentation of habitats
- Disturbance to or removal of threatened species and/or their habitats
- Erosion resulting in sedimentation of waterways
- Landslip and gully erosion
- Loss of, or alterations to, riparian and instream habitat (i.e. hydrological changes, deterioration of water quality)
- Introduction and spread of pest plants, pest animals and soil/plant pathogens
- Disturbance to or destruction of Aboriginal places
- Disturbance to or destruction of historic places

These risks have been avoided and minimised throughout the planning and design process as far as is practical given the scale of the project.

9.2.3 Sustainable construction

The design of the Omeo Mountain Bike Complex proposes best practice trail construction methods and techniques in accordance with MTBA and IMBA guidelines to minimise the potential for impacts on the adjacent environment including native vegetation, threatened species, slope stability and waterways.

In particular, all standard industry guidelines for environmentally sustainable trail construction will be implemented during the construction phase. Sustainable construction principles would assist in minimising potential impacts on the



natural environment as well as trail maintenance requirements. These include:

- The Half Rule to prevent erosion.
- The Ten percent average rule
- Maximum sustainable grade
- Rolling grades and nicks
- Grade dips and reversals
- Outslope

These principles have been widely adopted by the trail construction industry and are endorsed by MTBA and are described in Section 6.2.1 of the master plan.

9.2.4 Ecological risk management

The design of the proposed trails has given consideration to avoiding and minimising ecological impacts by undertaking feasibility, constraints and detailed assessments of trail concepts. Further refinement of the trail construction method and investigation of design responses, such as elevated structure footing types, will be undertaken during the project approval process and detailed design during construction. These additional steps will ensure impacts are comprehensively minimised.

Specifically, steps taken during the design phase of the project to avoid/minimise ecological impacts include:

- Detailed project planning including feasibility studies, desktop constraints analyses, terrain modelling and preparation of trail mark-outs for future micro-siting. This resulted in a reduction in the total length of the mountain bike trail from 174.5 kilometres to 121 kilometres.
- Incorporation of previously disturbed areas associated with historical gold mining along Livingstone Creek and in the Oriental Claims Historic Area and Livingstone Park.
- Micro-siting during the detailed assessment to avoid significant ecological features and flora populations.
- Developing and incorporating trail construction methods that avoid impacts to canopy trees.
- Aligning trails on 4.8 kilometres of existing track or trail.
- Minimising the number of waterway crossings.

The risk of impacting aquatic habitats would be minimised by a commitment to construct clear span elevated structures over all flowing and mapped waterways (including ephemeral first order tributaries).

9.2.5 Cultural risk management

Careful design considerations have minimised cultural heritage impact by:

- Avoiding heritage places where possible.
- Where possible, aligning tracks at least 5 metres from any identifiable or suspected historic land form (e.g. sluice banks, adits, shafts, mullock heaps and tailings).
- Marking out trail alignments in Oriental Claims and near Gambetta Battery in consultation with a Heritage Advisor.

Contingency plans have been developed that outline the protocols to be implemented in case any unexpected archaeological or historical are discovered during construction. A separate protocol has also been developed in case any human remains are located (refer to CHMP conditions to be finalised with traditional owners and Aboriginal Victoria).



9.2.6 Mitigation measures

The following existing actions, mitigation measures and recommendations for project stages are taken from specialist reports that support this master plan.

Table 17 - Existing actions, mitigation measures and recommendations for project stages

Value	Design	Construction	Operation & maintenance
Native vegetation	<p>Undertaking detailed feasibility studies, desktop constraints analysis, terrain modelling to inform route selection process</p> <p>Preparing of trail mark-outs for future micro-siting pre-construction</p> <p>Incorporating previously disturbed areas wherever possible (e.g. mined areas)</p> <p>Micro-siting during detailed design stage</p> <p>Developing and incorporating trail construction techniques to avoid impacts to canopy trees</p> <p>Aligning trails on 4.8 kms of existing track or trail</p> <p>Providing clear trail separation (to minimise short-cutting)</p>	<p>Pre-construction site visits with contractor and project ecologists</p> <p>Minimise clearing by clearly marking any highly sensitive areas for retention with bunting or rope</p> <p>Identify and implement appropriate offset requirements</p> <p>Follow guidelines for construction works in Tree Protection Zones</p> <p>Undertake ongoing weed control</p> <p>Implement strict pathogen hygiene protocols at designated wash-down locations</p> <p>All personnel to undergo cultural heritage, environmental and OH&S inductions prior to commencement of works</p> <p>Excavation by hand in sensitive areas</p>	<p>Implement trail rehabilitation component of CEMP</p> <p>Undertake ongoing weed control</p> <p>Install interpretive and safety signage as required</p> <p>Restrict future vegetation removal to that within the Rider Clearance Zone</p> <p>Minimise the requirement for significant ongoing trail work</p> <p>Restrict any maintenance vehicles to existing tracks</p> <p>Seek independent advice regarding hazardous tree management</p>

Continued over.



Table 17 continued - - Existing actions, mitigation measures and recommendations for project stages

Value	Design	Construction	Operation & maintenance
Threatened species	<p>Undertaking detailed feasibility studies, desktop constraints analysis, terrain modelling to inform route selection process and identify key species of concern</p> <p>Project ecologists worked closely with trail designers during trail mark-out to avoid threatened species populations and habitat features</p> <p>Minimising trails near large habitat trees.</p>	<p>Minimise the removal of native grassy woodland (habitat for Key's Matchstick Grasshopper)</p> <p>Pre-construction site visits with contractor and project ecologists</p> <p>Avoid disturbance to Clover Glycine and Australian Anchor Plant populations (bunt these areas off)</p> <p>Construct boardwalks over damp areas/waterways</p> <p>Avoid removal of all canopy trees, especially hollow-bearing trees (Greater Glider habitat)</p> <p>Follow guidelines for construction works in Tree Protection Zones as per arborist recommendations</p>	<p>Undertake ongoing weed control</p> <p>Implement trail rehabilitation component of CEMP</p> <p>Install interpretation and safety signage as required</p> <p>Restrict vegetation removal to that within the Rider Clearance Zone</p> <p>Minimise the requirement for significant ongoing trail work</p> <p>Restrict any maintenance vehicles to existing tracks</p>
Aquatic habitats	<p>Minimising riparian and instream impacts through the use of rock armouring</p> <p>Avoiding instream impacts through use of clear span bridges</p> <p>Using low level bridges or elevated cycle paths to avoid boggy areas</p>	<p>Minimise removal of riparian vegetation</p> <p>Install clear span elevated structures</p> <p>Utilise best practice short- and long-term sediment monitoring and control methods</p> <p>Conduct construction activities when ground conditions are suitable</p>	<p>Maintain proper functioning of sedimentation and erosion controls</p> <p>Maintain proper functioning of drainage treatments including nicks and drainage outfalls</p> <p>Annual audits</p> <p>Regular inspections</p>

Continued over.



Table 17 continued - - Existing actions, mitigation measures and recommendations for project stages

Value	Design	Construction	Operation & maintenance
Sedimentation and erosion management	<p>Using sustainable construction methods</p> <p>Using knicks, rolling grade dips and grade reversals to divert surface water</p> <p>Installing rock armouring and raised embankments to stabilise soils in wetter areas</p>	<p>Install appropriate erosion and sedimentation controls</p> <p>Hand construction on steep erosive sites and soils.</p>	<p>Maintain proper functioning of sedimentation and erosion controls</p> <p>Maintain proper functioning of drainage treatments including nicks and drainage outfalls</p> <p>Annual audits</p> <p>Regular inspections (especially high use trails or post significant weather events)</p>
Introduction and spread of pest plants, pest animals and soil/plant pathogens	<p>Trail designed to avoid large existing weed infestations where practical.</p>	<p>Conduct induction training for contractors to introduce pathogen and weed hygiene protocols</p> <p>Designate wash-down areas</p> <p>Wash down all vehicles prior to re-entering the construction site</p> <p>Clean and disinfect all tools prior to entering the site</p>	<p>Minimise the requirement for significant ongoing trail work</p> <p>Regular weed/pest inspections</p> <p>Provide bike wash down facilities at trailhead</p>
Aboriginal places	<p>Avoiding all known items of cultural heritage significance</p> <p>Where possible, aligning the trail at least 5 m from known or suspected items of cultural significance</p>	<p>Existing Aboriginal places are not located within the construction footprint</p> <p>Follow the protocols for unexpected finds</p> <p>Follow the protocols for discovery of suspected human remains</p> <p>All personnel to undergo cultural heritage, environmental and OH&S inductions prior to commencement of works</p>	<p>Restrict maintenance activities to formed tracks and trails</p> <p>Implement program for inspection and monitoring in areas of historical and archaeological sensitivity</p> <p>Restrict vegetation removal to that within the Rider Clearance Zone</p> <p>Minimise the requirement for significant ongoing trail work</p> <p>Restrict any maintenance vehicles to existing tracks</p>

Continued over.



Table 17 continued - - Existing actions, mitigation measures and recommendations for project stages

Value	Design	Construction	Operation & maintenance
Historic places	<p>Avoiding all known items of cultural heritage significance and minimise disturbance to historic mining features by using existing track network, where possible.</p> <p>Where possible, aligning the trail at least 5 m from known or suspected items of cultural significance</p> <p>Marking out trail alignments within the Oriental Claims and Gambetta Battery in consultation with Heritage Advisor</p>	<p>Minimise ground disturbance</p> <p>Maintain approach angles to any linear historic features (e.g. water races, tramway formation) to <10 degrees</p> <p>Avoid excavating into historical features</p> <p>Avoid cutting across tram formations, water races or sluice banks</p> <p>Personnel inductions to describe protocols for discovery of unexpected historical features or objects</p>	<p>Restrict maintenance activities to formed tracks and trails</p> <p>Implement program for inspection and monitoring in areas of historical and archaeological sensitivity</p> <p>Restrict vegetation removal to that within the Rider Clearance Zone</p> <p>Minimise the requirement for significant ongoing trail work</p> <p>Restrict any maintenance vehicles to existing tracks</p>



9.3 Key recommendations

In order to minimise any residual impacts on ecological and cultural values, it is important that any construction activities be strictly confined to clearly marked construction footprints and maintenance zones. Impacts can be further minimised by 'building from the trail' and from within the construction corridor. It is important to implement best practice trail design, construction and sediment management practices throughout all stages of development.

Some key recommendations are summarised below:

- Document all environmental controls and mitigation measures in a detailed CEMP. The CEMP should outline requirements for (but not be limited to):
 - Cultural heritage, environmental and OH&S inductions for all contractors prior to commencement of works.
 - Threatened species protection and management.
 - Strict weed and pathogen hygiene protocols to be employed during construction and operation (including designated wash-down sites).
 - Installation and maintenance of erosion and sedimentation controls.
 - Implementation of strict pest and pathogen control protocols.
 - Description of trail rehabilitation methods to be implemented (i.e. replacement of cut soil sods and other material along trail edges to encourage natural regeneration and reduce erosion).

The appointed construction contractor must be accountable for achieving a high level of environmental compliance consistent with an endorsed CEMP that is subject to regular third party compliance monitoring.

- Ensure that relevant experts are on site prior to construction in order to clearly identify environmental and heritage values and ensure their protection.
- Follow the contingencies in case of unexpected cultural heritage finds, as required. Contingency plans relate to:
 - Management of items of Aboriginal cultural heritage uncovered during the activity (see Section 6.3).
 - Discovery of suspected human remains during the activity (see Section 6.4).

Failure to comply with the contingencies is an offence under Section 67A of the Aboriginal Heritage Act 2006.

- Post-approval, ensure that all waterway crossings are constructed in accordance with relevant guidelines from the North East CMA according to guidelines for fish-friendly waterway crossings.
- Boardwalks, raised crossings and/or grates should also be considered for crossing areas on damp ground or minor ephemeral tributaries.

9.4 Native vegetation offsets

The native vegetation offset requirements for the project will be addressed through development of a Crown land offset. The Offset strategy will be submitted to the responsible authority and DELWP as part of the project approvals to demonstrate that general and species offsets can be achieved. The Native Vegetation Offset Strategy is provided as Appendix 4.



10. Trail maintenance



Regular trail maintenance is essential to ensuring trail users have a safe and enjoyable ride and that the surrounding environment is not impacted through the degradation of the trails and associated potential erosion and or sediment transport. Mountain bike trails will naturally deteriorate overtime through being exposed to the elements and through regular use by mountain bikers.

Trail maintenance should aim to address the following objectives:

- Maintain trails in accordance with the prescribed degree of difficulty, (Easy - Intermediate - Difficult).
- Minimise the requirement for significant trail work as a consequence of substantial trail degradation.
- Maintain the proper function of drainage treatments including knicks and drainage outfalls.
- Remove vegetation that has encroached on the Rider Clearance Zone.

10.1 Trail audit

Trail audits provide a baseline for developing a responsive or long term maintenance program. A trail audit includes a visual assessment of the trails in accordance with the designated degree of difficulty rating and recording of any immediate or potential issues. Trail audits should be conducted annually as a minimum. It is recommended the Omeo Mountain Bike Trail Network be audited at the following times taking account of the location and potential for impacts on the trails.

1. Annual detailed audit - post winter, (late September or as soon as ground conditions permit);
2. Prior to peak holiday periods - late December and prior to Easter;
3. Prior to any organised event.

The trail Audit should include:

- An assessment of the overall rideability of the trail in accordance with the designated trail difficulty rating.
- A record of any identified issues including the location, (preferably GPS coordinates), photos and a description.

10.2 Regular trail inspections and awareness of issues

Weather, animals and natural environmental processes can impact on trail condition at anytime so it is important the trails are inspected often and particularly prior to peak visitor periods and post significant weather events, e.g., winter storms.

Providing trail users with a means for giving feedback and or information on trail condition has proven to be greatly beneficial for maintaining trails to the required standard. Apps such as Trailforks allow riders to log issues they have come upon while on trail and this information can then be used by the land manager and or local community groups to record and respond to the issue. Providing trail users with a contact number or providing log books at trail heads are also means used by land managers for capturing trail condition information.

High use trails such as those closest to the primary trailhead and the headline, (hero trails), require regular inspection as these trails will deteriorate more rapidly as a consequence of the higher riding use.

A Trail audit / inspection form template is provided as Appendix 2.



11. Appendices



- Appendix 1 - Preliminary design consultation and site inspections.
- Appendix 2 - Example Trail Audit / inspection form
- Appendix 3 - Omeo Mountain Bike Complex: Flora and Fauna Assessment. Report for East Gippsland Shire Council. Authors: Looby, M. Zacks, G. Kelly, E.Campbell, K and Jones, M. Biosis Pty Ltd. Project no.30124.
- Appendix 4 - Omeo Mountain Bike Complex Native Vegetation Offset Strategy, Biosis Pty Ltd.
- Appendix 5 - Omeo Mountain Bike Trail, Omeo. Cultural heritage management plan 16644.
Report for East Gippsland Shire Council. Authors: Fitzgerald, T. & Oataway, K., Biosis Pty Ltd, Albury. Project no 30125.
- Appendix 6 - Omeo Mountain Bike Complex: Omeo, Victoria: Historic Survey Report 30126.
Report for East Gippsland Shire Council. Author: Vines, G., Biosis Pty Ltd, Port Melbourne.
- Appendix 7 - Tree impact assessment, Mount Sam Forest Mountain Bike Trails, Omeo, Victoria, 3898. Report for Biosis Pty Ltd prepared by Rhys Oldmeadow, Oldmeadow Arboriculture.
- Appendix 8 - Cost Estimate



Appendix 1 - Preliminary Design consultation and site inspections.



Background reports, consultation and site inspections

1.1.1 Existing reports

The following background reports and information sources have been reviewed:

- Omeo/Mount Taylor Site Visit Report (World Trail 2016)
- Omeo Mountain Bike Feasibility Report (Dirt Art 2017)
- Livingstone Park Management Plan (East Gippsland Shire Council 2018)
- Analysis of the Omeo Mountain Bike Project (Anthony Burton & Associates 2019)
- Access options - Omeo Mountain Bike Complex (East Gippsland Shire Council, undated).
- Omeo Mountain Bike Trails Desktop ecological constraints assessment (Biosis 2019a)
- Omeo Mountain Bike Trails Cultural Heritage Due Diligence Assessment (Biosis 2019b)
- Draft Heritage Action Plan - Oriental Claims Historic Area (Parks Victoria, undated).
- Omeo Mountain Bike Destination Business Case (TRC Tourism, December, 2019)

1.1.2 Database searches

The following databases were searched for information related to the study area and its surrounds:

- 10 kilometre buffered search of DELWP's Victorian Biodiversity Atlas (VBA), including the 'VBA_FLORA25, FLORA100 & FLORA Restricted' and 'VBA_FAUNA25, FAUNA100 & FAUNA Restricted' datasets
- 10 kilometre buffered search of the Australian Government Department of the Environment and Energy (DoEE) Protected Matters Search Tool for matters protected by the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
- Aboriginal Cultural Heritage Register and Information Services (ACHRIS)
- Victorian Heritage Register and Inventory sites and Council Heritage Overlays on Vic Plan.

1.1.3 Spatial datasets

The following spatial datasets have been accessed and used to understand existing conditions and to build decision support tools for identifying opportunities and constraints and undertaking preliminary design:

- Concept trails from Dirt Art (2017)
- Topographic data including roads, waterways, contours, cadastre
- Soil erosion hazard map layers – State-wide datasets for sheet, landslip, wind and gully erosion.
- Slope (degrees)
- Land tenure (public and private)
- Ecological vegetation classes (EVC)
- Areas of cultural heritage sensitivity
- DELWP Burn Plan (2019)
- DELWP Forest Management Zones

Background reports, consultation and site inspections

- DELWP Habitat Importance Models
- DELWP Site Condition (NVR2017)
- DELWP Location Risk (NVR2017)
- DELWP Strategic Biodiversity Value (NVR2017).

1.2 Initial site inspections and stakeholder consultation

Table 1 and Table 2 outline the site assessments and stakeholder engagement undertaken to date by the members of the project team including Matt Looby, Simon Jones and Gerard McHugh.

Table 1 Details of initial site inspections

Date	Locations assessed
29 – 31 May 2019	Initial site inspection including Mount Sam, Mount Mesley, Oriental Claims, Lower Dry Gully Creek and the eastern ridgelines of Mount Sam descending to the Omeo Highway
26 June 2019	Oriental Claims and Livingstone Creek corridor
10 July 2019	Dry Gully Creek up to the Gambetta Battery

Table 2 Details of initial stakeholder engagement

Date	Engagement
29 – 31 May 2019	Community Steering Committee / Presentation to Omeo Community Initial discussion / site visit with DELWP officer
26 June 2019	Omeo Historical Society representatives
10 July 2019	Community members and Community Steering Committee members
11 June 2019	Phone meeting with Parks Victoria stakeholders
17 July 2019	Bairnsdale meeting with DELWP stakeholders
12 June & 25 July 2019	Initial Consultation with Aboriginal Victoria regarding CHMP and engagement of Traditional Owners
1 July 2019	Notice of Intent to prepare a Cultural Heritage Management Plan for the purposes of the Aboriginal Heritage Act 2006 lodged with Aboriginal Victoria. CHMP number 16644 assigned to the project.

Background reports, consultation and site inspections

Table 4 Details of ground truthing and detailed ecological assessment

Date	Engagement
9 – 27 September, 2019t	Initial ground truthing, marking and recording of trail alignments
7 – 18 October 2019	Detailed assessment – ecological values and potential impacts
11-13 November 2019	Additional targeted surveying for realignment of sections of XC 2 and XC 3 in the vicinity of Livingstone Creek to avoid threatened species.
19 February 2020	Additional ground truthing for realignment of sections of XC 10 and GR1 to avoid threatened species

Appendix 2 - Example Trail Audit / inspection form.



Omeo Mountain Bike Trail audit / inspection form

[illegible]

Appendix 3 - Omeo Mountain Bike Complex: Flora and Fauna Assessment.



Appendix 4 - Omeo Mountain Bike Complex Native Vegetation Offset Strategy.



Appendix 4 - Omeo Mountain Bike Trail Cultural heritage management plan.

Appendix 5 - Omeo Mountain Bike Complex Historic Survey Report.

Appendix 6 - Tree impact assessment, Mount Sam Forest Mountain Bike Trails.

Appendix 7 - Cost Estimate

Item	Total Length (km)	Construction description	Existing Trail (km)	Constructed (km)	Machine Construction	Machine Construction	Construction Cost	Hand Construction	Construction (m)	Construction Cost	Rock Armouring Length (m)	Rock Armouring Cost	Bridge Length (m)	Bridge Cost	\$ ex GST
High Priority Trails															
Access 1	0.21	Primarily existing trail with some realignment required	0.21	0.00	0%	0.00	\$ -	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ -
Access 2	0.96	Existing trail with minor improvement required	0.96	0.00	0%	0.00	\$ -	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ -
Access 3	0.37	Realignment of existing access trail	0.00	0.37	100%	0.37	\$ 43,920.00	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ 43,920.00
Access 4	1.06	New trail in heavily forested area	0.00	1.06	90%	0.95	\$ 33,232.50	10%	0.11	\$ 4,615.63	0	\$ -	-	\$ -	\$ 37,848.13
XC1	1.34	New trail with easy access	0.20	1.14	100%	1.14	\$ 39,865.00	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ 39,865.00
XC2	1.99	New trail with easy access	0.20	1.79	100%	1.79	\$ 62,650.00	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ 62,650.00
XC3	5.88	Primarily new trail along Livingstone Creek	1.74	4.14	90%	3.73	\$ 130,441.50	10%	0.41	\$ 18,116.88	5	\$ 1,250.00	15	\$ 22,500.00	\$ 172,308.38
XC10	10.21	Steep terrain and heavily forested, many switchbacks	0.00	10.21	60%	6.12	\$ 214,368.00	40%	4.08	\$ 178,640.00	84	\$ 21,000.00	6	\$ 9,000.00	\$ 423,008.00
XC11	9.51	Steep terrain in heavy forest	0.00	9.51	90%	8.56	\$ 299,565.00	10%	0.95	\$ 41,606.25	175	\$ 43,750.00	15	\$ 22,500.00	\$ 407,421.25
XC12	9.48	Variable terrain with good access to some sections. Others aer in steep terrain	0.00	9.48	90%	8.53	\$ 298,714.50	10%	0.95	\$ 41,488.13	92	\$ 23,000.00	-	\$ -	\$ 363,202.63
GR 2	6.53		0.00	6.53	90%	5.88	\$ 293,895.00	10%	0.65	\$ 40,818.75	14	\$ 3,500.00	-	\$ -	\$ 338,213.75
GR 3	4.68	Steep terrain	0.00	4.68	90%	4.21	\$ 252,720.00	10%	0.47	\$ 35,100.00	78	\$ 19,500.00	-	\$ -	\$ 307,320.00
GR 4	2.98	Some steep sections	0.00	2.98	90%	2.68	\$ 120,609.00	10%	0.30	\$ 16,751.25	46	\$ 11,500.00	-	\$ -	\$ 148,860.25
Construction High Priority trails															\$ 2,344,617.38
Trail infrastructure High Priority															
Livingstone Park Primary trailhead site works and furniture			Demolition, earthworks, install and compact crushed rock pavement and new bollards									Item	1	35,000	\$ 35,000.00
Primary Trail head signage - Livingstone Park			Large sign structure - including structural design									Item	1	20,000	\$ 20,000.00
Mount Sam Road secondary trailhead site works and furnitre			Earthworks, install and compact fill, crushed rock pavement, traffic signage and trail chicane									Item	1	60,000	\$ 60,000.00
Secondary Trail head signage - Livingstone Park, Mount Sam Road and Oriental Claims			Medium sized structure - design, fabrication and installation									Item	3	10000	\$ 30,000.00
On trail signage			Fabricaton and installation									Item	15	300	\$ 4,500.00
Livingstone Creek Bridge 1			Structural steel span bridge. Design, fabrication and installation. 38 metre span									Item	1	180,000	\$ 180,000.00
Livingstone Creek Bridge 2			Structural steel span bridge. Design, fabrication and installation. 20 metre span									Item	1	160,000	\$ 160,000.00
Trail overpass / underpass X 2			Timber structure - Detailed design, labour and materials									Item	2	50,000	\$ 100,000.00
Total High Priority infrastructure															\$ 589,500.00
Total all High Priority items															\$ 2,934,117.38
GST amount															\$ 293,411.74
Total all High Priority items including GST															\$ 3,227,529.11

Item	Total Length (km)	Construction description	Existing Trail (km)	Constructed (km)	Machine Construction	Machine Construction	Construction Cost	Hand Construction	Construction (m)	Construction Cost	Rock Armouring Length (m)	Rock Armouring Cost	Bridge Length (m)	Bridge Cost	\$ ex GST
Medium Priority Trails															
XC5	2.53	Accessible from Oriental Claims / bottom of Dry Gully Creek	0.09	2.44	90%	2.19	\$ 76,734.00	10%	0.24	\$ 10,657.50	10	\$ 2,500.00	15	\$ 22,500.00	\$ 112,391.50
XC6	3.76	Mix of existing trail and new trail. Mostly with good machine access	1.41	2.35	90%	2.11	\$ 73,930.50	10%	0.23	\$ 10,268.13	3	\$ 750.00	-	\$ -	\$ 84,948.63
XC13	10.91	Variable slope and heavily forested	0.00	10.91	90%	9.82	\$ 343,570.50	10%	1.09	\$ 47,718.13	25	\$ 6,250.00	-	\$ -	\$ 397,538.63
XC14	10.87	Variable terrain with significant steep sections. Heavily forested	0.00	10.87	75%	8.15	\$ 309,795.00	25%	2.72	\$ 129,081.25	98	\$ 24,500.00	-	\$ -	\$ 463,376.25
Link Trail	0.06		0.00	0.06	100%	0.06	\$ 2,030.00	0%	0.00	\$ -	0	\$ -	-	\$ -	\$ 2,030.00
GR 1	3.96	Steep terrain and remote	0.00	3.96	75%	2.97	\$ 148,500.00	25%	0.99	\$ 61,875.00	39	\$ 9,750.00	-	\$ -	\$ 220,125.00
GR 5	3.28	Steep terrain and remote	0.00	3.28	90%	2.95	\$ 147,375.00	10%	0.33	\$ 20,468.75	19	\$ 4,750.00	-	\$ -	\$ 172,593.75
GR 6	0.42	Accessible in Livingstone Park	0.00	0.42	90%	0.38	\$ 22,518.00	10%	0.04	\$ 3,127.50	0	\$ -	-	\$ -	\$ 25,645.50
Construction Medium Priority Trails															\$ 1,478,649.25
Trail infrastructure Medium Priority															
Mount Sam summit trailhead site works and furniture			Demolition, earthworks, install and compact crushed rock pavement and new bollards including removable bollards or lockable gate									Item	1	80,000	\$ 80,000.00
Primary Trail head signage - Mount Sam summit			Large sign structure - including structural design									Item	1	20,000	\$ 20,000.00
On trail signage			Fabricaton and installation									Item	15	300	\$ 4,500.00
Total Medium Priority infrastructure															\$ 104,500.00
Total all Medium Priority items															\$ 1,583,149.25
GST amount															\$ 158,314.93
Total Medium Priority including GST															\$ 1,741,464.18
Low Priority Trails															
XC4	0.95	In Oriental Claims. Will require Historical specialist oversight	0.00	0.95	90%	0.86	\$ 29,988.00	10%	0.10	\$ 4,165.00	0	\$ -	-	\$ -	\$ 34,153.00
XC8	7.74	Difficult terrain in Dry Gully	0.00	7.74	75%	5.81	\$ 220,618.50	25%	1.94	\$ 91,924.38	68	\$ 17,000.00	27	\$ 40,500.00	\$ 370,042.88
XC9	9.21	Difficult terrain in Dry Gully	0.00	9.21	75%	6.91	\$ 262,399.50	25%	2.30	\$ 109,333.13	91	\$ 22,750.00	24	\$ 36,000.00	\$ 430,482.63
XC15	12.72	Steep terrain and heavily forested.	0.00	12.72	75%	9.54	\$ 362,605.50	25%	3.18	\$ 151,085.63	38	\$ 9,500.00	-	\$ -	\$ 523,191.13
Construction Low Priority trails															\$ 1,357,869.63
GST amount															\$ 135,786.96
Total Low Priority including GST															\$ 1,493,656.59

Item	Total Length (km)	Construction description	Existing Trail (km)	Constructed (km)	Machine Construction	Machine Construction	Construction Cost	Hand Construction	Construction (m)	Construction Cost	Rock Armouring Length (m)	Rock Armouring Cost	Bridge Length (m)	Bridge Cost	\$ ex GST
Future Trails															
XC7	9.81	Steep terrain with many switchbacks	0.00	9.81	60%	5.89	\$ 206,010.00	40%	3.92	\$ 171,675.00	41	\$ 10,250.00	-	\$ -	\$ 387,935.00
XC16	11.93	Steep terrain in thick forest. Remote country	0.00	11.93	75%	8.95	\$ 340,005.00	25%	2.98	\$ 141,668.75	92	\$ 23,000.00	-	\$ -	\$ 504,673.75
Construction Future Trails															\$ 892,608.75
GST amount															\$ 89,260.88
Total Future Trails including GST															\$ 981,869.63
Total all items excluding GST															\$ 8,246,394.25
GST amount															\$ 824,639.43
Total all items including GST															\$ 9,071,033.68