



# Snowy Valleys Tracks and Trails Masterplan Economic Assessment

Snowy Valleys Council

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OFFICES IN CANBERRA, HOBART, MELBOURNE, AND SYDNEY ON THE COUNTRY OF THE NGAMBRI/NGUNNAWAL/NGARIGO, MUWININA, WURUNDJERI, AND GADIGAL PEOPLES.

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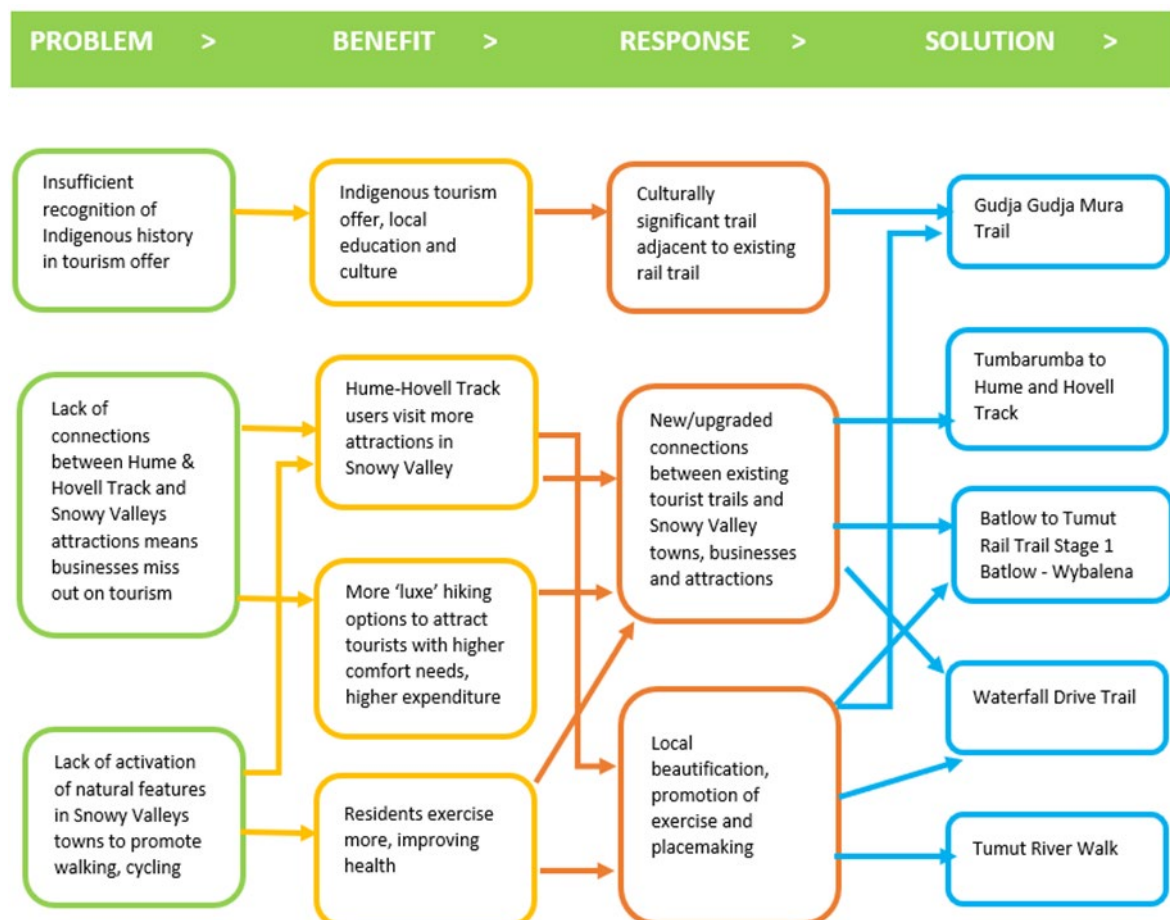
# Executive summary

The Snowy Valleys Local Government Area (LGA), located between Canberra, the Snowy Mountains, the NSW border and the Hume Highway, is a picturesque place of mountains, forests, rivers and lakes. The LGA already has several trails running through it, including the Hume and Hovell Track between Yass and Albury, the first rail trail in NSW, the Tumbarumba to Rosewood Rail Trail and walking trails around the town of Tumut.

Five potential projects have been identified to develop new trails in the Snowy Valleys region. These trails are intended to attract hikers, cyclists, tourists and people interested in the Indigenous culture. These trails will target a range of potential different markets, from fit and rugged hikers travelling to the LGA to enjoy an adventure in the wilderness, to local elderly and children enjoying a stroll.

## The problem and objectives

The problems to be solved are a lack of connections between the Hume and Hovell track and Snowy Valleys main attractions, a lack of activation of some of the natural features close to towns and insufficient recognition of the local Indigenous history, as shown in the Investment Logic Map below.



## Tracks and Trails options

A total of construction cost of \$7.8 million for four of the tracks and trails has been estimated, along with specific construction costs for four trails (the Waterfall Drive Trail is a promotion activity and costs are expected to be minimal). It has been assumed that construction would be completed in two years, starting from 2023. It is also assumed that each trail will have an ongoing operational cost of 2% of its construction cost per year once the tracks and trails are complete.

The main benefits include:

- **Increased tourism expenditure** from tourists who are attracted to the Snowy Valleys by the new trails.
- **Health benefits** from Snowy Valleys residents who were previously insufficiently active for health deciding to exercise more because of access to the trails.
- **Enjoyment of the trails** from Snowy Valleys residents enjoying leisure and recreation activities on the trails that they otherwise would not have done, or from Indigenous people using trails to connect to Country.
- **Education benefits** from primary school students who are expected to visit the tracks and trails for excursions to learn about the environment, native plants and animals, farms and health. In some trails there is an opportunity to gain a better understanding of Indigenous culture.

## Gudja Gudja Mura Trail

Gudja Gudja Mura Trail has been proposed by the Ngarigo Toomaroombah Kunama Namadgi Indigenous Corporation (TKNIC). This would connect Murray's Crossing to the Tumbarumba to Rosewood Rail Trail utilising a Travelling Stock Route. Murray's Crossing holds a high level of cultural significance as a central site for connecting Songlines. The trail experience which highlights and conserves the site's cultural history will empower future generations of both First Nations and Non-Indigenous people to understand the Ngarigo culture and heritage. Some of the area's history could be highlighted through re-establishing the Yarning Circle/Corrobboree area. The benefits expected are:

- **Tourism benefits:** The number of visitors attracted to Snowy Valleys is expected to increase with the Gudja Gudja Mura Trail, with some day trippers staying longer and some overnight visitors extending their stay.
- **For local fitness and enjoyment:** Indigenous residents of Snowy Valleys LGA are expected to use this path to support their connection to Country. Other residents are expected to use it for fitness, recreation and learning about Indigenous culture. The catchment area for local users of this trail is expected to be the population of Tumbarumba, in particular Indigenous residents. Twenty per cent of the population living in Tumbarumba will spend one and a half hours walking on the trail 15 times per year on average (slightly more than once per month).
- **Education benefits:** Each primary school age child in Tumbarumba is expected to take an excursion to the trail each year, and experience educational benefits from this.

### **Tumbarumba to Hume and Hovell Track (Tooma Rd Path)**

The Hume and Hovell Track is an adventure hiking track, covering a mix of public roads, fire trails, purpose built track and footbridges for a total 426kms from Yass to Albury. Hikers are supported with 17 campsites along the path, but many hikers appreciate the opportunity to stop for the night in local towns.

There is an opportunity to enhance the existing track network, through providing off road links to the towns and villages with the Snowy Valleys region. Community surveys showed a strong desire to connect Tumbarumba and Henry Angel Flat with a separated pedestrian path of around 8 kms near Tooma Road. Establishing 'spurs' joining the Track to nearby towns allows hikers who are dedicated to walking only on their journey to easily and safely make side trips into towns, without having to share the road with cars, where they can enjoy a hot shower and a warm bed in a hotel room and restock their supplies at the local supermarket. The benefits expected are:

- Tourism benefits: The number of visitors attracted to Snowy Valleys is expected to increase with the Tumbarumba to Hume and Hovell Track extension, and some existing visitors can be expected to extend their stay.
- For local fitness and enjoyment: The catchment area for local users of this trail is expected to be the population of Tumbarumba. Ten per cent of the population living in Tumbarumba will spend three hours walking or cycling on the trail 12 times per year on average (a vigorous hike around once per month).

### **Tumut River Walk**

The Tumut River Walk provides excellent trail walking opportunities, as it meanders through beautiful parks alongside the river and links into the Tumut Wetlands. The existing trail network also consists of a Bull Paddock Loop that provides a loop experience around the Tumut Racecourse past Bull Paddock and into Pioneer Park. There is an opportunity to elevate the Tumut River Walk by upgrading the road portion of Elm Dr to incorporate an off-road alignment that improves pedestrian safety and allows for spectacular views of the Tumut River. The overall experience will be an easy walk of less than an hour's duration, close to the town.

- Tourism: While tourists are expected to use and enjoy the path, Tumut River Walk is a comparatively small walk so its construction is not expected to result in a noticeable increase in tourism.
- Local fitness and enjoyment: Twenty five percent of Tumut residents are expected to spend an average of half an hour walking on the trail, about 15 times per year (just over once per month). The convenience and amenity of the location is expected to result in frequent usage among Tumut residents.

### **Batlow to Tumut Rail Trail Stage 1 (Batlow to Wybalena Railway Station)**

The 32km stretch of disused rail line between Batlow and Tumut has been identified for its potential as a rail trail experience. The Stage 1 rail trail experience has the potential to be a food and wine experience, with a similar market offer to the Riesling Trail. In addition to the tourist market, the Stage 1 Batlow to Wybalena Rail Trail will provide an 8km return trail with a gentle gradient that is dedicated,



off road and safe. Currently, there is limited provision of suitable trails in Batlow for health and fitness purposes. The expected benefits of the Rail Trail Stage 1 are:

- Tourism benefits: The expected increase in visitors to the Snowy Valleys due to the Stage 1 of the Batlow to Tumut Rail Trail is expected to be the highest of all the options, with the understanding that it can be used to be the basis of a food and wine trail.
- For local fitness and enjoyment: The catchment area for local users of this trail is expected to be the population of Batlow. Twenty-five per cent of the population living in Batlow will spend one hour walking or cycling on the trail 20 times per year on average.

### **Waterfall Drive Trail**

The proposed Waterfall Drive Trail is a branding exercise to promote existing tracks and trails to waterfalls throughout the Snowy Valleys. The proposed road route runs from Adelong Falls Gold Mill Ruins through Gilmore, Batlow to Paddy's River Falls near Tumbarumba. Establishing this route as the Waterfall Drive Trail, with branding and promotional materials shared on the Snowy Valley Council, in Tourist Information Centres and through tourism websites will increase awareness of the existing beautiful waterfall walks and local towns among visitors.

The costs of the Waterfall Drive Trail have not yet been calculated as they are expected to be minimal – establishing a Waterfall Drive Trail brand, printing brochures and publication of the trail. The expected beneficiaries of the Waterfall Drive Trail are:

- Tourism benefits: greater awareness of the multiple walks to waterfall views is likely to attract tourists to the area, as well as encouraging those who enjoy waterfall walks to spend longer in the Snowy Valleys.
- Local fitness and enjoyment: greater awareness of the local walks to waterfalls is expected to encourage local residents to use more of the waterfall walks more frequently.

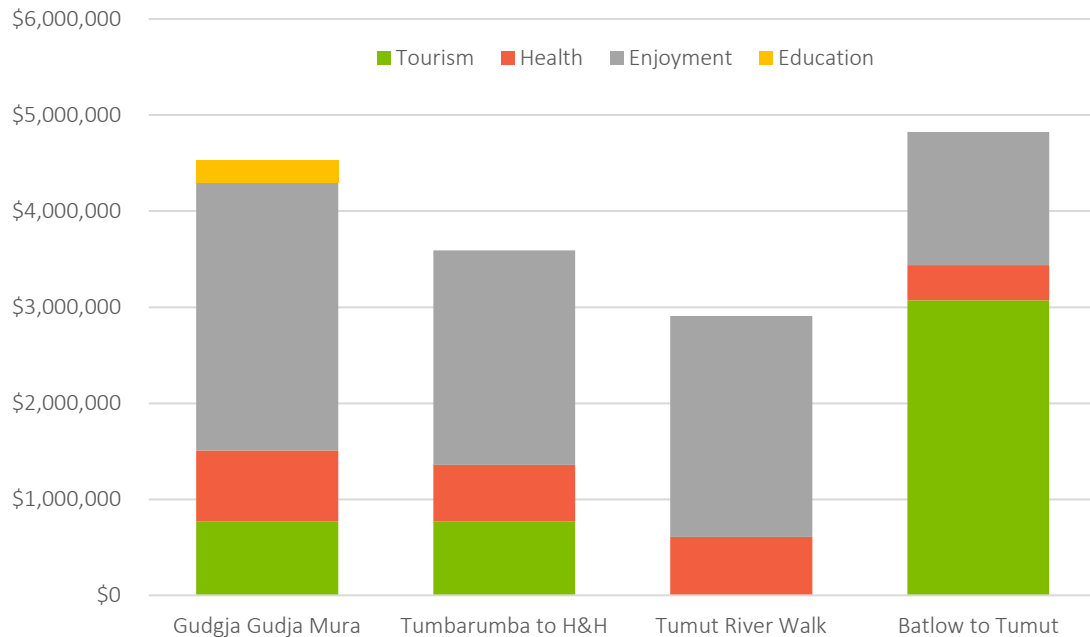
### **Cost benefit analysis results**

For all trails, the costs and benefits have been calculated for the period of 2023 to 2041, incorporating the two-year construction period and another 17 years of operation. Below is the summary of the CBA results of each trail.

### **Summary of benefits**

The source of benefits for each project varies significantly depending on the type of track or trail, its location, length, amenity and intended usage. The Batlow to Tumut Rail (Stage 1) trail expects most of its benefits to come from increased tourism. The Gudja Gudja Mura Walk and the Tumbarumba to Hume and Hovell Trails expect to get a mix of benefits, with the former also showing a benefit from education of local school students. The Tumut River Walk's benefits all come from the health and enjoyment of local residents.

#### SOURCE OF BENEFITS FOR EACH TRAIL OPTION (PRESENT VALUE OF BENEFITS TO 2041)



Source: SGS Economics and Planning modelling, 2022

Overall, each trail is expected to bring a total of \$2.5 million to \$5.8 million to the Snowy Valleys in boosts to tourism, health benefits from greater exercise, local user enjoyment of the trails and opportunities for student education. Their cumulative benefits may be much greater.

Each proposed track and trail for which costs were available showed that the benefits outweighed the cost at 4%, 7% and 10% discount rates. At the standard 7% discount rate, the Batlow to Tumut Rail Trail Stage 1 had the highest NPV, at \$3.65 million, which means that benefits exceed costs by this amount. The Tumut River Walk had the highest BCR, at 13.96, which means that for every dollar invested, a benefit of \$13.96 is expected. Even at the highest discount rate of 10%, each project showed strong positive results.

#### COST BENEFIT ANALYSIS RESULTS

Discount rate	4%	4%	7%	7%	10%	10%
	NPV (\$million)	BCR	NPV (\$million)	BCR	NPV (\$million)	BCR
Gudgja Gudja Mura	\$3.07	1.97	\$1.81	1.62	\$0.96	1.35
Tumbarumba to H&H	\$3.42	2.97	\$2.31	2.45	\$1.55	2.05
Tumut River Walk	\$3.15	16.94	\$2.36	13.96	\$1.81	11.66
Batlow to Tumut	\$5.66	2.43	\$3.65	2.00	\$2.28	1.67

Source: SGS, 2022.

## Economic Impact Analysis

SGS has used an input-output (IO) economic modelling technique to convert the impact of upfront construction expenditure and day trip and overnight visitors into indirect impacts in terms of production and employment at a regional level.

### Impacts from construction

Assuming a total construction cost of \$7.8 million over a two-year period, the economic impact of the construction of the trail can be seen in the table below.

The initial impacts include an increase in value added of \$2.8 million and 17 new full-time equivalent jobs. After considering flow on effects, the economy is likely to gain \$18 million in additional output, of which an additional \$6.1 million is value added, and an additional 49 full-time employees.

	Output (\$million)	Value-added (\$ million)	Employment
Initial effects	\$7.765	\$2.795	17
Total effects	\$18.031	\$6.135	49

Source: SGS, 2022.

### Impacts from tourism

The estimated tourism numbers and expenditure generate the following increase in economic output, value added and employment resulting from increased tourism expenditure from the rail trail.

	Output (\$million)	Value-added (\$)	Employment
Initial effects	\$ 1,015,183	\$ 409,413.97	5
Total effects	\$ 2,474,070.02	\$ 1,110,531.29	9

Source: SGS, 2022.

Considering all flow on effects, the operation of the trail is likely to result in an additional \$2.5 million dollars a year to the economy, with a \$1.1 boost to value added and the addition of 9 full time equivalent jobs.

It is important to note that the figures in this table are for one year only, not the entire period of analysis. It cannot be assumed that these benefits accrue year on year, and therefore each year is not summed to produce a total economic impact figure for the whole period.

### Potential for economic development in the region

Three key target areas of economic development in the region have been identified as potential growth areas for Snowy Valleys Council to support, following the establishment of the Tracks and Trails Masterplan. These are:

- Sports and physical recreation industries, such as bike hire and repair, hiking and camping stores, in areas where they can best support the users of the tracks and trails.

- Gourmet food, wine, cider and beer clusters, based on local agricultural and viticultural production. These should be located relatively easy walking and cycling trails, to offer a 'luxe' outdoor experience for 'foodie' tourists. Council should support businesses in developing relationships between customer facing businesses such as cellar doors, breweries/cideries, accommodation and restaurants and local food manufacturers, such as premium beef, dairy and fruit producers.
- Accommodation and Food Services and supporting Retail trade for Hume and Hovell hikers looking to spend a night in a hotel in local towns to enjoy a rare hot meal and soft bed.

# 1. BACKGROUND

Snowy Valleys, located between Canberra, the Snowy Mountains, the NSW border and the Hume Highway, is a picturesque place of mountains, forests, rivers and lakes.

The council area already has several trails running through it, including the Hume and Hovell Track between Yass and Albury; the first rail trail in NSW, the Tumbarumba to Rosewood Rail Trail, trails leading to historic sites and waterfalls and other interests for active residents and tourists, such as

The Snowy Valleys Council has identified five projects to develop new trails in the Snowy Valleys region. These trails are intended to attract hikers, cyclists, tourists and people interested in the Indigenous culture. These trails will target a range of potential different markets, from fit and rugged hikers travelling to the LGA to enjoy an adventure in the wilderness, to local elderly and children enjoying a pleasant afternoon stroll.

## 1.1 The proposed trail options

The trails proposed are recreational trails designed for walkers and cyclists. Some will be new trails; others will be extensions of/attachments to existing trails and one will involve the coordinated promotion of several existing trails. Each of these can be developed as a separate project, and some or all of the projects could be funded and developed.

The proposed tracks and trails in the Snowy Valleys comprise of five priority trail projects:

- Gudja Gudja Mura Trail
- Tumbarumba to Hume and Hovell Track
- Tumut River Walk
- Batlow to Tumut Rail Trail (Stage 1 Batlow to Wybalena Railway Station)
- Waterfall Drive Trail

## 1.2 Purpose of this report

This report considers the intended target markets of each of the trails and explains how they can provide benefits to the Snowy Valley local government area (LGA) through attracting tourism to the area, providing opportunities for Snowy Valleys residents to engage in exercise, leisure and recreation, providing educational opportunities and potential environmental benefits. It prepares a cost benefit analysis and an economic impact assessment of these options, showing the size of the benefits and the impact they are expected to have on the Snowy Valleys economy. Finally, it will highlight the opportunities for business development and diversification in the region as a result of this investment.

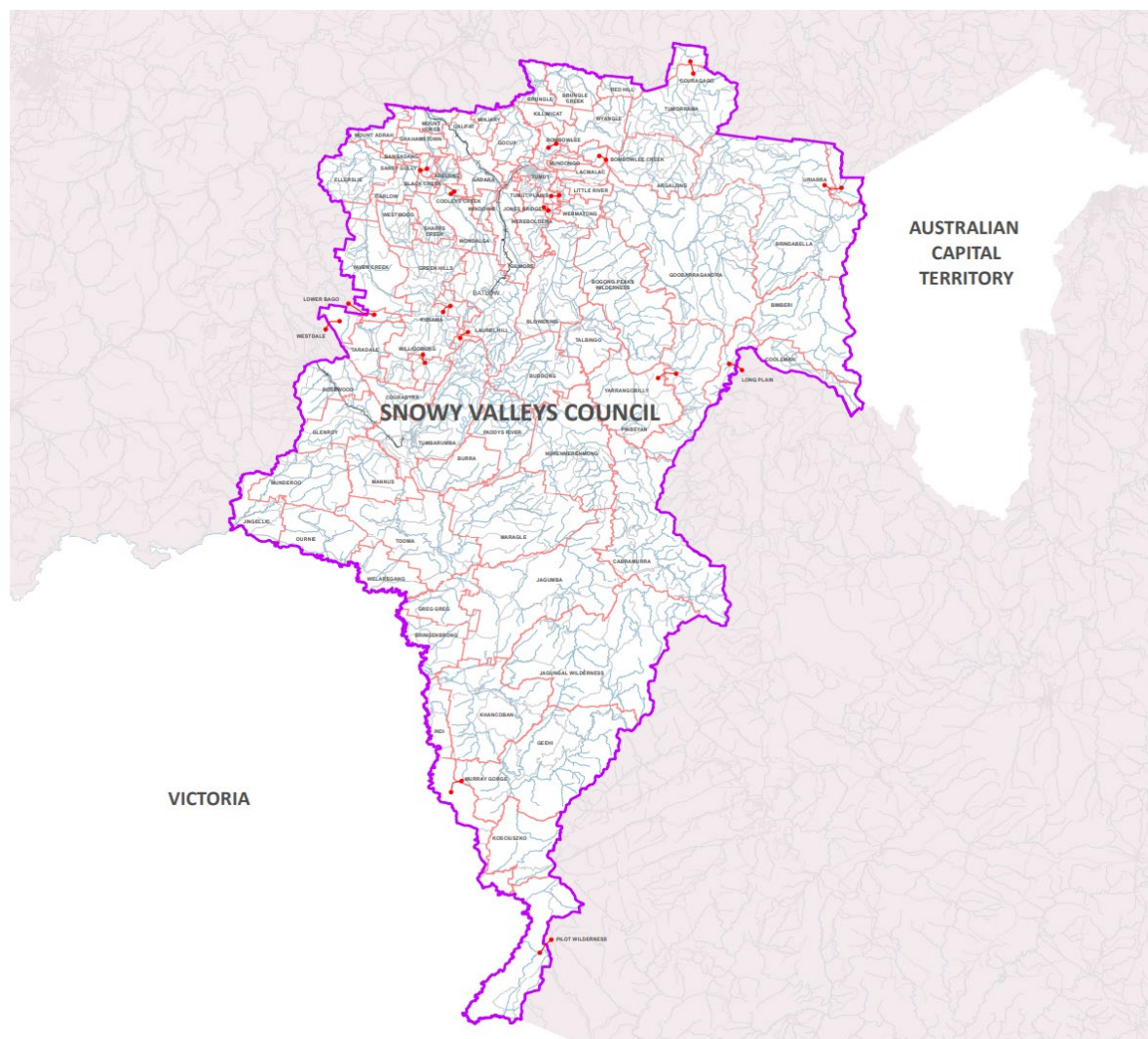


## 2. About Snowy Valleys

### 2.1 Location

The Snowy Valleys Council is located at high elevation, in the western foothills of the Snowy Mountains. It is placed in a prime position with close geographical ties to the regional centres of Canberra and Wagga Wagga.

**FIGURE 1: MAP OF SNOWY VALLEYS LGA**

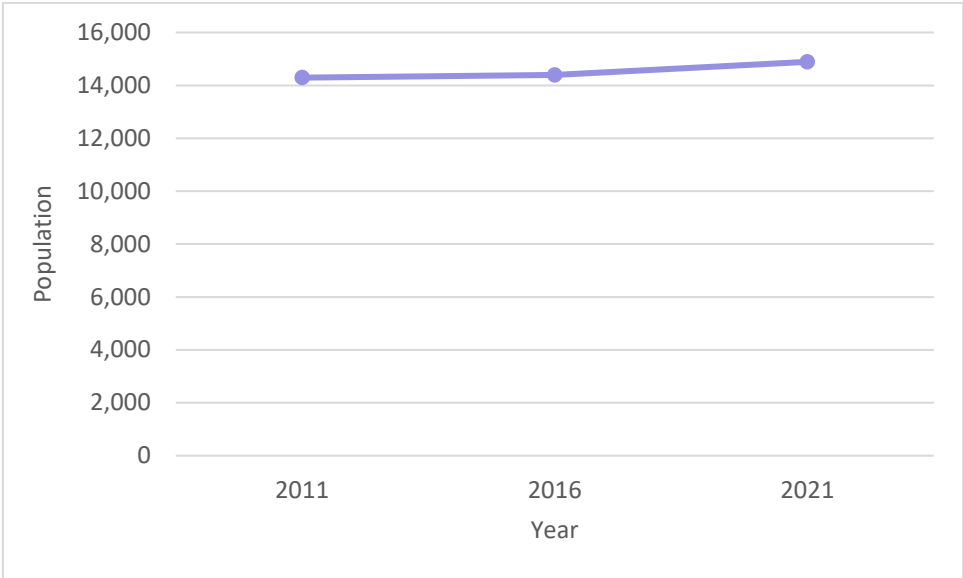


Source: NSW Land and Property Information, 2016

2.2 Population

The population of Snowy Valleys has steadily increased over the past decade, reaching nearly 15,000 people in 2021.

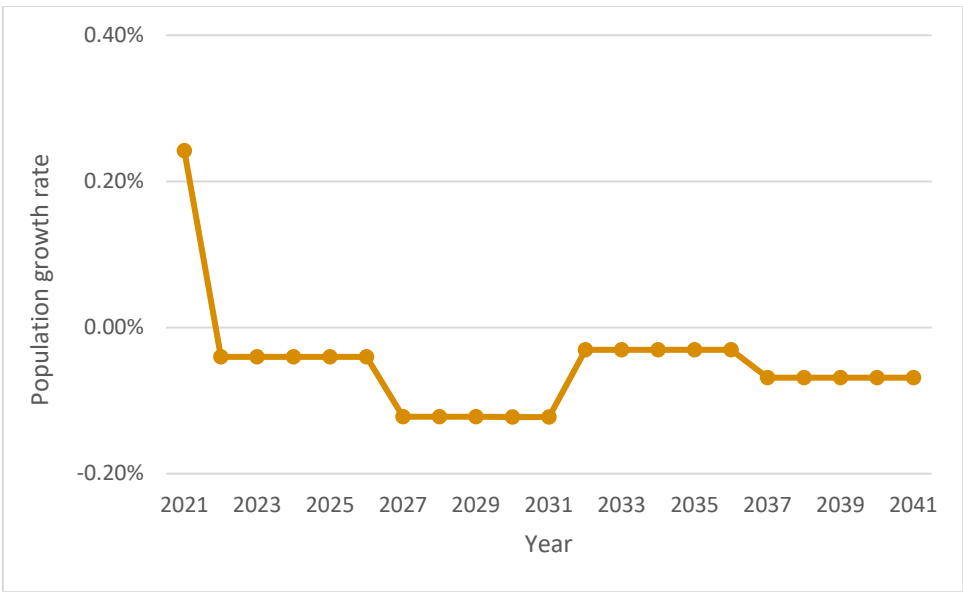
FIGURE 2: POPULATION OF SNOWY VALLEYS, 2011 - 2021



Source: ABS Census, 2021

However, population growth is forecast to be slow down somewhat from 2021 to 2041, with population expected to fall by an average of 0.07% per year.

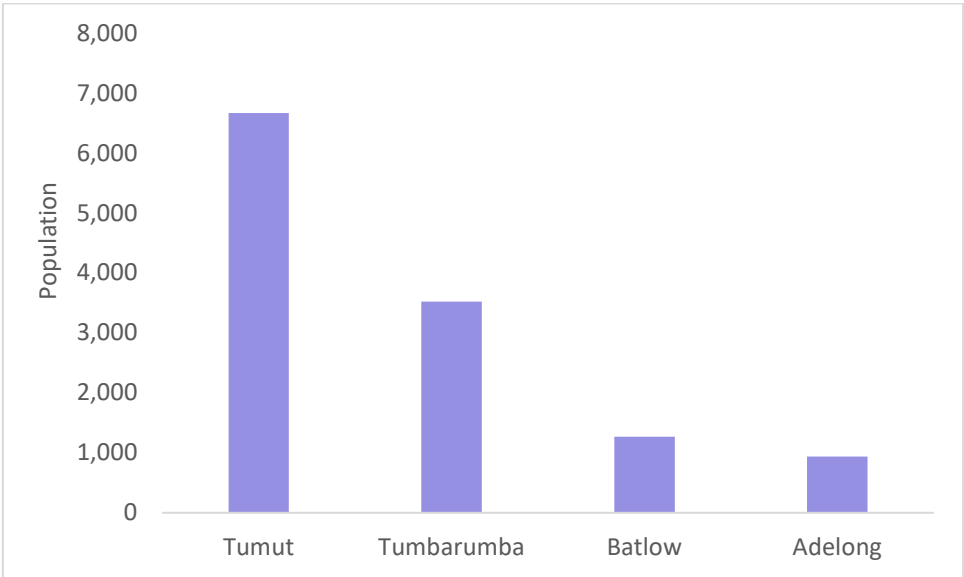
FIGURE 3: SNOWY VALLEYS POPULATION GROWTH PROJECTIONS



Source: NSW Department of Planning and Environment, 2021

Tumut is the largest of Snowy Valleys towns, with a population of 6700; followed by Tumbarumba, Batlow and Adelong. Approximately 2000 other people live elsewhere in the LGA in smaller towns such as Talbingo or in rural locations.

**FIGURE 4: MAJOR TOWNS OF SNOWY VALLEYS**



Source: ABS Census, 2021

### 2.3 Tourism

The Snowy Valleys is located within the larger Australian Alps region, one of four identified ‘Natural Landscapes’ within New South Wales and recognised by the World Conservation Union as one of the 167 world centres of biodiversity. The area provides access to the major snowfields in Kosciuszko National Park, a major tourist destination for both winter and summer tourists, as well as other national parks and natural landscapes (Snowy Valleys Council, 2020).

With visitor accommodations rapidly increasing, Snowy Valleys has a potential of attracting more visitors in the future. By 2027 there is a projected increase of 16,000 visitor nights in commercial accommodation (Snowy Valleys Council, 2020).

Annual visitation to the Snowy Valleys is as follows (TRA, 2019):

- Number of domestic day visitors – 256,000
- Number of domestic overnight visitors – 189,000
- Average stay – 3 nights
- Domestic tourist spend per night – \$125
- Domestic tourist accommodation spend – \$160

### 3. Review of existing trails

Trails can have a range of potential target markets, uses and promote a range of different types of experience.

Some are designed for hikers to challenge themselves and ‘rough it’ in the wilderness, while enjoying beautiful views and communing with nature. Others are designed for hikers or cyclists to have a pleasant excursion in natural surrounds for an hour to a few hours before arriving at a comfy pub or winery for a nice drink and a hot meal. Tracks and trails will often have a particular focus, such as European or Indigenous local history, unique environments, flora and fauna, adventure and challenge, or food and wine.

This section considers four case studies of tracks and trails around Australia.

Tracks and trail networks have a range of benefits to the communities they are based in. It is commonly accepted that the benefits include:

- Tourism or visitor expenditure from visitors drawn to the tracks and trails, spending money in the local economy while visiting.
- Improvements to the physical and mental health of residents near the trail from greater opportunities to exercise in a high amenity environment, particularly in nature.
- Environmental benefits – tracks and trails provide low carbon recreation activities for tourists, and the existence of tracks and trails can allow for more frequent citizen maintenance of surrounding lands.
- Simple enjoyment of trails – providing a pleasant, low cost way for people to engage in recreation.
- Community and social benefits – it is common for communities to establish ‘Friends of the Trail’ local groups to maintain the trail and hold group activities on trails.
- Local Indigenous landowners may use tracks and trails to access traditional lands and hold gatherings.
- Educational impacts – school groups will often use tracks and trails as an excursion for students, to teach them about Indigenous history, local migrant history, ecology, flora and fauna and physical education
- Access to the natural environment, and
- Heritage and historical preservation.

The most significant benefits expected from the proposed Snowy Valleys tracks and trails are increasing tourist expenditure in the area, enjoyment, health improvement and education/Indigenous outreach given the characteristics of five trails proposed.

### 3.1 Tumbarumba to Rosewood Rail Trail

#### About the trail

This rail trail, which is also referred to as the Tumbarumba Rail Trail, is the first rail trail developed in NSW. It passes several heritage locations on its route from Tumbarumba to Rosewood and features restored bridges from the original rail line. Horses are not permitted on the trail, but cycling is encouraged. Four bicycle repair stations are located along the route. The trail was supported and pushed for by a committee of volunteers, with the support of local organisations such as the Tumbarumba Historical Society and the Men's Shed.

#### The trail 'experience'

The Tumbarumba to Rosewood trail is designed to be suitable for families, including families with children, and a range of users of different levels of fitness. It is a comparatively short trail, at only 21kms. It is suitable for bikes, scooters, mobility devices and prams with a gentle gradient in areas.



Tumbarumba also features several mountain biking trails, providing a more gentle day of riding for mountain bikers who want a quiet day. Bike hire is available at Tumbarumba, which promotes the trail within town and allows visitors to take an impulse trip on the trail.

#### Promoting the trail

The Tumbarumba Rail trail has had a difficult start to its operation, opening in April 2020, just after COVID restrictions commenced across Australia. Limitations on travel in the two years following its opening have meant that tourism visitation and expenditure may be lower than a typical year, particularly international tourism. The Tumbarumba Rail Trail has been promoted by Visit NSW, rail trails organisations and the Snowy Valley Council.

#### Usage and economic impacts

By May 2022, trail counters showed that over 40,000 users made use of the rail trail since its opening (Tumbarumba to Rosewood Rail Trail, 2022), or an average of 20,000 users per year, which is a greater usage than expected.



An assessment of the Rail Trail by NSF Consulting and Regional NSW found that expenditure in the Tumbarumba region increased by 20% during the June – December periods in 2019 and 2020 (NSF Consulting and Regional NSW, 2022) – in the face of highly disrupted tourism patterns from the Black Summer bushfires of 2019 and the COVID travel restrictions and lockdowns of 2020. Nine businesses have established or expanded in Tumbarumba since the opening of the rail trail, including bike hire and sales and food and beverage businesses. A Tumbarumba plant nursery established a bike hire service to support visitors to the Trail, and has since added one part time and one full time staff member to meet demand.

### **3.2 Bibbulmun Track, Western Australia**

#### **About the trail**

The 1000km Bibbulmun Track runs from Kalamunda in the Perth Hills to Albany WA’s southwest corner, passing through Dwellingup, Collie, Donnelly River, Pemberton, Walpole and Denmark. The landscapes it passes through include karri and tingle forests, coastal heathlands and coastlines and quaint local towns (Bibbulmun Track, 2022).

#### **The trail ‘experience’**

The track is exclusively for hikers – no bicycles or animals are allowed on the track. It is designed for a range of walkers, some of whom will do a two hour hike, some will spend a few nights of overnight hiking and some adventurers will take several weeks to hike the entire trail.

A review of the use of the Bibbulmun Track by the Department of Parks and Wildlife and Murdoch University in 2014-15 (Hughes, Smooth, & Tuffin, 2015) surveyed 714 Bibbulmun Track users through an online questionnaire. Over 90% of respondents were WA residents, with 4% travelling from interstate and 3% from overseas. More than half of survey respondents had taken overnight walks (53.4%).



Of the visitors surveyed, 70% had visited the Track more than once over the last twelve months, and around 20% visited the Track six or more times. This suggests that many of the Track’s users are local residents, using the track every month or two throughout the year.

Forty-nine campsites are provided along the track, spaced around ten kilometres apart near Perth, and 12-25 kilometres apart further south. These campsites provide shelters, long drop toilets, water tanks,

picnic tables and tent sites and fireplaces. For hikers for whom this is too rustic, backpackers, hostels and other accommodation are available at some locations along the track. Some areas of the track run through or close to towns, accessible by spur trails, allowing hikers to spend a day or two in country towns to rest, recover and restock.

### **Promoting the trail**

The Track is promoted through the Department of Parks and Wildlife and Tourism Western Australia. Many of its partner sponsors also engage in their own promotion of their track to customers. A calendar of events along the Track promotes awareness and use of the track. The Bibbulmun Track Foundation engages with local groups such as schools and Scouts to support use of the track, promotes the use of the Track through the Bibbulmun News Magazine and online hiking and trail promotional sites.

### **Maintaining the Track**

The Track is managed by the Bibbulmun Track Foundation, an incorporated not for profit organisation, which receives sponsorship from Newmont and Lotterywest, and additional revenue from donations and memberships.

Track maintenance is managed by dividing its length into 5-10 km maintenance sections. Volunteers adopt a stretch of the Track and are trained in its maintenance. Parks and Wildlife Service also contribute to the maintenance of some stretches of the track.

### **Usage and economic impacts**

The Department of Parks and Wildlife and Murdoch University report estimated that a total of 40,846 day walks occurred on the Track during 2014-15 and 46,806 overnight walks, with an average overnight walk lasting 5.6 days. At an estimated average expenditure of \$30.95 for day walks and \$45.09 for overnight walks (per day), the total estimated expenditure on the Bibbulmun Track was estimated at \$13.08 million.

## **3.3 Riesling Trail, South Australia**

### **About the trail**

The Riesling Trail is located in the Clare region of South Australia. The trail traverses 36 km across the picturesque wine region following the course of the old Riverton to Spalding railway line. The trail can be a multi-day or single day experience. The trail is 35km long and can be ridden in 2.5 hours or walked in 9 hours. The trail provides a tranquil and safe experience and connects to numerous vineyards, wineries, historic sites and towns in the Clare Valley. A wide choice of accommodation is available.

### **The trail 'experience'**

The trail is widely promoted and marketed by Trails South Australia and Tourism South Australia as part of the Clare Valley experience. Multi-day cycling tours operate along the trail, and rental bicycles are available that can be hired at one end and left at the other.

Storyboards along the trail engage users in the local history including Aboriginal heritage. Artwork has also been placed along the trail to further activate the trail.

Loop-tracks and diversions are important components of the Riesling Trail's activation by providing access to user services and other local attractions. Loop tracks link towns, wineries, cellar doors and businesses to the trail, ensuring that visitors can access sites and services without back-tracking. The loops activate the trail and create a food and wine 'experience' rather than simply facilitating a bike ride. There is also a link to the nearby Rattler Trail, extending the trail experience even further.



The trail is designed for tourists who want to get some fresh air and experience the natural beauty of the area on foot or on a bicycle during the day, while enjoying comfortable hotels, hot meals and comfortable hotel rooms at night.

### **Promoting the trail**

Trails SA and Tourism SA promote the trail and engage in marketing and awareness building. The Riesling rail has been featured in well-known publications such as Gourmet Traveller and the UK's Guardian newspaper.

Joining up of trails and constructing loop trails to extend the length of stay and visitor spending. While the trail may only take 2.5 hours to complete on a bicycle, users are encouraged to take detours, explore the towns, and visit attractions and wineries so the time users are in the local area is much longer than 2.5 hours.

### **Usage and economic impacts**

Usage counts on the trail exceeded 50,000 for the first time in 2015, and of these users, half are estimated to come from outside the local area. Usage of the trail in 2012 was 45,000. The trail was extended by 9km in 2009, and the increasing visitor numbers reflect the success of the extension, and the trail in general.

The Riesling Trail is seen as highly important to businesses in the area and has contributed to business formation as well as business growth. Businesses interviewed in a study were passionate about the Riesling Trail, and believed it contributes to their businesses and contributes to positioning the area as an authentic leisure holiday destination.

A research report on the Riesling Trail found that the trail contributed \$1.08 million to the economy of the Clare Valley in 2004. Today the economic impact would be much higher as visitor numbers have at least doubled since the 2004 report. Most of the economic activity was generated by trail users

spending money at local shops, wineries, cafés and restaurants, and accommodation. The average user spend was \$216 per visit.

### **3.4 Wollondilly River Walkway, Goulburn**

#### **About the trail**

The Wollondilly River Walkway is a series of paths and bridges along the Wollondilly River in Goulburn, running adjacent to the town. The first stage of the Walkway converted an old, run-down trail to a 2.5 metre wide concreted shared walking-cycling path. Subsequent stages have connected it through to the Goulburn CBD through existing trails, enabling it to act as a connector from the suburbs and recreational areas to the CBD.



#### **The trail ‘experience’**

The Wollondilly River Walkway was intended for most of the users to be local residents exercising, using active transport or enjoying nature. Wide, concreted paths allow it to be used by a range of users, including cyclists, people with prams, people in wheelchairs or young children. Picnic tables and seating are provided along the trail for people who wish to linger in the area to stop and rest, and fitness stations have been planned along the route.

Several tourist attractions are accessible along the trail, including the historic Riversdale Homestead, the Goulburn Waterworks Museum, historic cemeteries and the Old Goulburn Brewery. The overall length of the Walkway of eight kilometres allows tourists to enjoy the full length of the trail in a single day while also visiting other attractions.

#### **Promoting the trial**

Goulburn Mulwaree Council actively promotes the Walkway through its tourism activities, as does Visit NSW and other Australian tourism sites.

#### **Usage and economic impacts**

Initial modelling of the expected tourism numbers along the trail by SGS Economics and Planning showed an expected 23,000 visitors to the Walkway each year by 2018, increasing to just over 80,000 by 2024 when all stages were expected to be completed. Preliminary feedback provided in 2018 from Goulburn Mulwaree Council showed that the earlier projections were a significant underestimate, with the 2018 visitor numbers double what were originally modelled. This supported Goulburn Mulwaree Council in pushing forward with further developments.

The economic impact of additional tourism expenditure resulting from the trail was estimated at \$9.44 million, with an estimated 60 additional jobs. In addition, significant benefits were estimated to accrue to Goulburn residents from their own enjoyment and improvements in health from using the trail.

### 3.5 Lessons for Snowy Valleys

The trails discussed in these case studies show how different target markets can be serviced by a range of different trails options. The focus and intended target market of each track or trail impacts on the benefits that can be expected to be seen, as shown in Figure 5.

**FIGURE 5: KEY BENEFITS OF CASE STUDY TRACKS AND TRAILS**

	Health benefits for local residents	Enjoyment for local residents	Increase in tourism	Environmental benefits	Education and heritage
<b>Tumbarumba to Rosewood</b>	Yes, particularly cycling. Incl. mobility impaired	Yes – beautiful views. Incl. mobility impaired	Yes, both new tourists and extending existing visits	Maintains surrounding countryside	Connects to local historical sites
<b>Bibbulmun Track</b>	Locals enjoy short walks close to home	Locals enjoy short walks close to home	Yes, but low spend per tourist	Volunteers adopt and preserve track sections	Only in some locations
<b>Riesling Trail</b>	Yes, but not a major target group	Yes, but not a major target group	Tourists are main users, attracted by wine region High spend per tourist	High green amenity preserved for tourist experience	Connects to local historical sites
<b>Wollondilly River Walkway</b>	Yes – suitable daily exercise route for local residents, plus fitness stations	Yes, activates river frontage. Incl. mobility impaired	Encourages existing tourists to stay and enjoy longer, rather than additional tourism	Maintains and protects riverfront	Connects to local historical sites
<b>Key:</b>					
Major benefit of trail	Significant benefit of trail	Trail provides this benefit, but it is not a major focus	Benefit not a target of this trail		

For example, the major benefit of the Wollondilly River is enjoyment and health benefits for local residents, and connections to historic sites. The focus on the health of local residents can be seen in the development of fitness stations along the waterfront and ensuring that the path is accessible to mobility impaired people, the elderly and young children. While tourists will certainly use the Walkway, its short length means that few tourists will be attracted to Goulburn by the Walkway alone. This is in contrast with the Riesling Trail, which taps into the main tourist offering of the Clare Valley region – the wine industry.



### 3.6 Benefits of tracks and trails identified from case studies and literature

#### Health benefits

Fitness infrastructure, particularly walking or cycling trails, have been shown to increase the amount of time nearby residents spend engaging in fitness activities. Physically active people tend to have lower rates of chronic health conditions associated with sedentary lifestyles, including cardiovascular disease and diabetes. Active people typically have reduced morbidity and mortality, and thus impose lower costs on the health system and society more broadly.

Safe and accessible fitness activities, such as walking and cycling, are an easy way for people of all fitness levels and ages to improve their physical fitness and health, reducing overall health expenditure in the region. Infrastructure that induces relatively sedentary people to walk or cycle more frequently has health benefits, although these benefits may not be felt until years or decades after an individual starts to become more physically active. There can also be benefits accrued to employers and the economy from increasing walking and cycling, as a healthier and more active population is more productive and can have lower rates of absenteeism from work.

#### Literature on quantifying health benefits

There is a significant body of research from Australia and around the world that has attempted to quantify the health benefits and costs associated with the provision of infrastructure to encourage additional exercise. These health benefits are often quantified as the health costs saved per hour of exercise or per kilometre walked or cycled, with monetary values derived from the estimated health costs and hours of exercise undertaken by sedentary and active people respectively.

Some of the existing literature around the health benefits of walking and cycling has valued them in a range from \$0.068 to \$1.23 per kilometre. Benefits per kilometre are generally used in planning for transport rather than recreational infrastructure, as they calculate the benefits from, say, a new safer cycle path that results in people swapping car trips for bike trips. Among this literature, walking has been found to have a higher value of benefit than cycling, as summarised in below.

**TABLE 1: ESTIMATES OF HEALTH BENEFITS FROM WALKING AND CYCLING, PER KILOMETRE**

Sources	Cycling benefit	Walking benefit
AECOM, 2010	\$ 0.08	-
Marsden Jacob Associates (2009)	\$ 0.46	\$ 0.46
World Health Organisation HEAT Tool (2012)	\$ 1.01	\$ 2.43
NZTA (2010)	\$ 1.28	\$ 2.55
PWC (2011)	\$ 1.37	\$ 2.06

Source: Compiled in Transport for NSW (TfNSW, 2022)

These studies have also factored in different elements to obtain these values. For instance, the AECOM study derived its value of health benefits in two ways:

- 1) Estimating the value of reduced mortality, with lower medical expenses and longer lifespans, and

- 2) Estimating the value of reduced absenteeism of employees (fit and healthy people who exercise regularly tend to take less sick leave due to ill health and are less likely to face employment restrictions due to ill health).

These calculations utilised estimates of the monetary value of a life year, previous studies which had derived values for the reduced risk of mortality from cycling, and estimates of the annual cost of physical inactivity per worker. Other studies have used estimates of the cost of mortality associated with insufficient physical activity and disability adjusted life years, willingness-to-pay for disability adjusted life years, and health sector resource costs to generate estimates of health benefit values (PWC, 2011).

Studies that focus on the benefits per hour of walking or cycling are generally targeted at infrastructure or programs that aim to encourage people to exercise for fitness and recreation, rather than for transport; for example, parks, sports fields or paths that have minimal transport value but high recreational value.

Generally, these studies that estimate costs of insufficient exercise will take into account some combination of the following:

- Lost life years, or lost disability adjusted/quality adjusted life years, from mortality and morbidity associated with a sedentary lifestyle
- Loss of productivity/wages from higher rates of absenteeism due to poor health, early retirement, unemployment or restricted employment options due to poor health from a sedentary lifestyle, and
- Higher medical costs from illness for which a sedentary lifestyle is a known cause, such as heart disease and Type 2 diabetes.

Studies have also noted the decreasing marginal return of additional physical activity in terms of quantifiable benefits, as those who are already active are unlikely to gain benefit compared to sedentary individuals.

More recent research has examined the mental health benefits of walking and cycling, specifically within a natural bushland, garden or forest environment, rather than the cityscape. Multiple studies, including those listed above suggest that the natural environment/physical activity has important effects to mental health. Spending time in nature, for example forests, beaches and parks, has a beneficial impact on mental health, regardless of the level of exercise undertaken.

### **Educational benefits**

Some of the studies consider the potential educational uses of trails. These can provide a site to take school students on school excursions or camps, where they can exercise, experience nature and learn about history, Indigenous culture, botany, native animals and farming (depending on the location of the trail). They can be part of a single half-day or full-day excursion for nearby school students, or as part of an overnight excursion for students from further away.

### **Tourism**

Tracks and trails have proven effective at drawing tourists to an area they might not otherwise have visited. Tourists who enjoy active holidays, gentle nature walks, immersion in the countryside and endurance tourists all can be attracted to an area by trails. These tourists enjoy their time while visiting,

and they can also have flow on benefits for the local economy – spending money on food, accommodation, hiking/cycling supplies and so forth.

Some visitors may also extend their durations of stay or usage due to the increased offer of things to do on and along the trails, which allows them to potentially spend more.

The mix of tourism opportunities varies depending on the length of the trail, the mix of tourist attractions adjacent to the trail and the proximity of towns, accommodation and hospitality to the trail. Some short trails that can be completed in an hour or two will be suitable for many types of tourists, from families with young children and the elderly along with more adventurous tourists. Longer trails tend to attract a smaller audience of fitter people. Long trails, which involve multi-day hikes, often attract a small audience of hardcore campers and outdoorspeople, who carry packs, tents and their own food for several days, such as the 84km Overland Track from Cradle Mountain to Lake St Clair in Tasmania or the 223km Larapinta Trail in the Northern Territory. The return from tourists on such trails can be increased by offering tour options to hikers, such as comfortable accommodation near the trail and provided meals.

### **Environmental benefits and costs**

The literature has shown a number of ways in which tracks and trails can have an impact on the environment, either positive or negative. These are generally specific to the track or trail sites – what may be a significant benefit for a trail on one location may be negligible or non-existent in another. Some of these potential benefits and costs include:

- Protecting habitats of native animals and providing car-free corridors for wildlife.
- Increased traffic along the trail can be positive or negative – trail users could litter or be a conduit for soil-borne diseases; or they could pick up litter and refer sightings of invasive weeds or injured animals to the appropriate authority. For example, on the Bibbulmun Track, visitors can collect rubbish or identify noxious weeds, but run the risk of tracking soil borne diseases from Perth to the south of WA.
- Can be useful in flood mitigation, to divert floodwaters away from houses, businesses, and so on.

### **Social impacts**

The case studies have identified several positive social impacts of tracks and trails. Groups of residents who live near the trail will often form social groups that gather to maintain a trail or a stretch of trail, and organise events on the trail, promoting social connections and community cohesion. Tracks and trails can also be used to engage residents and visitors with local history and culture, including Indigenous cultures, through the placement of informational signage at culturally significant locations. Frequent users of specific tracks and trails can form informal social connections with people they see regularly along the trail, and can establish a sense of placemaking and connection with the locations used regularly. Connections such as these can be very important to a person's overall wellbeing, as well as the health benefits already discussed from exercising on the trail.

## 4. Masterplan trail options

The Snowy Valleys Tracks and Trails Masterplan has developed five priority trail projects for investment consideration.

These trail options are:

- Gudja Gudja Mura Trail
- Tumbarumba to Hume and Hovell Track (Tooma Rd Walking/Cycling Path)
- Tumut River Walk
- Batlow to Tumut Rail Trail (Stage 1 Batlow to Wybalena Railway Station)
- Waterfall Drive Trail

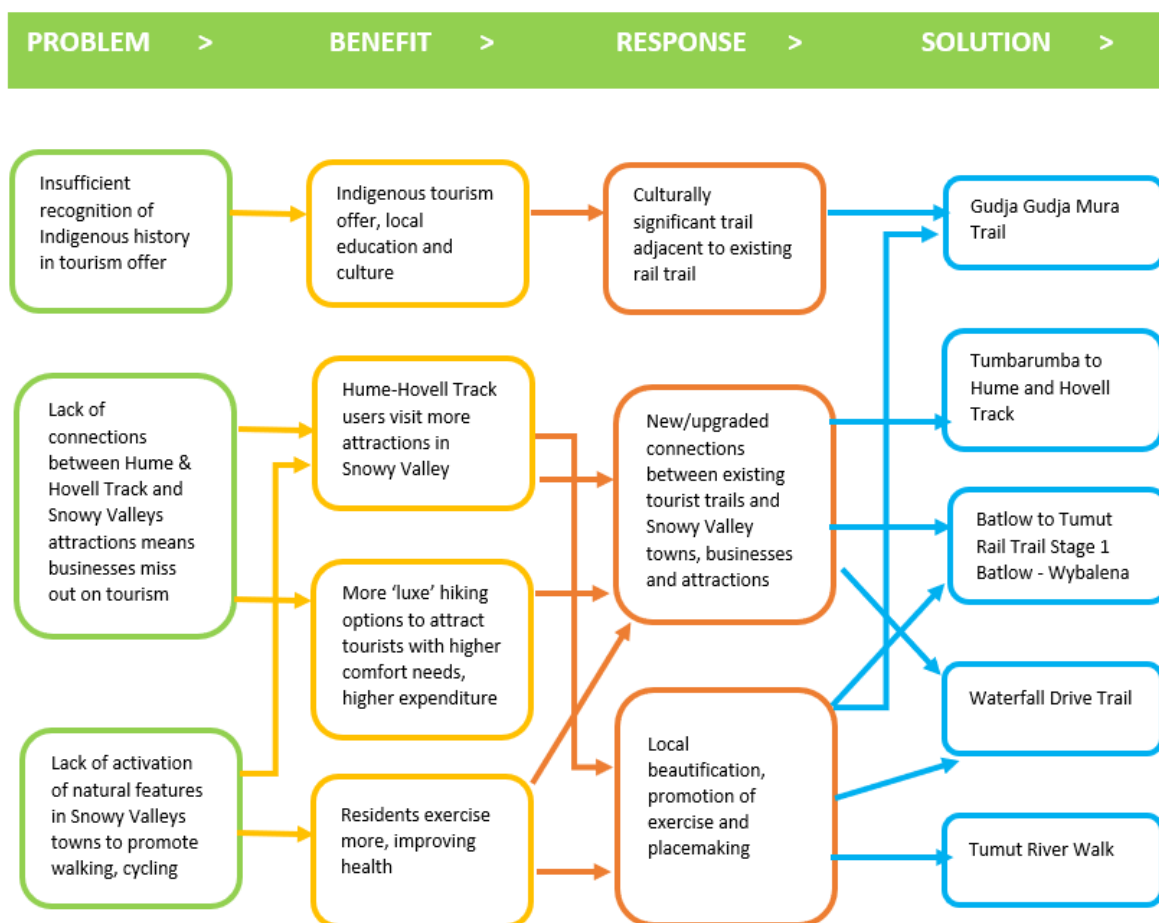
Funding will be sought from the State Government for investment in these trails.

### 4.1 Program logic and the base case

Each of these trails will be considered against a base case of no investment in additional tracks and trails in the Snowy Valleys.

The Investment Logic Map below identifies three key problems in the base case scenario. There is no recognition of Indigenous heritage in the current tracks and trails offer in the Snowy Valleys, there are insufficient connections between the Hume and Hovell Track and existing attractions, and there is a lack of activation of natural features in some Snowy Valleys Towns. The ILM in Figure 2 shows how each of these problems can be solved by the proposed tracks and trails.

FIGURE 6 TRACKS AND TRAILS MASTERPLAN PROGRAM LOGIC



## 4.2 Gudja Gudja Mura Trail

Gudja Gudja Mura Trail has been proposed by the Ngarigo Toomaroombah Kunama Namadgi Indigenous Corporation (TKNIC). This would connect Murray's Crossing to the Tumbarumba to Rosewood Rail Trail utilising a Travelling Stock Route. Murray's Crossing holds a high level of cultural significance as a central site for connecting Songlines (Tredwell Management Services, 2022).

The trail experience which highlights and conserves the site's cultural history will empower future generations of both First Nations and Non-Indigenous people to understand the Ngarigo culture and heritage. Some of the area's history could be highlighted through re-establishing the Yarning Circle/Corrobboree area.

The trail would be accessible on foot or bike from the Tumbarumba Rail Trail, or by car, bike or on foot from Tumbarumba. A carpark with space for 22 cars and a bus drop off would be established at the trail head, with seating, a picnic area and shelters nearby.

*Potential users:*



Indigenous Australians represented by the TKNIC are expected to be major users of the trail, for yarning and connection to Country.

Users of the Tumbarumba Rail Trail might choose to use the Gudja Gudja Mura Trail as an extension to their journeys. Therefore, the trail can be attractive to tourists who would never have come to Snowy Valleys and those who would come anyway but now stay longer. In addition, it can also be a site for the locals to exercise for being walkable and bike-friendly.

*Calculations of benefits:*

- Tourism benefits: The number of visitors attracted to Snowy Valleys is expected to increase with the Gudja Gudja Mura Trail, method explained in section 5.2.
- For local fitness and enjoyment: Indigenous residents of Snowy Valleys LGA are expected to use this path to support their connection to Country. Other residents are expected to use it for fitness, recreation and learning about Indigenous culture. The catchment area for local users of this trail is expected to be the population of Tumbarumba, in particular Indigenous residents. Twenty per cent of the population living in Tumbarumba will spend one and a half hours walking on the trail 15 times per year on average (slightly more than once per month).
- Education benefits: Each primary school age child in Tumbarumba is expected to take an excursion to the trail each year, and experience educational benefits from this.

#### **4.3 Tumbarumba to Hume and Hovell Track (Tooma Rd Walking/Cycling Path)**

The Hume and Hovell Track is an adventure hiking track, covering a mix of public roads, fire trails, purpose built track and footbridges for a total 426kms from Yass to Albury. Hikers are supported with 17 campsites along the path, but many hikers appreciate the opportunity to stop for the night in local towns.

There is an opportunity to enhance the existing track network, through providing off road links to the towns and villages with the Snowy Valleys region. Community surveys showed a strong desire to connect Tumbarumba and Henry Angel Flat with a separated pedestrian path of around 8 kms near Tooma Road. Future connections with Talbingo, Batlow and Tumut may also assist with the activation of the trail to enhance the trekking experience.

Establishing these 'spurs' joining the Track to nearby towns allows hikers who are dedicated to walking only on their journey to easily and safely make side trips into towns, without having to share the road with cars, where they can enjoy a hot shower and a warm bed in a hotel room and restock their supplies at the local supermarket.

*Potential users:*

While some residents of Tumbarumba may choose to use the new Tooma Road path for exercise and recreation, Hume and Hovell Track hikers are expected to be the main users.

*Calculations of benefits:*

- Tourism benefits: The number of visitors attracted to Snowy Valleys is expected to increase with the Tumbarumba to Hume and Hovell Track extension, with the method explained in section 5.2.

- For local fitness and enjoyment: The catchment area for local users of this trail is expected to be the population of Tumbarumba. Ten per cent of the population living in Tumbarumba will spend three hours walking or cycling on the trail 12 times per year on average (a vigorous hike around once per month).

#### **4.4 Tumut River Walk**

The Tumut River Walk is a convenient, easy walking location between the town of Tumut and the Tumut River. The walk runs along the Tumut River through beautiful parks and to the Tumut River Wetlands, and connects to other trails in Tumut, including the loop walk around the Tumut Racecourse. Parking is available at several locations near the track and toilets are nearby.

It is proposed that the amenity and safety of the path near Elm Drive could be improved by incorporating an off road alignment that would keep pedestrians away from traffic and allow for beautiful views of the Tumut River. This would include an elevation platform to enjoy the views, including seating and interpretive signage.

*Potential users:*

This is a popular trail for birding, mountain biking, and running as it is considered an easy route (takes an average of 47 minutes to complete). Local residents and visitors to Tumut are expected to be key users.

*Calculations of benefits :*

- Tourism: While tourists are expected to use and enjoy the path, Tumut River Walk is a comparatively small walk so tourists are not expected to arrive from outside the Snowy Valley for the Tumut River Walk.
- Local fitness and enjoyment: The safety and increased amenity of this trail is expected to see an increase in usage by local residents. Twenty five percent of Tumut residents are expected to spend an average of half an hour walking on the trail, about 15 times per year (just over once per month). The convenience and amenity of the location is expected to result in frequent usage among Tumut residents.

#### **4.5 Batlow to Tumut Rail Trail (Stage 1 Batlow to Wybalena Railway Station)**

The 32km stretch of disused rail line between Batlow and Tumut has been identified for its potential as a rail trail experience. There are some constraints to establishing a rail trail running the full length of the original rail corridor, there is sufficient community support to investigate the development of Stage 1: Batlow to Wybalena. The proposed rail would start at the south end of Batlow and run north through the town for 4km to the historic Wybalena Railway Station.

The Stage 1 rail trail experience has the potential to be a food and wine experience, with a similar market offer to the Riesling Trail. Cool climate wineries, craft breweries and cideries and niche food offerings could establish between Batlow Road and the rail trail, which could leverage off events such as Ciderfest. A name such as the Cider Trail could promote the trail as an epicurean destination. Businesses along the trail, particularly those that sell unique wine, beer and cider, might begin to offer

accommodation to encourage the more indulgent hikers to hike the trail to their destination, then fill their bellies with fine food and drink in front of a roaring fire before rolling into a comfortable bed. This would create a more deluxe tourist hiking experience in the Snowy Valleys than the Hume and Hovell Track.

In addition to the tourist market, the Stage 1 Batlow to Wybalena Rail Trail will provide an 8km return trail with a gentle gradient that is dedicated, off road and safe, which will support walking for recreation and health benefits among Batlow residents.

*Potential users:*

There is great potential to establish the Batlow to Tumut Rail Trail as a way of supporting a cool climate gourmet destination in the Snowy Valleys. The Trail could also be used by local residents as a safe and pleasant way of getting regular exercise.

*Calculations of benefits:*

- Tourism benefits: The number of visitors attracted to Snowy Valleys is expected to increase with Stage 1 of the Batlow to Tumut Trail, with the method explained in section 5.2.
- For local fitness and enjoyment: The catchment area for local users of this trail is expected to be the population of Batlow. Twenty-five per cent of the population living in Batlow will spend one hour walking or cycling on the trail 20 times per year on average.

## **4.6 Waterfall Drive Trail**

The proposed Waterfall Drive Trail is a branding exercise to promote existing tracks and trails to waterfalls throughout the Snowy Valleys. The proposed road route runs from Adelong Falls Gold Mill Ruins through Gilmore, Batlow to Paddy's River Falls near Tumbarumba. Establishing this route as the Waterfall Drive Trail, with branding and promotional materials shared on the Snowy Valley Council, in Tourist Information Centres and through tourism websites will increase awareness of the existing beautiful waterfall walks and local towns among visitors.

The costs of the Waterfall Drive Trail have not yet been calculated as they are expected to be minimal – establishing a Waterfall Drive Trail brand, printing brochures and publication of the trail.

*Potential users:*

Tourists who are interested in hiking around waterfalls would find it easier to access information on the multiple waterfall hikes in the Snowy Valleys, and find it easier to plan a journey to walk several of them. It would also increase awareness of all of the waterfall walks among local residents.

*Calculations of benefits:*

The main benefit of this is expected to be an increase in the utilisation of existing walking trails around the Snowy Valleys, by both tourists and hikers.

The costs of the Waterfall Drive Trail require no physical construction expected to be minimal and so have not been formally calculated; which means a cost benefit analysis of this option is not possible. The costings will have an impact on expected benefits received – for example, whether the trail will be accessible to a wide range of users. For this reason, benefits have not yet been calculated.

## 5. COST BENEFIT ANALYSIS

This section calculates the estimated costs and benefits of each option and performs a cost benefit analysis (CBA) to determine for which projects the benefits justify the costs of investment, and to identify which projects have the greatest benefit for their cost.

Many of these projects are complementary, and so implementing two or more projects may have a greater benefit than what might be expected from the benefits of each individual project. However, to be conservative, no cumulative benefits and modest visitation numbers have been estimated.

### 5.1 Costs

#### Construction costs

Tredwell's Snowy Valleys Council Tracks and Trails Masterplan has provided construction costs of four rail tracks in 2022 dollars for the current analysis. This estimates that the cost of the project will be \$7,765,209 as shown in Table 2 below.

**TABLE 2: CONSTRUCTION COST ESTIMATES**

Location	Total cost (\$)
Gudja Gudja Mura Trail	2,716,761.5
Batlow to Tumut Rail Trail Stage 1	3,394,626
Tumbarumba to Hume and Hovell Track	1,484,424.5
Tumut River Trail	169,397
Total construction costs	\$7,765,209

Source: Tredwell's Snowy Valleys Council Tracks and Trails Masterplan, 2022.

It is assumed that half the construction cost for each trail will be incurred in 2023, and the remainder in 2024.

Operational and maintenance costs, such as insurance, trail repairs, grading and so forth have not been estimated at this stage. This analysis assumes each trail will have an ongoing operational cost of 2% of its construction cost per year once they are complete.

## 5.2 Benefits quantified for the CBA

The benefits quantified in the CBA are expected to arise when the trails are constructed and operational. Construction has been assumed to conclude in 2024.

Once the trails are completed, it will take some time for the benefits to be realised. The new tracks and trails will need to be promoted, and it will take time for its first tourists to visit and leave positive reviews of their experience. It will also take time for businesses to establish around the trail, and for locals to become aware of and begin to use the trail in their everyday activities.

### Visitor expenditure

A review of visitor expenditure and economic activity associated with tracks and trails from Chapter 3 shows that even modest, rustic trails can have significant overall economic impacts, and attract thousands of people. Trails that form connections to towns or that are established in towns can supercharge economic impacts, as these can convert tourists who would have otherwise relied completely on camping to tourists who visit towns to stay in hotels and eat at restaurants. This also attracts a somewhat less rugged and austere type of tourist to the area, including families with children, people with disabilities or older people wanting an easier walk, or tourists who want to enjoy the fine local food, wine and hospitality on their journey.

Visitor numbers have been based on data provided by the Snowy Valleys Council on the use of the Hume and Hovell Track counters. Overall visitors to the Thomas Boyd Trackhead and the Tumut River Bridge are 13,172 and 13,303 per year, or an average of 13,238 (REMPAN Economy, 2022). From 1<sup>st</sup> January 2019 to 1 February 2022, 3099 people passed the Fitzpatrick trackhead, spending 1923 nights there. From October 2020 to January 2022, 9912 visitors used the Thomas Boyd Trackhead campsite. The REMPLAN assessment assumed that 50% of hikers are visitors, or 6619.

Of course, these figures are confounded by the impacts of the Black Summer bushfires and the COVID-19 restrictions, the latter of which can clearly be seen in the low visitation numbers from June 2021–November 2021. Unfortunately, no pre-COVID and pre-Black Summer visitation numbers are available.

### *Cumulative impacts of trail projects*

Snowy Valleys Council have the option to develop one of the proposed trail options, some of them or all of them. The marginal benefits of each project, given the possible implementation of other projects, will be difficult to accurately estimate:

- Tourists who are enticed to visit the LGA to spend time walking the Gudja Gudja Mura Trail might also enjoy the Tumut River Walk while in the area, without spending any additional money due to the second walk
- A tourist might not decide to visit the LGA for the Gudja Gudja Mura Trail alone, however they will visit the LGA if both the Gudja Gudja Mura Trail and the Tumut River Walk are both available.

The impact of the Gudja Gudja Mura and Tumbarumba to H&H projects is based on five percent of day trippers staying longer in the Snowy Valley, 5 percent of current day trippers deciding to spend the

night in the Snowy Valleys and five percent of overnight visitors staying an additional night. For example, hikers on the Hume and Hovell might decide to spend an extra night in a hotel at a Tumbarumba if it is more accessible, and a Tumbarumba day visitor might decide to spend the night if that allows them to spend time on the Gudja Gudja Mura Trail.

The impact of the Batlow to Tumut Rail Trail (Stage 1) is expected to be a 20% increase in visitation in these categories, as the potential for a Cider Trail or a food and beverage district has the potential to significantly increase visitation and visitor spend. If the Rail Trail successfully attracts new gourmet food, drink and accommodation businesses to the area, a twenty percent increase will be a massive underestimate of the tourism potential of the area.

The Tumut River Trail is not expected to attract additional tourism to the area.

**TABLE 3: EXPECTED INCREASE IN TOURISM VISITATION PER ANNUM FROM TRAILS INVESTMENT**

Location	Day trippers staying longer	Day trippers staying overnight	Additional night spent
Gudja Gudja Mura Trail	662	662	372
Batlow to Tumut Rail Trail Stage 1	1328	1328	744
Tumbarumba to Hume and Hovell Track	662	662	372
Tumut River Trail	n/a	n/a	n/a

Source: SGS estimates based on Hume and Hovell counter data, REMPLAN, 2022.

While this might seem that the total impact is a generous increase, the total impact of all four projects going ahead is less than the increase modelled in the REMPLAN study, and less than the current annual use of the Tumbarumba to Rosewood Rail Trail.

### **Tourism and spending estimates**

In the CBA, the daily and overnight spend of tourists comes from Tourism Research Australia's (TRA) tourism metrics for the Snowy Valleys LGA (TRA, 2019), as follows:

- International tourist spend per night – \$57
- International tourist accommodation spend – \$56
- Domestic tourist spend per night – \$125
- Domestic tourist accommodation spend – \$160
- Average day trip spend – \$76
- Average overnight spend – \$115.

The estimates of tourism numbers from the feasibility study have been used as the baseline have been projected to grow in line with Snowy Valley population, based on the NSW Department of Planning and Environment's 2021 population projections by LGA (DPE, 2021).

## Health benefits from additional exercise

The impact on health for local residents from increased walking or cycling from the presence of the trails is based on the expected local use of the trail, the population of the town nearest to the trail, and the expected health benefit per additional hour of exercise. The estimates for use of the trail by local residents are based on:

- Length of the trail
- Proximity to population centres
- Amenity of the trail

**TABLE 4: EXPECTED INCREASE IN EXERCISE FROM SNOWY VALLEY RESIDENTS USING TRACKS AND TRAILS**

Location	Local population	% of local population who will use trail	Average visits per year for trail users	Average hours per visit
Gudja Gudja Mura Trail	Tumbarumba	20%	15	1.5
Batlow to Tumut Rail Trail Stage 1	Batlow	25%	20	1
Tumbarumba to Hume and Hovell Track	Tumbarumba	10%	12	3
Tumut River Trail	Tumut	25%	15	0.5

Source: SGS assumptions, 2022.

The health benefits of an hour of physical activity in the CBA have been estimated at \$5.01 per hour. This has been based on calculations by (Trubka, Newman, & Bilsborough, 2008), inflated with CPI.

## Enjoyment of the trail

In addition to the health benefits of additional exercise, local residents are expected to get value out of the pleasure of using the trail – the enjoyment of the scenery and fresh air, seeing historic sites they might not otherwise have visited, and leisure time spent with friends and family.

As access to the trail will be free of charge, the utility provided to resident users has been quantified using the value of leisure time multiplied by the length of time spent at the trail.

The value of leisure time in the CBA has been valued at \$18.98, based on the Transport for NSW estimates of personal travel time (TfNSW, 2022).

## Education benefits

There is an assumption that local schools will have an interest in conducting excursions on the trails, using this as part of students' curriculum in physical education, Indigenous culture, local history, agriculture and the environment. The Gudja Gudja Mura Trail is expected to have the greatest education benefit to students over existing tracks and trails in the Snowy Valleys due to the Indigenous heritage learning opportunities planned for the track. It is expected that the approximately 263 schools students in Tumbarumba will spend a full day excursion once per year walking on the Gudja Gudja Mura Trail.



The Productivity Commission (2022) has assessed the total annual average government expenditure on educating a primary age school student in NSW at \$18,301 in 2019-20, or \$91.50 per day. This has been used as a proxy for the benefit of providing a unique education opportunity for students.

### 5.3 Benefits not quantified for the CBA

Some of the potential benefits that will be generated by the trail have not been quantified in the CBA. This is because these benefits are in a form that is hard to quantify, are highly uncertain, or would result in benefits being double counted in the analysis. These are further discussed below.

#### Direct and indirect employment

Some jobs will be created in the construction and maintenance of the tracks and trails. Of greater potential benefit is indirect employment – the flow on benefits from local use of the trails and tourism benefits from visitors coming to the Snowy Valleys to use the new trails. Industries that are likely to receive an indirect boost to employment include:

- **Businesses in towns that are connected to the Hume and Hovell track.** Hikers on the Hume and Hovell Track who can now access a nearby town on foot will be more likely to visit these towns to stock up on food and supplies, have a night in comfortable accommodation and a hot meal.
- **Gourmet and craft food and wine offerings.** Businesses seeking to offer a cool climate craft or gourmet food or drink experience could locate along the Batlow to Tumut Rail Trail.
- **Tour or package holiday opportunities.** Travel organisations may sell hiking packages such as transport from the Hume and Hovell to hotel stays in nearby towns or for a foodie experience in Batlow.

There is the potential for jobs to be created through existing businesses increasing their turnover or new businesses establishing themselves. These have not been separately quantified for the CBA as these benefits are included in the increased visitor expenditure benefits.

#### Understanding and celebration of Indigenous heritage

The Gudja Gudja Mira Trail will allow visitors to learn and appreciate Indigenous heritage in the area, while forming a connection and understanding to the land they are on. It can allow the traditional owners of the Snowy Valley lands greater access to their important sites and locations, to maintain connections with land and culture. Quantifying this benefit is unlikely to result in robust results, so this has not been attempted.

#### Improved social capital/connectedness

Some groups can be established to promote the use of tracks and trails and increase awareness and maintenance of the trails more generally, for example, volunteer groups who manage the Bibbulmun Track. These groups hold activities such as tree planting days, picnics, fundraising walks/rides and Clean Up Australia events on their respective trails. People who get involved in these groups make friends, establish social capital and improve wellbeing. They develop an attachment to their community and a sense of place is established.

While these benefits are important, determining a robust measurement of that benefit is difficult, and as such it has not been included in the CBA.

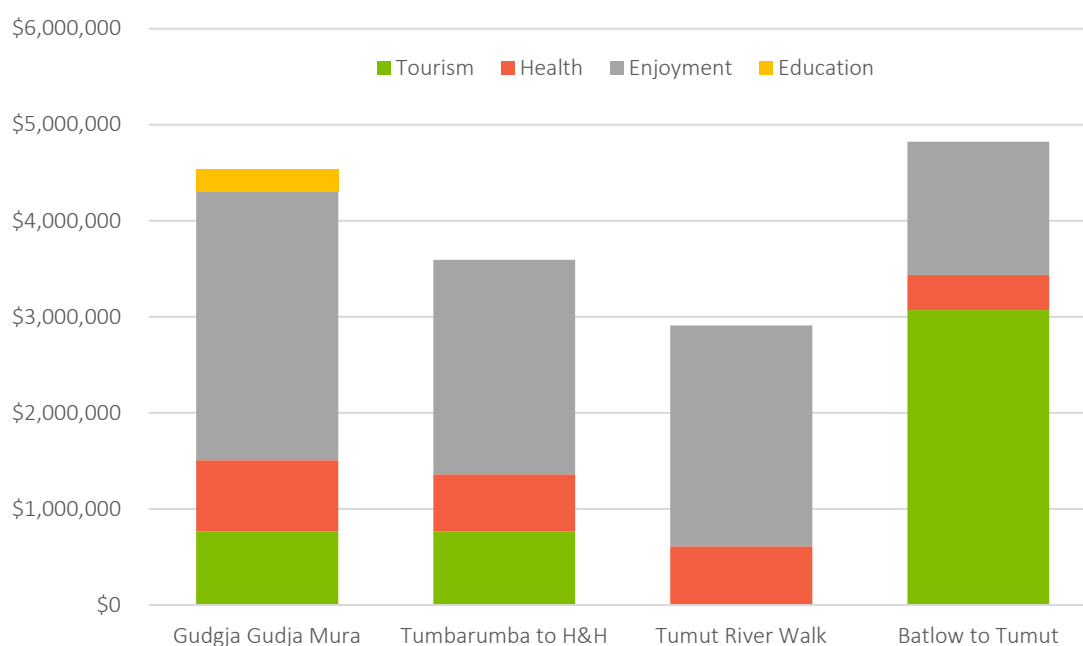
## 5.4 CBA results

The costs and benefits discussed earlier in this section have been calculated for the period of 2023 to 2041, incorporating the two-year construction period and another 17 years of operation. The quantifiable benefits of each of these options have been calculated out to 2041 and discounted back to 2022 values. Costs have also been discounted and quantified, and compared to the benefits to identify which projects produce sufficient benefits to justify the costs.

### Source of quantitative benefits

The source of benefits for each project varies significantly depending on the type of track or trail, its location, length, amenity and intended usage. The Batlow to Tumut Rail (Stage 1) trail expects most of its benefits to come from increased tourism. The Gudja Gudja Mura Walk and the Tumbarumba to Hume and Hovell Trails expect to get a mix of benefits, including benefits from schools using the trails to support children's education. The Tumut River Walk's benefits all come from the health and enjoyment of local residents.

**FIGURE 7: SOURCE OF BENEFITS FOR EACH TRAIL OPTION (PRESENT VALUE OF BENEFITS TO 2041)**



Source: SGS Economics and Planning modelling, 2022

Overall, each trail is expected to bring a total of \$2.9 million to \$4.8 million to the Snowy Valleys in boosts to tourism, health benefits from greater exercise, local user enjoyment of the trails and opportunities for student education. Their cumulative benefits of the tracks and trails may be much greater.

## Net present value (NPV) and benefit cost ratio (BCR)

The net present value (NPV) of a project is the present value of the total benefits minus the present value of the total costs. Benefits of a project exceed costs if the NPV is positive.

The benefit cost ratio (BCR) of a project is the present value of the benefits minus the present value of the costs. Benefits of a project exceed costs if the BCR is greater than 1.

Each proposed track and trail for which costs were available showed that the benefits outweighed the cost at 4%, 7% and 10% discount rates. At the standard 7% discount rate, the Batlow to Tumut Rail Trail Stage 1 had the highest NPV, at \$3.65 million, which means that benefits exceed costs by \$4.43m. The Tumut River Walk had the highest BCR, at 13.96, which means that for every dollar invested, a benefit of \$13.96 is expected. Even at the highest discount rate of 10%, each project showed strong positive results.

**TABLE 5: COST BENEFIT ANALYSIS RESULTS**

Discount rate	4%	4%	7%	7%	10%	10%
	NPV (\$million)	BCR	NPV (\$million)	BCR	NPV (\$million)	BCR
Gudja Gudja Mura	\$3.07	1.97	\$1.81	1.62	\$0.96	1.35
Tumbarumba to H&H	\$3.42	2.97	\$2.31	2.45	\$1.55	2.05
Tumut River Walk	\$3.15	16.94	\$2.36	13.96	\$1.81	11.66
Batlow to Tumut	\$5.66	2.43	\$3.65	2.00	\$2.28	1.67

Source: SGS, 2022.

## 5.5 Sensitivity analysis

It is important to recognise that demographic and visitor projections, such as those used in this CBA, can be uncertain. We will not know until the trail has been established for some years the level of tourism visitation that it will accommodate, how businesses may grow to support it, or how frequently locals will use it.

It is therefore important to undertake a sensitivity analysis of the results, varying some of the more uncertain assumptions, to be able to 'stress test' the CBA findings. If the net benefits of the project are still found to be positive under a set of highly conservative assumptions, the original findings can be seen as more robust.

### Assumptions in sensitivity testing

For this sensitivity analysis, we have made the following changes to the assumptions:

- 20% increase in construction and operational costs.
- 20% reduction in visitation
- 20% reduction in local usage.

**TABLE 6: SENSITIVITY ANALYSIS RESULTS**

	7%	7%
Discount rate	NPV (\$million)	BCR
Gudja Gudja Mura	\$0.28	1.56
Tumbarumba to H&H	\$1.21	2.35
Tumut River Walk	\$1.81	13.40
Batlow to Tumut Stage 1	\$1.46	1.92

Source: SGS, 2022.

For each of the projects, a positive return is still received even with 20% higher costs and 20% lower usage. This shows that the expected outcomes of the project are reasonably robust, and will still show positive benefits if there are increases in costs or visitation is slightly lower than expected.

## 5.6 Preferred option

Based on this analysis, the benefits exceed the costs for all of the proposed options. These options are not mutually exclusive, so the preferred option is to implement all of them.

If necessary, these could be completed sequentially rather than simultaneously, with a focus on simpler or more straightforward projects to begin with, while more complex projects are planned. For example, the Tumut River Walk could be completed reasonably quickly, while more complex projects such as the Batlow to Tumut Stage 1 are planned.

## 6. ECONOMIC IMPACT ASSESSMENT

This section describes the potential impacts of the construction of the trail on the local economy, including new visitors to the Snowy Valleys.

### 6.1 Overview of impacts

The construction of the four trails for which cost data has been received will generate new jobs in the construction industry, plus flow in economic impacts to supporting industries and downstream industries. The development of the trails will result in a number of new visitors to the Council area, bringing with them money to spend on food, accommodation, entertainment and other goods and services. This results in additional stimulus to the NSW economy.

Expenditure on one good or service also has flow on effects to various other sectors of the economy. In addition, the construction of the tracks and trails themselves has a number of economic benefits which can be quantified. More information on the modelling process used can be found in Appendix A.

#### Marginal economic impacts

The economic impact assessment only considers the marginal impacts, that is, the economic activity that will only occur considers new visitors to the Snowy Valleys trails as a result of the new tracks and trails. It is assumed that the development of the trails will attract a number of new day trip visitors, convert some day trip visitors into overnight visitors, and encourage overnight visitors to extend their trip by one day.

The economic impact assessment includes two major inputs. The first is the number of new visitors who travel to the Council area for the purpose of visiting the proposed rail trail, and secondly, the average spending per visitor per trip. Tourism visitation and expenditure has been estimated in the same way as tourist visitor expenditure, explained in detail in Section 5.2.

### 6.2 Economic impacts from the Snowy Valleys Trails

#### Impacts from tourism

The annual additional tourism from the operation of the four trails have been estimated at \$1.015 million, using the method discussed in Section 5.2.

The initial effects of the increase in tourism are expected to have the greatest impact on value added and employment in the Accommodation and Food Services, Sports and Recreation Services and Retail Trade industries. The total effects, which include downstream and flow on effects, may also include Agriculture, Food Product Manufacturing and Beverage Product Manufacturing if the trails are used to support business development in gourmet food and beverage offerings.

**TABLE 7: ECONOMIC IMPACT OF TOURISM**

	Output (\$million)	Value-added (\$)	Employment
Initial effects	\$1.015	\$0.409	5
Total effects	\$2.474	\$1.111	9

Source: SGS, 2022.

Considering all flow on effects, the operation of the tracks and trails are likely to result in an additional \$2.5 million dollars a year to the economy, with a \$1.1 million boost to value added and the addition of 9 full time equivalent jobs.

It is important to note that the figures in Table 7 are for one year only, not the entire period of analysis. It cannot be assumed that these benefits accrue year on year, and therefore each year is not summed to produce a total economic impact figure for the whole period.

#### Impacts as a result of construction

Assuming a total construction cost of \$7,765,209 over a two-year period, the economic impact of the construction of the tracks and trails can be seen in Table 8 below.

The initial impacts include an increase in value added of \$2.8 million and 17 new full-time equivalent jobs. After considering flow on effects, the economy is likely to gain \$18 million in additional output, of which an additional \$6 million is value added, and an additional 49 full-time employees.

Note that the results are for the whole two-year construction timeframe, rather than the entire period of operation.

**TABLE 8: ECONOMIC IMPACT OF CONSTRUCTION**

	Output (\$million)	Value-added (\$ million)	Employment
Initial effects	\$7.765	\$2.795	17
Total effects	\$18.031	\$6.135	49

Source: SGS, 2022.



## 7. Economic development opportunities

Additional investment in the Snowy Valleys Tracks and Trails will have the benefit of expanding the LGA's appeal as a place for hiking and cycling.

This is expected to have considerable benefits from increasing tourism, improved health of local residents, greater enjoyment of local residents and educational benefits.

To ensure these benefits are maximised, the Snowy Valleys Council should consider what actions it can take to expand on the Snowy Valleys key advantages in this area, promote existing and new local industries and connect with local residents to encourage use of the trail.

### 7.1 Multiple tracks and trails throughout the LGA and surrounds

Target Industries: Sports and Physical Recreation Activities to support a greater range of hikers and cyclists.

Snowy Valleys is already becoming a destination for rail trail cycling, with the new Tumbarumba to Rosewood Rail Trail. It is also close to popular rail trails Murray to Mountains Rail Trail and the High Country Rail Trail. Proximity to these other, more established trails will allow the high-country region of NSW and Victoria to expand as an attractor of cycle tourism of all kinds, from the cycling enthusiasts who want to challenge themselves physically, to the nature lovers who want to enjoy the countryside, to the foodie buffs who see cycling as a great way to get from winery to brewery to gourmet local restaurant. The wider region is also home to multiple hiking trails to suit a wide range of abilities, from challenging multi-day hikes to easy, wide short walks on wheelchair-accessible paths.

Building relationships with surrounding LGAs with a common offering, such as the Snowy Valleys Way group, allows the region to develop as a destination for aficionados of walking trails and trails. If supported by a shared marketing strategy, tourists who are interested in one trail will be more attracted to extend their trip and enjoy other trails while they are in the area.

Attracting cyclists to the area who are keen on long rides will create a demand for businesses that support cycling. Bike hire and sales, bike repair and maintenance, cycling accessories and cycling friendly accommodation in towns around trails will see an increasing demand for their goods and services. Outdoor stores can also support hikers. Ensuring that local businesses can develop to meet this demand will create a reputation in the region as a place with everything to support a cycling holiday.

Developing this reputation could involve:

- Building relationships with local cycle and hiking support businesses in the Snowy Valley LGA and surrounds, identifying any gaps in the market where needs are not currently met.
- Identify ideal locations for new businesses to establish to meet gaps in the market, for example vacant spaces of suitable sizes near the busiest parts of trails.

- Coordinate businesses across LGA borders to minimise the risk of businesses out-competing each other.
- Supporting and encouraging local community groups in forming “Friends of the Trail” volunteer groups to maintain the trail and promote local events at the trail.

## 7.2 Food, wine, cider and beverages

Target industries: Food and Beverage Manufacturing, Agriculture, Retail Trade

Snowy Valleys is home to several wineries, including Johansen Wines, Courabyra Wines and Obsession Wines; breweries such as Tumut River Brewing Co and cideries including Apple Thief and Crafty Cider. Agriculture is the largest industry in the Snowy Valleys, with beef cattle, fruit, dairy and milk the major outputs, along with forestry. Promoting the high quality of the local produce and encouraging innovative and high value food and beverage development, with offerings an easy walk or cycle from the trails, will attract more visitation than simply the offerings from the tracks and trails alone. The offer could include quality local paddock to plate meals at local restaurants, hotels and pubs, stores selling gourmet processed meat, dairy and fruit products for tourists to consume locally or take home, and delivery to homes, stores and restaurants around Australia.

Snowy Valleys Council can support the development of a gourmet food and beverage industry to complement tracks and trails tourism by:

- Support the local livestock, meat processing and dairy industries in developing premium ‘clean green’ branded local products, such as premium steaks, salamis, and cheeses.
- Support networking, relationship building and information exchange for food, beverage and hospitality industries to cross-promote local produce – for example, wineries offering a local cheese and salami platter with wine tastings, restaurant owners recommending local beer, cider and beverage matches for their meals and hotels developing holiday packages involving visits to local producers.
- Consider a Snowy Valleys branding for local gourmet food and beverage offerings.
- Develop recommended trail routes for cyclists and hikers of different fitness levels who want to experience local food and wine offerings. Trail route promotional material should highlight local food and beverage offerings along the route.

## 7.3 ‘Refresher’ locations for rugged Hume and Hovell hikers

Target industries: Accommodation and Food Services, outdoor-focused Retail Trade

Connections to the Hume and Hovell track will promote towns in the Snowy Valleys as locations where hikers can plan to forget about staying in tents and cooking over a camp stove, and enjoy a fresh, local

meal, hot showers and a warm, comfy bed for a night or two while they rest, recover and restock for the next leg of their journey.

Easy connections to these towns could promote a more luxurious hiking experience, where instead of packing a tent and their own food, hikers could simply spend each night in hotel accommodation while walking part of the track, possibly supported by tour guides. This option will attract a new type of hiker who might otherwise not even attempt the Hume and Hovell – a hiker who enjoys pushing themselves with long walks, but wants to finish each day with a good meal and drink, before sleeping in a comfy bed.

Developing this will involve:

- Identifying locations close to the connector tracks to the Hume and Hovell that can be earmarked for hotels, restaurants, cabins and caravans and hiker support
- Supporting the development of local tour groups to support Hume and Hovell hikers or connecting with existing companies that support other hiking trails to gauge interest on a Hume and Hovell service.

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# Appendix A: Input Output Modelling

SGS has used an input-output (IO) economic modelling technique to convert the impact of day trip and overnight visitors into indirect impacts in terms of production and employment at a regional level. For this analysis, the regional level is defined as NSW as a whole.

In essence, SGS takes the inter-industry relationships (buyer-supplier transactions) that are measured by the ABS through the National Accounts, and scales these relationships down to the State level using available datasets and accepted mathematical techniques. The results of this scaling process are a set of regional industry specific multipliers, which in turn estimate how spending in a specific regional industry, via the assessed direct impacts (stimuli), flows through to total regional:

- Output (or income)
- Value added (or contribution to Gross Regional Product (GRP)), and
- Full-time equivalent (FTE) employment levels.

## Key qualifications

Though a cost-effective and widely used technique for economic impact analysis, IO modelling has some limitations, which include the following:

- The only feasible alternative to using IO modelling for economic impact assessments is to use partial or general equilibrium econometric models, which is outside the scope of the current project.
- The IO model assumes relationships between industries are static over the forecast period. As such, productivity improvements are not factored in and historic relationships are assumed to hold.
- The IO model derives relationships between industries using total production estimates. Consequently, the relationships are 'average', whereas the stimulus used as an input is 'marginal'. Such an approach does not account for any 'underutilised capacity' at the industry level or additional economies of scale that might ensue, as production expands from its existing base.
- As previously noted, all of the stimuli are assumed to be 'new' economic activities for each regional economy. That is, crowding out or industry substitution effects are assumed to be negligible, meaning that key economic inputs such as labour and capital are assumed to be unconstrained. This assumes that there is sufficient slack in the economy to service these stimuli without transferring significant resources from other productive uses. It also assumes that the activities promoted by the project do not adversely affect operations elsewhere.

In addition, the NSW Treasury (NSW Treasury, 2017) has identified the following limitations with IO modelling and analysis:

- The opportunity cost of resources is not taken into account.



- Regional IO models are based on poor quality data.
- Lack of supply-side constraints – as multipliers assume that extra output can be produced in one area of activity without reducing resources in another.
- Assumption that prices are fixed, and that relative price changes have no impact on the allocation of scarce resources between activities.
- Absence of budget constraints.
- Multiplier impacts are based on theoretical relationships. These relationships cannot be considered as literal or precise and any flow-on effects (impacts beyond the first-round effects) cannot be directly observed, measured or verified.

### Tourism multipliers

A challenge in calculating the economic stimulus from domestic day trip and overnight visitors is that revenue streams are made up of a number of different components, making it difficult to determine the appropriate industry classification. However, one similar 'industry' is tourism. As defined in the ABS Satellite accounts, tourism is not a stand-alone industry in the normal sense, but a combination of other industries, including transport, accommodation, food service provision, retail trade and entertainment. This approximates the economic stimulus directly and indirectly generated by the tracks and trails.

One of the challenges in estimating tourism multipliers is the lack of readily available information on how tourism interacts with other industries. The effects of tourism are implicitly included in the national accounts, however a separate category for tourism is not included as it is not considered an industry or product (ABS, 2022).

The contribution of tourism towards core industries can be found in the Tourism Satellite Accounts (ABS, 2021). One caveat of using the Satellite Accounts is that they only contain data on a national level, and there is no breakdown of how tourism interacts with core industries specific to NSW. It has therefore been assumed that the proportion of economic activity that can be attributed to tourism in NSW is equal to the proportion attributed to tourism nationally.

Using these assumptions, the flow of resources between tourism and each core industry has been calculated. This allows for the creation of a new IO table with multipliers for tourism as a separate industry, which have been applied to off-site expenditure. The tourism multipliers are shown in Table 7 below.

**TABLE 9: TOURISM MULTIPLIERS FOR SNOWY VALLEYS LGA (ECONOMIC ACTIVITY PER \$1 MILLION)**

	Industry	Output	Value-added	Employment
Initial Effects	Tourism	1.00	0.403	6
Total Effects	Tourism	2.437	1.459	15

Source: SGS, 2022.

### Construction multipliers

Unlike the tourism industry, the construction industry is clearly defined by the ABS in national IO tables. The national IO table has been scaled down to the LGA level to create a Snowy Valleys IO table. To

determine the impact the construction industry has on various economic indicators, SGS produces multipliers at both the Input Output Industry Groups (IOIG) level and at the one-digit ANZSIC level. For the purpose of this economic impact assessment, the construction industry at the one-digit level has been used.

The derived multipliers for the construction industry for Snowy Valleys can be seen in Table 10 below.

**TABLE 10: CONSTRUCTION INDUSTRY MULTIPLIERS FOR SNOWY VALLEYS LGA (ECONOMIC ACTIVITY PER \$MILLION)**

	Industry	Output	Value-added	Employment
Initial Effects	Construction	1.00	0.39	2
Total Effects	Construction	1.87	0.86	5

Source: SGS, 2022.



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