FEASIBILITY STUDY

Long-distance Mountain Bike Trail in the Shire of Chittering

Feasibility Study:
Long-distance Mountain Bike Trail in the Shire of Chittering

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Acknowledgement

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Credit: Tourism Western Australia

Executive Summary

The purpose of this document is to provide a feasibility assessment of the potential for a long-distance mountain bike (MTB) trail connecting Bindoon in the Shire of Chittering with other regions, potentially extending the Munda Biddi Trail, and creating additional branches routes through Chittering to Toodyay, the Swan Valley or other desirable areas with great riding potential.

Background

The Shire of Chittering has begun construction of a mountain bike park in Bindoon and sees potential in providing visitors with long distance riding options that connect to the town to encourage longer visitation and overnight stays.

Previous to the identification and development of the Bindoon MTB Park project, a potential long distance mountain bike trail was identified as a high level priority in the *Shire of Chittering Mountain Bike Trails Master Plan* (2016).

The *Shire of Chittering Economic Development Strategy* (2021) has also identified the need to explore long distance trails and the potential connection to the Munda Biddi Trail.

Overall Feasibility

This feasibility assessment has determined that from a technical perspective, a route from Bindoon to Mundaring that uses gravel roads, firebreaks, shared-use paths, and single-track is highly achievable. While there are some constraints, particularly within Department of Biodiversity, Conservation and Attractions (DBCA) managed estate, these are not insurmountable.

The deliverability timeframe is estimated to be approximately ten years because there are several challenges which will need to be addressed.

Foremost amongst these challenges is the need to work collaboratively across local government boundaries, and with a diverse group of land managers and land owners, to identify and establish a suitable route. The current level of interest amongst stakeholders for this project is low. Critical to the project's success will be securing land manager and stakeholder support.

From an economic feasibility perspective, the Shire of Chittering has expressed interest in this project as an economic development opportunity. While the trail may become a demand driver (i.e. reason to visit), it will only generate an economic return if accommodation, food and beverage, and other tourism businesses are able to leverage the opportunity to service the needs of these visitors. Focusing on business development therefore needs to be a critical part of the trail development process.

The project team recommends an implementation strategy focused on:

A. Securing advocates for the project

B. Developing short- and medium-term cycle tourism experiences that complement and support the long-distance trail concept; encourage cycle-tourism business development; and grow the Shire's reputation as a cycle tourism destination.

Background
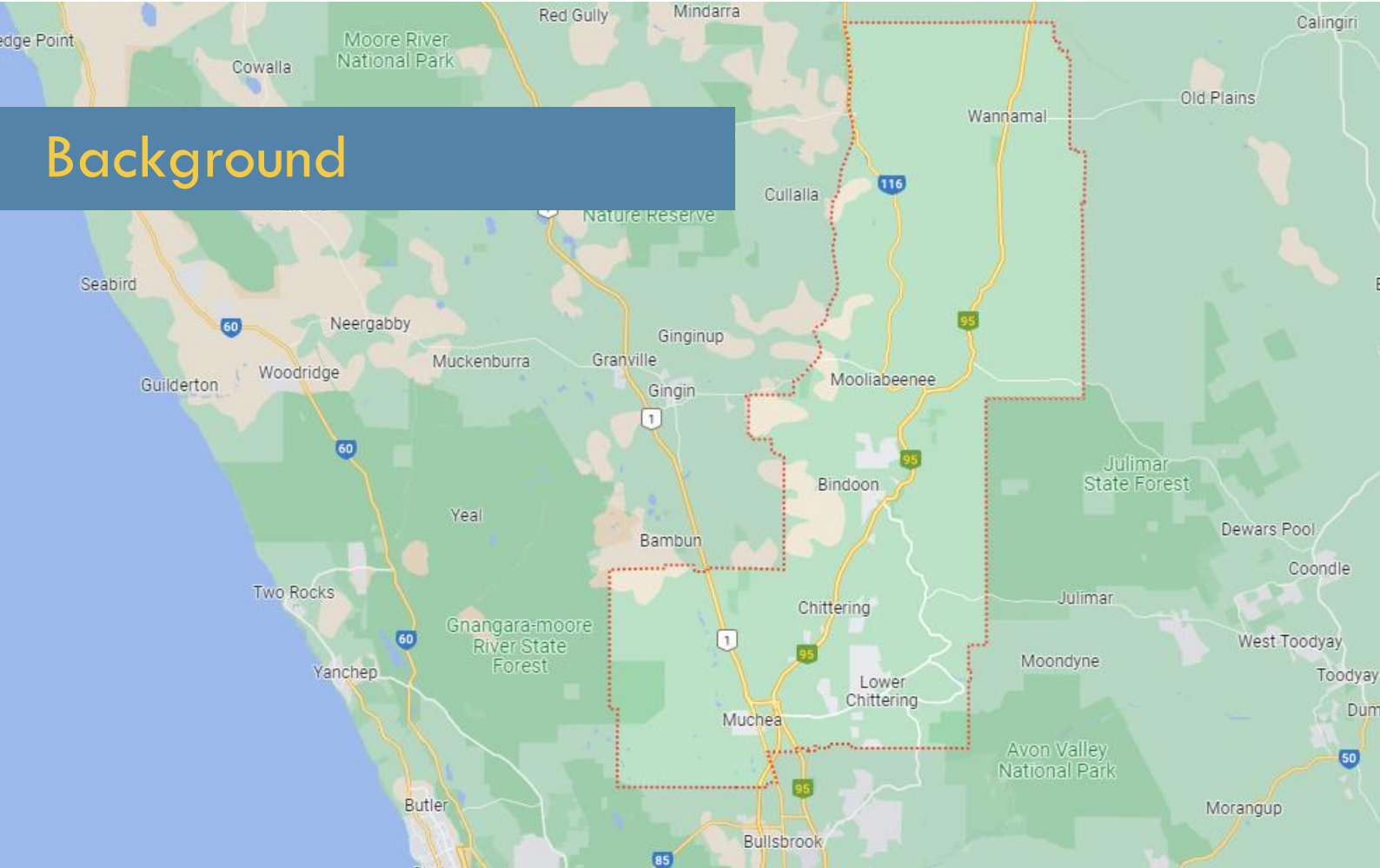
Location of Shire

Located 93km north of Perth via the Great Northern Highway, the Shire of Chittering incorporates the towns of Bindoon, Chittering, Lower Chittering, Mooliabeenee, Muchea and Wannamal.

The Bindoon Bypass will significantly transform transport routes in the Shire. The first stages of the project are complete with the last stage procurement to begin in 2023.

The bypass links three major arterial transport routes – Brand Highway, Great Northern Highway and NorthLink WA/ Tonkin Highway – at Muchea Industrial Park.

The bypass presents both benefits and challenges for the town of Bindoon; improvements to road safety and amenity on the one hand and potential negative impacts for local businesses on the other due to reduced traffic throughput.

New recreational trail developments form one part of a regional economic development strategy that aims to reduce the negative impacts of the bypass on the town of Bindoon.
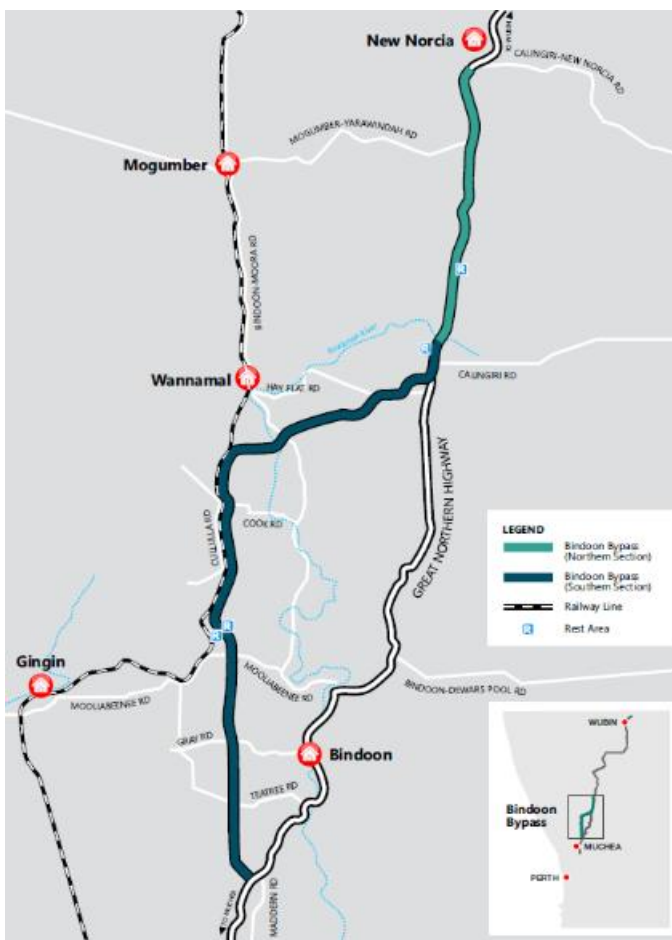

Figure 1: Bindoon Bypass. Source: Main Roads, WA.

Socio-demographic profile

The Northern Growth Sub-region (NGSR), which comprises the local government areas of Chittering, Dandaragan, and Gingin, has the fastest population growth in the Wheatbelt.

The region's population growth has largely been driven by its peri-urban location, amenity of living, job opportunities and accessibility. As a result, the NGSR is expected to support a population of 120,000 (or nearly 8.5 times its current population) by 2050.[1]

Shire of Chittering population forecast

In 2021, the Shire's population was 5,930 with a median age of 44. The age profile of the Shire is similar to that of Western Australia, with the exception of being overrepresented in the 55-64 and 65-74 age group and underrepresented in the 25-34 age group.[2]

The Estimated Residential Population (ERP) for 2031 is 7,610 (an increase of 27% from 2016).

Given the Shire exceeded growth projections between the 2016 and 2021 censuses, it is not unreasonable to expect that growth may exceed this forecast.[3]

Perth's northern playground

Current and forecast population growth in the Shire is driven by its close proximity to Perth.

Chittering borders one of Perth's highest growth areas – the City of Swan. The City's population was over 155,000 in 2020 and is expected to increase 39% by 2031, resulting in 60,000 new residents and a total population of over 215,000.

The suburb of Bullsbrook which is located to the south of the Shire is expected to experience the highest rate of population growth, increasing by 25.6% from 2021 to 2051. Ellenbrook, directly south of Bullsbrook, is expected to experience similar growth rates.[8]

The number of people aged under 18 as well as those aged over 65 will increase in relation to the total population of the City, with respective increases in those age groups of approximately 17,000 and 9,000 by 2031.[4]

The growth in the City of Swan's residential population provides a range of opportunities for the Shire of Chittering in relation to the provision of tourism and recreational products and services.

Economic profile

The Shire of Chittering Local Government Area (LGA) encompasses a land area of 121,900ha. 1,500 hectares is protected Nature Reserve and 1,965 hectares is State Forest. [2]

Industry & Employment

Agriculture provides 19.9% of the Shire's Gross Regional Product (GRP) and employs almost a quarter of the workforce at 23.5% of jobs. [2]

Chittering is host to broadacre farms in the north with wheat, beef and sheep production, and the southern metropolitan boundary is more home to boutique agriculture and horticulture with citrus, vegetable, honey production and nurseries.

Mining processing and extractive industry provides 15.5% of Chittering's GRP and 6.8% of the jobs in the region, whilst Construction follows closely behind with 15.4% of GRP and 14.2% of the workforce. The expansion of the Muchea Industrial Park is expected to result in a dramatic increase in industry in the Shire. [2]

Tourism employment

Tourism makes up a small share of the GRP. In 2021, tourism accounted for $6.4 million of regional output, and 32 jobs.[5]

There were a total of 41 tourism businesses in the Shire in 2019, over half of which were non-employing (n=23).[6]

Although tourism employs a small number of people, it is a significant employer of young people, with over a quarter of Chittering's young adults (28%) employed in the tourism sector. [2]

Infrastructure developments

Economic opportunity in the Shire is being driven by three significant infrastructure developments:

- **NorthLink WA** – transport link between Morley and Muchea, providing a continuous connection from the Perth International Airport area to Muchea. Includes road train assembly near Brand Highway deviation at Muchea.

- **Great Northern Highway** – strategic freight link to northern WA and Northern Territory. Will improve the level of service and safety for road users along with access to the future Muchea livestock sale yards. Includes the Bindoon Bypass.

- **Muchea Industrial Park** – largest greenfield industrial hub in WA located at the intersection of the Brand Highway, Great Northern Highway and the new NorthLink-Tonkin Highway extension.

The Shire of Chittering's location at the intersection of three significant transport infrastructure developments will drive economic and population growth in the coming decades.

Visitor profile

Notwithstanding the impacts of the COVID-19 pandemic on domestic and international visitation, tourism remains an important industry in Western Australia. Located on the doorstep of Perth's northern suburbs, the Shire of Chittering is a popular day trip destination with the potential to grow its share of the domestic visitor market.

Inbound travel to Western Australia

In the year prior to March 2020, 11.7 million overnight (domestic and international) visitors came to or travelled within Western Australia. Together these visitors spent $10.7 billion, of which 48% was spent in regional WA.[7]

In November 2022, international arrivals were 63% of pre-COVID levels, the strongest for arrivals since WA's border opened and in line with the Australian average (62%). [9]

October 2022, interstate visitors to WA were 27% ahead of pre-COVID levels. High average daily spend resulted in a total interstate spend of $434 million, 85% ahead of October 2019. [9]

In the year ending September 2022, 20 million daytrips were taken within the state, and 10.5 million overnight (domestic and international) visitors came to or travelled within WA. Together, these visitors spent $12.2 billion, of which 52% was spent in regional WA.[10]

Tourism's contribution to regional economy

The NGSR receives over a million annual visitors, with the majority visiting the Shire of Gingin and Shire of Dandaragan. Domestic travellers dominate the region's tourism market making up 94% of the visitors. [1]

The coastal areas of the NGSR receive the highest numbers of international visitors. Prior to the COVID-19 Pandemic, the Shire of Gingin experienced a 42% increase in international visitors over a 10 year period.[1] However, very few of these visitors travel to the Shire of Chittering.

Visitation to the Shire of Chittering

The main tourist attractions in the Shire are local produce and farm gates, walking trails, drive trails, lakes, wildflowers, and heritage buildings. Notably, the Shire lacks a flagship tourist attraction or catalyst to make it a destination as opposed to a stopover or a day trip.

The most recent reliable tourism data for the Shire is dated pre-February 2020 (i.e. pre-COVID Pandemic). In 2019, 82,000 people made day trips to the Shire of Chittering out of a total of 112,000 visitors.

While detailed data on overnight visitors is difficult to obtain due to the small sample sizes used in Tourism Research Australia (TRA) research, the Shire experienced an estimated 72,000 visitor nights in 2019.[6]

Average spend[6]

- For the period 2016-2019, domestic overnight visitors spent on average $216 per trip
- Domestic day visitors spent an average of $85 per trip

While there is significant opportunity to grow both day trips and overnight visits, the most significant challenges faced by the Shire are:

- Lack of destination-driver tourism attractions (i.e. tourism products, services and experiences that are significant attractors)
- Lack of diversity and quality of overnight accommodation
- Lack of food and beverage outlets, and inconsistent hours of existing businesses

The next section explores the potential for cycle tourism to growth the Shire's visitor numbers, nights and spend.

Cycle Tourism

Credit: Tourism Western Australia

Cycle Tourism involves travelling for the purpose of engaging in active cycling or as a spectator at a cycling event. The following definition of cycle tourism has been developed specifically for the Australian context:

Trips involving a minimum distance of 40 kilometres from a person's home and an overnight stay (for overnight trips), or trips involving a minimum non-cycling round trip component of 50 kilometres and a minimum four-hour period away from home (for day trips), of which cycling, involving active participation or passive observation, for holiday, recreation, leisure and/or competition, is the main purpose for that trip. Participation in cycling may include attendance at events organised for commercial gain and/or charity (competitive and non-competitive), as well as independently organised cycling.[12]

This definition distinguishes between:

- **'cycle tourists'** - those who are away overnight from their hometown or country for the purpose of a vacation that involves cycling,

  and

- **'recreational cyclists'** – those who are away from home for less than 24 hours in order to undertake cycling as a leisure activity or for competition

While most definitions of cycle tourism include people who travel for passive observation of cycling events and competitions, this feasibility study focuses on active participation (i.e. people who ride a bike).

Cycle tourists can be divided into three distinct visitor markets:[12]

1. **Destination Trail Users (Cycle Tourist):** Experienced trails users who regularly travel with trails as a primary motivator. They have likely visited other Australian or international trails destinations. They seek high quality trails with good supporting infrastructure in scenic and/or natural locations.

2. **Trail Users While on Holiday (Cycle Tourist)**: Typically, less experienced trail users whose primary motivator for travel is not trails. While they view trail use as a secondary motivation for their visit, they will participate in trail activities and will likely hire or require equipment. They may place less emphasis on the trail and more on accessibility of the facility, the setting and nearby attractions and amenities.

3. **Local Trail Users (Recreational Cyclist):** Typically, residents living with a 100km radius of a trail. They use trails for fitness, recreation and leisure, and may travel to up 100km (usually by car) to use a trail, particularly on weekends or during holiday periods. Accessibility and setting are important. Those travelling a longer distance may place more emphasis on nearby attractions and amenities.

Breaking down the cycle tourism market into these three groups enables destination marketing organisations to develop and deliver effective marketing and promotion strategies for different types of trail experiences.

Market Segmentation

Market segmentation is a technique that can be used to classify tourists based on their motivations (i.e. personal reasons for doing an activity) and/or their level of involvement in an activity.

A number of studies have sought to segment the Australian cycle tourism market.[13, 14, 15]

This study uses the segments identified in the *Western Australian Trails Market Research Report* commissioned by Tourism WA in 2022, which identifies four main groups according to their motivations and cycling skills and experience:[16]

- **Leisure Riders:** typically, holiday makers who seek out accessible trails for use with family and friends. Time spent on trails is often short to half-day in duration.

- **Active Lifestyle:** outdoor enthusiasts who will plan their visit to include use of trails. Time spent on trails is often half to full day or overnight stay.

- **Adrenaline Seekers:** competitive and/or highly skillful riders, who ride regularly, often multiple times a week. They seek challenges, whether this be through organised competitions, seeking out less accessible trails or technical gravity trails.

- **Independent Adventurers:** dedicated trail users who will seek out challenging trails or unique and extended experiences. Time spent on trails is often overnight and multi-day.

While there is some overlap between these segments, leisure riders tend to fall within the Trail Users While on Holiday and Local Trail User markets; and active, adrenaline and adventure riders tend to fall within the Destination Trail User and Local Trail User market (see Table 1).

Market Opportunity

The opportunity to attract different cycle tourism markets depends on a range of factors, including:

- Quality of trail experience
- Density of trail network
- Uniqueness of trail network/experience
- Accessibility
- Proximity to large population centre/s
- Secondary attractions
- Services and amenities
- Sophisticated marketing program

Market Motivators

Destination Trail Users are motivated by the presence of 'signature trails' (i.e. trails which offer an exceptional experience).

For Trail Users While on Holiday, the main factor is the presence of existing popular non-trail tourism attractions.

For Local Trail Users, accessibility and quality of experience offering are important.

Table 1: Cycle tourism markets and segments

	Destination Trail Users	Trail Users While on Holiday	Local Trail Users
Segments	Active Lifestyle Adrenaline Seekers Independent	Leisure	Leisure Active Lifestyle Adrenaline Seekers
Opportunity	Very dependent on quality and/or uniqueness of trail experience offering	Dependent on existing visitation levels and other attractions	Dependent on accessible trails and experience offering

Market Potential – Visitors

This sections examines the market potential of the Destination Trail User and Trail User While on Holiday markets.

Domestic Market

Tourism Research Australia (TRA) data on domestic travel in 2019, found that 2.2% of domestic overnight visitors went cycling.

This equated to 2.6 million overnight trips at an average of 4.4 nights per trip (or 11.3 million bed nights). In addition, Australians took almost 2 million day trips involving cycling.[17]

Holiday travel was the largest driver, accounting for 68% of cycling trips; followed by those visiting friends and relatives (24%). Most of these trips (78%) occurred in regional Australia. [17]

Recent research by Tourism Australia indicates that 16% of Australians are interested in cycling holiday experiences; and 10% are interested in mountain biking cycling experiences.[43]

Visitors to Western Australia

For the period 2015-2017, 351,700 overnight visitors to Western Australia undertook cycling while on their trip. Fifty-seven per cent of these were intrastate visitors; and another third were international visitors.[15]

Prior to the COVID-19 Pandemic, Western Australia witnessed a significant increase in the numbers of visitors undertaking cycling activities. In 2018 and the figures were 692,000 and 680,000 respectively (see Figure 2).

Although there was a substantial decrease in international visitors who undertook a cycling activity in 2020 (due to closed borders associated with the global pandemic), the number of domestic visitors remained steady, and the number of day trips increased.

Figure 2: Visitors who cycled while in Western Australia 2016-2020[18]
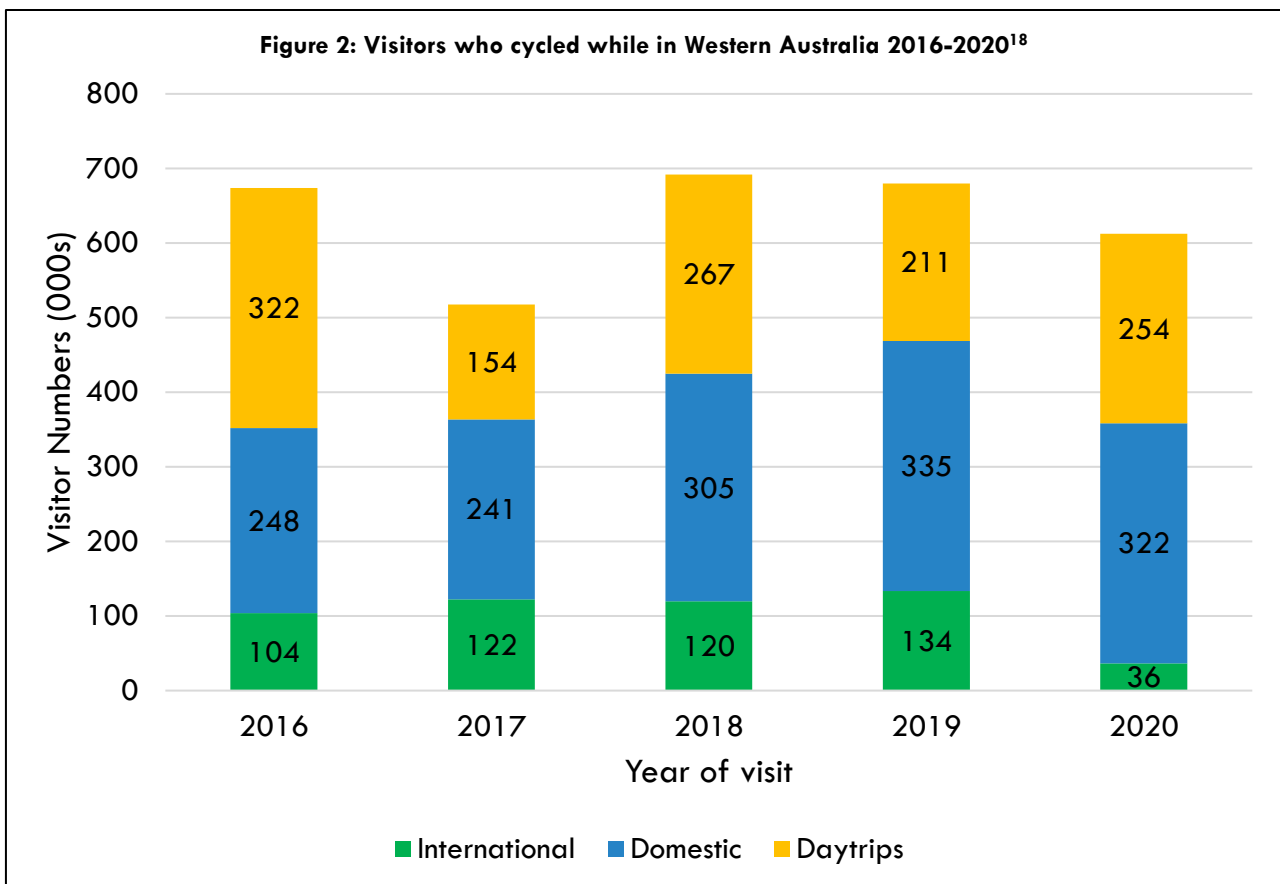
International Demand

Historically, the United Kingdom has been the largest market for cycling experiences in Australia. In the three-year period 2015-2017, an average of 22,100 UK residents participated in cycling.[19]

The next largest groups were from China (n=7,400) , Germany (n=6,000), the United States (n=6,000), Malaysia (n=5,600), Singapore (n=5,600), and New Zealand (n=5,500).

A similar pattern is reflected in Western Australia where international cycle tourists have traditionally been from the USA, the UK, New Zealand and Germany. [19]

In 2022, Tourism Australia commissioned a global report to identify the experiences for which the Australian tourism industry has a competitive advantage.

The report estimated that globally, almost 30 million people per year are interested in cycling holiday experiences. This represents a quarter of international travellers.[43]

The report found on average that cycling ranks 52nd in interest out of the 89 experiences tested. It performs most strongly in Germany (ranked 17th), Indonesia (21st) and China (27th).[43]

Cycling in General

Germany, Indonesia, India and Malaysia have significantly higher levels of interest in cycling than other markets.

Of those interested in cycling, 36% are Young Family households with dependent children under 12 years of age. This reflects the age breakdown, with 62% aged under 40 years.

Mountain Biking

Approximately 11.5 million travellers globally are interested in mountain biking holiday experiences (13% of global travellers).

South East Asian markets report the highest levels of interest – Indonesia (26%), Thailand (22%) and the Philippines (19%). Traditional international markets for travel to Western Australia report lower levels of interest in this activity – Germany (16%), USA (12%), New Zealand (12%) and UK (12%) – see Table 2.

Amongst those interested in mountain biking, the age profile is skewed to a younger cohort, with 35% aged 18-29 years.

Men are more likely to be interested in mountain biking (62%).

Table 2: Global traveller interest in cycling and mountain biking, and visitor numbers to WA 2019 [43] [44]

Market	Number of visitors to WA in 2019 ('000)	Cycling		Mountain Biking	
		Interest (%)	Sizing ('000)	Interest (%)	Sizing ('000)
Global	836	25%	29,519	13%	11,568
Germany	31	37%	2,094	16%	536
Indonesia	34	41%	556	26%	283
China	54	26%	7,601	12%	2,388
India	24	35%	1,276	18%	430
Thailand*	--	34%	710	22%	283
Japan	31	23%	1,837	9%	494
Malaysia	90	30%	502	16%	184
Vietnam*		31%	656	16%	242
UK	132	22%	2,159	12%	999
Singapore	91	23%	358	11%	139
USA	42	20%	5,277	12%	3,135
New Zealand	60	20%	149	12%	89
Hong Kong	27	17%	206	7%	88

Trip Purpose

Neither the TRA nor Tourism WA visitor data differentiates cycle tourists by market segment or trail experience. For this reason, it is difficult to determine whether cycling was the primary motivator for their trip (i.e. "destination user") or incidental (i.e. "trail use while on holiday").

One exception to this is a report commissioned by Tourism WA in 2018. The study found that in the three years to 2017, of those Australians surveyed, 29% partook in a cycle experience while on holiday of which almost a third were "destination trail users". Of these tourists, 7% had a cycling experience while in Western Australia.[15]

Similarly, a Victorian study of cycle tourists, found that the highest rates of participation were in sightseeing activities in towns and cities and along waterways, indicating that most visitors were "trail users while on holiday".[19]

Cycle Experiences

In line with the finding that most cycle visitors are "trail users while on holiday", the Victorian study found that the most reported cycle experiences involved sightseeing on paths and trails in urban areas or along foreshores, rivers and lakes (see Figure 3).

Over 20% of respondents cycled on rail trails; and 12% undertook a cycle tour that involved camping out or staying overnight.

Between 15-18% of respondents reported participating in mountain bike experiences, including on fire trails, off-road trails, and mountain bike parks.

Mountain biking has many different disciplines (see description in Appendix C). The experiences reported in the Victorian study are most likely to have been Cross Country, All Mountain and/or Downhill.

Figure 3: Most Common Bike Riding Activities undertaken by Cycle Tourists in Victoria[19]
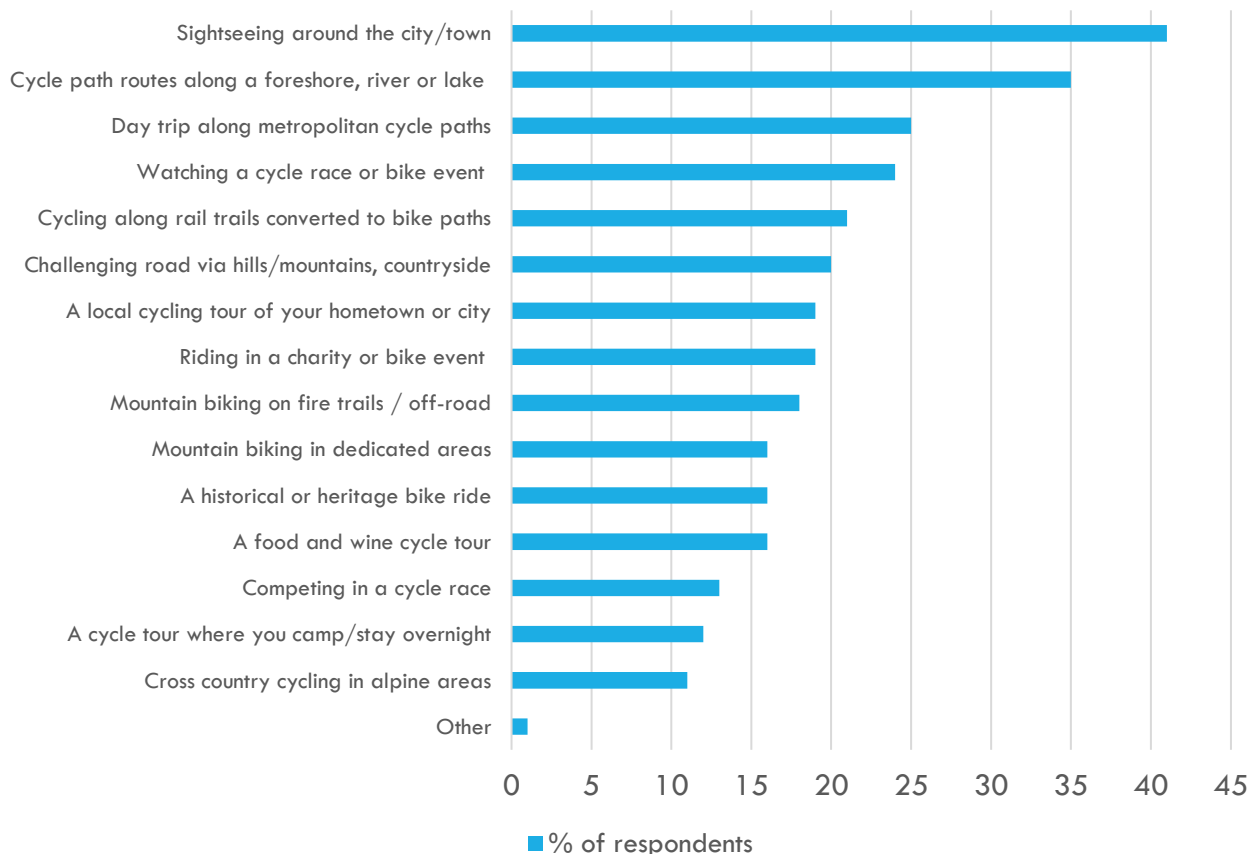
Market Potential – Local Trail Users

This sections examines the market potential of the recreational cyclist market, i.e. residents living with a 100km radius of a trail.

Cycling Participation

The *National Walking and Cycling Participation Survey 2021* provides insight into walking and cycling activity across Australia. The survey revealed that approximately 18.2% of Australians rode a bicycle (including e-bicycles) in the week prior to the survey and 40.3% rode a bike over the previous year.[36]

Western Australia has cycling participation rates significantly higher than the national average, with 21.4% riding in the previous week and 46.7% riding in the previous year.

Cycling participation rates were higher amongst males than females, and amongst both genders, the participation rate declines as young children transition to adulthood. Nonetheless, the participation rate has increased significantly since 2019.

Other trends of note include:

- Participation rates are higher in regional areas compared to the Perth metropolitan region

- The majority of people cycled for recreation purposes (85.3%)

- Over the eight years between 2011 and 2019 the cycling participation rate declined steadily both nationally and across most jurisdictions. However, the COVID-19 pandemic appears to have significantly increased cycling participation; nationally the participation rate increased from 13.8% in 2019, to 18.2% in 2021

- The marked increase in participation is experienced by all age groups aside from young adults aged 18 to 29 and is most marked among young children (aged under 10) and adults aged 30 to 49

Mountain Bike Riding

Mountain biking is considered one of the fastest growing recreational activities globally.

AusPlay survey results estimate that approximately 341,900 Australians participate in mountain biking (approximately 1.6% of the population).[37]

A 2021 study of mountain biking trends nationally found that:[38]

- Most respondents to the study rode a couple of times per week, for 1-2 hours

- Participation is generally skewed towards males (80%), with female participation generally sitting between 13-25% across different states and territories

- One-third of mountain bikers are aged between 40-49 years

- Generally participation is casual and non-organised (rather than through an organisation or at a specific venue)

- In the five years to 2021, Mountain Bike Australia reported a membership increase of 60%. Given that participation in mountain biking is mostly informal (i.e. not club based), this figure is indicative of increasing participation rates.

These reports indicate that cycling participation has a market opportunity to grow considerably over the next few years

Benefits of Cycle Tourism

Time spent outdoors participating in cycling provides a range of health, social and economic benefits to individuals, local communities and regions.

Economic benefits

Case studies from around Australia and the world that demonstrate that effective planning and management of recreational trail networks can drive economic growth and lead to sustainable long-term economic outcomes for regional communities.

A 2021 study by AusCycling found that mountain bike riders had on average $2,282.90 of expenditure relating specifically to riding, comprised of:

- **Transport** - $1,073.25 per year
- **Meals and beverages** - $566.50
- **Supermarkets and retail shops** - $553.40[38]

The study found that 66.5% undertook intrastate mountain bike holidays one to three times per year. They typically spent $1,707.95 per trip.

Approximately 40% of respondents had been on an interstate mountain bike specific holiday in the past 12 month, with an average spend of $2,485.75 per trip.

Environmental benefits

Trails play a role in improving awareness and appreciation of the natural environment and build support for its conservation and protection. Increased appreciation and understanding of environmental values will bring about advocacy for those values. Trails can also be useful tools for ecology and conservation.

Social benefits

Access to trails has been associated with better perceived general health, reduced stress and anxiety levels, and reduced depression.

Trail-based recreation can deliver multiple benefits including:[39]

- Helps build confidence, self-esteem, motivation and self-worth
- Improves heart health
- Improves mental health
- Improves mental cognition
- Improves sleep

The social and health benefits of cycling participation can be quantified to provide a monetary benefit to the community (Table 3).

Table 3: Social values of mountain biking annual and per ride (2021) [39]

Social Benefit	Overview of benefit	Estimated annual benefit	Estimated benefit per ride
Health benefits	The personal and health system benefits due to healthier, active individuals		$1.58 per km ridden
Productivity benefit	Improved workplace productivity through decreased absenteeism and presenteeism	$767	$7.59 per ride
Human capital uplift	Positive association between sport and physical recreation and educational outcomes	$252	$2.50 per ride
Consumer surplus	The satisfaction people derive from participating in sport and active recreation	$2,624	$25.98 per ride
Criminal and social justice benefit	Benefits from decreased crime rates due to increase engagement from sport and recreation	$79	$0.78 per ride

Trail Tourism Investment

The Western Australian government has made a significant investment in the state's trail network in the last five years in order to capitalise on the range of benefits associated with recreational trail use, including cycle tourism. Additional capital works expenditure was announced as part of the WA COVID Recovery Program.

Most of this investment has been into mountain biking trail networks, with a limited amount in new hiking trails. Local governments are also contributing to trail development. The following table summarises some recent trail investment in Western Australia.

Table 4: Trail Projects in Planning or Construction Phase in Western Australia

Destination	Investment	Trail offering
Perth Hills	$2m	• Goat Farm (14km) supports an existing network
Dwellingup	$8.4m (RfR)	• Murray Valley MTB Trails (32km) • Munda Biddi single track (8km) • Canoe trails (10km) • Bibbulmun Track and Munda Biddi Trail - upgrades and camp site improvement
Collie	$10m (Collie Investment Fund)	• Wellington National Park MTB trail network (65km) • Arklow MTB Trails (36km); includes 9.5km adaptive trail • Westralia MTB Trails (35km) • Wiilman Bilya Walking Trail (20km one-way – plan to add additional 50km – 5 day walk) • Re-alignment of Munda Biddi • Paddle offering in Wellington dam underdevelopment
Margaret River	$350k (State Recovery)	• The Pines (16km) – supports an existing network of 125km across 7 trail networks
Nannup	$2.86m BBRF to Shire for Stage 1 Est. $5.5m for entire project	• Stage 1: Tank 7 & 8 MTB Park (30km) • Stage 2: Jump Park, new cycle touring routes – proposed • Stage 3: Native Forest MTB Park - proposed
Great Southern	$15.2m (State Recovery)	New DBCA projects • Valley of Giants MTB network – 2024 • Valley of Giants hiking network – 2024 • Munda Biddi re-alignment William Bay NP – 2023 • Frankland River Paddle Trail – 2022 • Porongurup NP – walk and cycle trails – 2024
	$3m to Albany Mounts (Labor Election commitment) $500k to Bobtail Trail (Lotterywest)	New LGA projects (14km walking; 40km MTB) • Pwakkenbak/Mount Barker MTB Trail network – 2023 • Albany Mounts trail network • Poikeclerup MTB Trail network • Yoorn/Bobtail Trail (drive trail) – 2022-3

Long-distance cycling

This feasibility study is focused on opportunities for long-distance cycling. Four main types of long distance cycling were considered:

- **Rail Trails** - trails used for transportation and recreation, either sited on former railway lines or that run continuously beside an active railway for most of its length.[20] Rail trails are mostly flat or with very low gradients, with wide surfaces that may be gravel or paved. They pass through diverse landscapes, including farmland, rural towns and villages, forests, coastlines and waterways. Rail trails are suitable for riders of all abilities, and because they facilitate a slow pace of riding through picturesque areas, are popular for leisure, social interaction, and education (by providing opportunities to learn about the culture and heritage of a location). Includes day rides and multi-day touring.

- **Gravel Riding** - gravel grinding or gravel biking, consisting mostly of distance riding over unpaved roads. Whether dirt roads or gravel roads, trails must consist of non-technical and unsurfaced roads to qualify as gravel riding. Used for training and events, gravel riding typically involves a specialised gravel bike. Fitness, sport and training are primary motivators for gravel riders, who also enjoy the opportunity for social interaction, adventure, and riding in scenic locations. Primarily day rides (30-300km+).

- **Cross-country Mountain Bike Trails** – Cross country (XC) is a form of mountain biking that takes place on gravel roads, firebreaks, and singletrack. Purpose-built XC trail networks include trails of different grades and abilities, creating loops of varying lengths (30-100km), with a focus on endurance above technical skill. Motivations include challenge, adventure, and skills development. Includes day and overnight.

- **Mountain Bike Touring** – or bike packing, is long distance riding with distances from 100-1000km. Touring trails are typically dual direction, linear trails, or long-distance circuits with a focus on reaching a destination. MTB touring trails often incorporate a mix of different trail types including rail trails, access/fire roads and single track. Some long-distance trails incorporate technical features, difficult terrain and can be very remote, and are thus more suited to riders with intermediate to advanced skill levels. If carrying panniers, bikes are usually robust with limited suspension, however, for short sections most mountain bikes and gravel bikes are suitable. Motivation is challenge and adventure. Includes day rides and multi-day touring.

Table 5: Types of long-distance cycling experiences

Component	XC	Rail Trails	Gravel	MTB Touring
Trail type	Mostly single track, some technical trail features	Mostly flat, wide, gravel-paved surfaces	Mostly unsealed roads including firebreaks	Combination of surfaces and trail types
Location	Natural setting	Diverse landscapes — farmland, rural villages/towns, vineyards, forests, coastline, rivers		Mostly remote natural setting, some wilderness experience
Motivation	Challenge, adventure, skills development	Leisure, social interaction, education (culture, heritage)	Fitness, sport, training	Challenge, adventure

The following table provides example of each type of long-distance cycle trail in Australia and New Zealand (see Table 6).

Note that no examples are provided for gravel riding because these are not purpose-built trails. Itineraries are typically prepared by enthusiast riders who share routes via social media and cycling apps. Peri-urban and rural settings with a good selection of gravel roads, varying elevation levels, and scenic landscapes are preferred.

Some destinations are capitalising on the popularity of gravel riding to develop itineraries, maps and signage to encourage gravel cyclists to visit, and/or to develop dedicated gravel cycling events.

All the rail trail examples are on disused rail corridors. In most cases, the rail tracks have been removed and a new trail surface laid. While some rail trails occur alongside active rail lines, these are mostly used as transport routes (particularly in urban settings) rather than tourism routes.

The growing popularity of electric bikes (including e-MTB bikes) that utilise 'peddle-assist' technology has enabled a larger demographic to participate in and enjoy the benefits of cycling. The additional assistance provided can enable the user to ride for longer with less physical exertion. As e-bikes have become more affordable, their usage has increased significantly, enabling more people to experience long-distance cycling.[21]

Table 6: Examples of long-distance cycling experiences

Type	Time	Example	Length	Grade
Rail Trail	Day trips	Railway Reserves Heritage Trail (Mundaring, WA)	short linear; 59km loop	White, Green
		Wadandi Track (Margaret River, WA)	31km linear	White, Green
		Riesling Rail Trail (SA)	35-51km linear/loop	Green
	Multi-day touring	Murray to Mountains Trail (Vic)	132km linear (2-5 days)	Green
		Otago Rail Trail (NZ)	152km linear (3-5 days)	Green
Gravel Riding	Day trips	Multiple destinations & itineraries developed by riders (informal routes)	30-300km+ loops	-
Cross-country (XC) MTB	Day trips	*John Forrest NP — planning*	*16-34km loops*	*Green, Blue*
		Valley of the Giants NP — construction	*12-80km loops*	*Green, Blue*
MTB Touring	Short	Timber Trail (NZ)	85km linear (2 day)	Green, Blue
		Old Ghost Road (NZ)	85km linear (2-4 days)	Blue, Black
	Long	Munda Biddi Trail*	1000km linear	Green, Blue
		Mawson Trail (SA)*	900km linear	Green, Blue

* Mostly suitable for gravel riding

Case Studies

Rail Trail

The Otago Central Rail Trail, New Zealand

The Otago Central Rail Trail runs from Clyde to Middlemarch on the South Island of New Zealand.

- **Activity**: 4-day cycle, 150km walk or equestrian
  Attracts: Approximately 50,000 day-cyclists each year and 70,000 including multiday users.
  Economic Value: Approximately $10 million per year. Total GDP impact of $5.3 million.[22] Since the Otago Rail Trail Cycleway was developed, the region has seen a 320% increase in tourism.[23]
- **Jobs**: 81 direct full-time equivalent jobs and 21.4 indirect jobs.[22]

Typical of a rail trail, the Otago Trail is relatively flat and passes through numerous small town, allowing riders to stop off for accommodation, food, wine and other supporting amenities.

Towns along the way cater to the trail users by providing services such as bike hire and repairs. The development of a wide range of products, attractions, accommodation and services for trail users has led to substantial increases to both visitation and the economy.

The rail trail can be used by riders, walkers and horse riders and can be completed as a whole or completed in smaller sections.

The Otago Rail Trail is managed by the Department of Conservation in partnership with the the Otago Central Rail Trail Charitable Trust.

MTB Touring

Munda Biddi Trail

The Munda Biddi Trail runs from Mundaring in the Perth Hills, to Albany on the South Coast of Western Australia.

- **Activity**: 1050km cycle, can be completed 'end-to-end' (3-4 weeks), multi-day sections, or day rides
- **Attracts**: Approximately 22,000 cyclists per year.[24]
- **Economic Value**: 2009-2010 snapshot showed average spend of $56.27 per day ($40.36 for day riders; $74.51 for overnight riders)[25]

The trail utilises a combination of gravel roads, firebreaks and purpose-built single-track. The surface on the northern half of the Trail is primarily red pea-gravel, whilst the southern forests have a combination of gravel, loamy soils and sand.

The trail includes 12 purpose-built huts, to provide accommodation and camping in remote locations; as well as in-town accommodation at a range of Trail Towns along the route.

The trail is popular with day riders, particularly sections closer to Perth; who make up the majority of trail users.

The Old Ghost Road, New Zealand

Between Buller Gorge highway and Seddonville on West Coast of South Island.

- **Activity**: 85km single-track cycle adventure
- **Economic Value**: $4.5 million economic activity per year (Feb 2020).[26]
- **Jobs**: 34 people directly employed from trail (Feb 2020). [26]

A remote journey over rugged terrain, it is not suitable for inexperienced cyclists (grade 4 advanced rating). Supports basic huts and camping. A mixture of long steep climbs, narrow trail, poor traction and difficult obstacles, including unbridged waterways.

Travel Trends Analysis

Australian Travel Habits

Prior to the COVID-19 Pandemic and the associated closure of the Australian international border in 2020, Australians were increasingly spending extended holidays overseas.

In 2018–19, 11.2 million Australians travelled overseas (up 4.4% on the previous year), which equates to approximately four trips for every nine people – one of the highest rates in the world. Australia ranked in the global top ten for international travel expenditure, representing $64.2 billion in outbound trips.[30]

Nonetheless, **domestic tourism** was a significant economic driver in 2018-2019, with domestic spend exceeding $100 billion for the first time.

Pre-COVID, Australians chose shorter but more frequent trips when travelling domestically. This increase in frequency outweighed the shorter trip length and as a result the average number of nights on domestic travel increased to 20 nights (up from 15 nights in 2008-2009).

The average spend on domestic travel per Australian also increased by more than $1,150 to $4,975 in the five years to 2018–19.[30]

COVID-19 and Domestic Travel

While COVID-19 has changed domestic travel patterns, it is unclear whether these changes will be long-lasting. KPMG has identified three COVID-19 domestic travel trends that may impact visitation to the Shire of Chittering:[35]

- **Ticking off the backyard bucket list**
- **Experimenting with the working holiday**
- **Romancing the great Aussie road trip**

In 2023, other factors continue to shape the travel behaviour of Australian residents:

- Increasing cost of fuel
- Rising inflation and increases in mortgage interest rates
- Low wages growth
- Predicated global recession

Travel to Regional Australia

In the decade leading up to the COVID-19 Pandemic, the number of domestic and international nights in regional Australia grew at a five-year average of 3.3% and 4.7% per annum respectively. This has supported growth in regional visitor expenditure.[31]

The opportunity to spend time with friends and family and experience nature-based offerings are the two key motivators for regional travel for both domestic and international markets.

The three largest markets are:

- Family road trippers
- International Gen Y and Gen Z
- Affluent 55+ Australians

Travel as an Essential Part of Life

According to Tourism Research Australia, travel is now often considered an 'essential' rather than a luxury in Australia, with people willing to forgo other consumption to travel.[32]

This is demonstrated by the share of household spending on travel increasing relative to the share of spending on other items such as clothing, vehicles and furniture.[30]

Tourists are increasingly seeking to engage with experiences which are consistent with their own values and beliefs. This is about both getting away from traditional sites ('tourist traps') and experiencing 'travel we live' rather than 'travel we look at'.

In the three years to 2019, the following global trends were observed:

- Dining out as the main event
- Small-scale, immersive and locally curated activities
- Transformational travel
- Festivalisation
- Voluntourism
- Digital Detox
- Escape to the Country

Sustainable Travel

In 2018, 87% travellers said they wanted to travel sustainably; and in 2019, 55% of global travellers said they were more determined to make sustainable travel choices than the previous year.[33]

These trends coalesce around three types of sustainable tourism products and experiences:

- **Eco-tourism** – is defined by Ecotourism Australia as: "ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation. .. Its focus is on conserving the local environment and historical heritage, while supporting the culture and encouraging people to look after the natural resources that attracts them to the region".[34]

- **Nature-based tourism** – is leisure travel undertaken mostly or solely to enjoy natural attractions and engage in a variety of nature-based activities. It may increase visitor appreciation and understanding of natural and cultural values but that is not its primary purpose.

- **Adventure tourism** - a growing niche tourism market, Adventure tourism includes a physical activity or activities in nature with a certain degree of risk which can be real or perceived often involving exploration or travel to natural areas.

In the context of this Feasibility Study, the growing trend in travel to regional areas and the interest in sustainable travel experiences, provides a strong basis on which to develop new nature-based and adventure tourism products

Opportunities Analysis

Potential Cycle Tourism Markets

To understand the feasibility of investing in a new long-distance cycle trail, this study mapped opportunities against target markets based on an assessment of the Shire of Chittering's current potential to meet the needs of different market segments (Table 7).

Destination Trail Users

The Shire of Chittering currently lacks a "destination" cycle experience. Compared to trails which attract primarily local usage, destination trails are longer and exhibit natural, rural and heritage characteristics that provide visitor with opportunities for physical challenge, social interaction, food and wine experiences, and/or cultural or heritage appreciation.

Establishing a "destination" trail would require a suitable trail corridor that provides:

- **Nature-based experience** – requires a mostly continuous natural setting (e.g. national park or reserve). The Shire of Chittering lacks a suitable park or reserve of sufficient size to provide this type of experience.

- **Heritage or cultural experience** – the Shire lacks sufficient density of accessible heritage or cultural attractions that could form the basis of a long-distance cycle experience.

- **Food and wine experiences** – the Shire has a growing reputation for the quality of its produce. There may be an opportunity to develop a cycle experience linking farm gates, vineyards and other agritourism attractions.

Table 7: Assessment of the Shire of Chittering's potential to meet needs of cycle tourism markets and segments

	Destination Trail Users	Trail Users While on Holiday	Local Trail Users
Segments	Active Lifestyle Adrenaline Seekers Independent	Leisure	Leisure Active Lifestyle Adrenaline Seekers
Opportunity	Very dependent on quality and/or uniqueness of trail experience offering	Dependent on existing visitation levels and other attractions	Dependent on accessible trails and experience offering
Assessment	Currently lacks a "destination" trail experience	Limited existing visitation	Strong potential

Trail Users While on Holiday

Developing experiences that meet the needs of the "trail user while on holiday" market requires, in the first instance, a sufficiently large overnight domestic visitor market.

Overnight visitor numbers to the Shire are currently low, limiting the potential to capture the interests of this market. The opportunities associated with this market segment are therefore considered minor.

Investment in new tourism attractions and improved marketing and promotion may grow the number of domestic overnight visitors.

Local Trail Users

The local day tripper market has the strongest potential due to the Shire's close proximity to the Perth metropolitan area.

The City of Swan is expected to be home to over 215,000 residents by 2031. The suburb of Bullsbrook – which lies on the Shire of Chittering's southern boundary – will experience the highest rate of population growth within the City of Swan. A significant proportion of this growth will be young families.

With the exception of short walks and canoe trails, there are very few outdoor recreation experiences within the City of Swan growth corridor.

Residents of Bullsbrook and Ellensbrook will increasingly look to the north for recreation opportunities.

The soon to be completed transport links and highway upgrades centred on Muchea will enable residents from Perth's northern suburbs to quickly and easily reach the Shire.

The new Bindoon MTB Park – the only purpose-built MTB trail network to the north of Perth – will attract a significant number of Perth mountain bike riders to Chittering.

There is an opportunity to build on the Shire's reputation as a mountain biking destination by providing a range of other trail-based and nature-based experiences that encourage repeat visitation, or provide non-MTB riders with active leisure experiences.

Cycle experiences that cater to the needs of mixed travel groups that include people who are not downhill or cross-country riders, will encourage more people to visit and potentially stay overnight to complete a long-distance trail.

Market Assessment

Focus on developing cycle tourism experiences that are attractive to residents living in Perth's northern suburbs.

These experiences should be:

- Family friendly and/or suited to groups of mixed abilities

- Incorporate day trip experiences enabling visitors to complete short sections of trail in half- to full-day

- Provide multi-day experiences of 2-4 days, allowing visitors to complete the trail over a weekend, long-weekend or short holiday

- Highlight Chittering's agritourism experiences

Potential Trail Experiences

The feasibility assessment determined that two types of long-distance trail experiences may be possible with the Shire of Chittering – gravel riding and mountain bike touring.

Neither cross-country style long distance routes nor rail trails are feasible due to a lack of suitable locations and/or corridors.

Gravel Riding

Opportunity assessment: good potential

Table 8: Assessment of the Shire of Chittering's potential to develop gravel riding experience

Component	Trail requirements	Assessment
Trail type	Mostly unsealed roads including firebreaks	The Shire is home to 174 km of unsealed roads
Location	Diverse landscapes – farmland, rural villages/towns, vineyards, forests, coastline, rivers	Farmland, orchards, rivers, lakes, vineyards, rolling hills and valleys, forest views and vistas
Motivation	Fitness, sport, training	Varying elevation over 300m provides for a variety of riding conditions
Market potential	Gravel riding is growing in popularity, including overnight and multi-day gravel itineraries. Gravel riding events are expanding	The Shire is already a destination for gravel riders who have developed itineraries and routes using sealed and unsealed roads. Gravel riding events are being developed in Chittering and neighbouring shires.
Access	Usually located in peri-urban and rural settings in the hinterland of metropolitan areas. Requires ease of car access, with safe and secure parking adjacent to start of route or ability to ride from home or meeting place within the metropolitan boundaries.	The Tonkin Highway (NorthLink) provides quick, easy access to Muchea, and connection to Great Northern Highway to Bindoon. The NorthLink Principal Shared Path (PSP) provides a ready-made access route into the Shire for riders seeking long distance routes that do not require use of a car.
Constraints	**Community response**	There may be a negative response from local community to increased volume of cyclists on gravel roads (which are often narrow, windy and have poor lines of site) Community consultation; community-based promotion campaign and signage would assist in addressing community concerns.
	Quality of experience	User experience may be compromised by the lack of continuous gravel routes; need to ride on highway and major roads to link gravel roads
	Environmental & Heritage	Limited impact due to use of existing road systems.

Mountain Bike Touring

Opportunity assessment: some potential

Table 9: Assessment of the Shire of Chittering's potential to develop MTB touring experience

Component	Trail requirements	Assessment
Trail type	Combination of surfaces and trail types	Requires construction of new single track or utilise road systems and firebreaks.
Location	Mostly remote natural setting, some wilderness experience	The Shire lacks national parks and reserves of sufficient size. However, it is bordered in the south-east by Julimar State Forest and the Avon Valley National Park, both of which provide potential remote natural settings for cycling. These forests are currently used by MTB riders using unsealed roads, the AvonLink rail corridor, and firebreaks.
Motivation	Challenge, adventure	Varying elevation over 300m provides for a variety of riding conditions
Market potential	There is a small market for multi-day MTB touring experiences in remote wilderness settings. There is a larger market for "soft adventure" experiences of short duration that cater to a wider range of abilities. Includes fully-inclusive and supported (guided) packages.	The Shire's rural landscapes could provide an appealing setting for a "soft adventure" touring route. However, the Shire lacks sufficient number and quality of accommodation venues suited to this market. There are gaps in unique, luxury and family-friendly accommodation supply.
Access	Riders are willing to travel to remote locations to access trail heads but require safe, secure parking over multiple days; and shuttle services (particularly for linear trails)	Network of short shared-use paths that link key tourist attractions to Bindoon town centre via green corridors could form part of a touring route supporting a trail head in Bindoon.
Constraints	**Community response**	Chittering Land Care is not supportive of new single track construction in national parks and reserves; and is not supportive of MTB trails in Djidi Djidi Park.
	Quality of experience	Developing a remote wilderness MTB touring route will require collaboration with neighbouring shires and land managers in order to access national parks and reserves. Extreme heat in Summer; need to manage bushfire risk and personal safety due to heat stress.
	Environmental & Heritage	Any new trails constructed in national parks or nature reserves will require site assessment to determine sensitive ecosystems, hygiene needs, and cultural heritage protection.

Feasibility Analysis

Gravel Riding

The following feasibility focuses on the opportunity to develop gravel riding.

Assumptions

1. The opportunity assessed is described in Table 8.
2. Project aim is to increase the Shire's visitor economy.
3. Trail construction is not required as gravel riding occurs on existing unsealed roads and firebreaks.
4. Routes and itineraries currently used by gravel riders provide a foundation for establishing routes.
5. The Shire is supportive of developing "promoted" routes.

Existing routes

Analysis of shared gravel itineraries reveal popular routes through Walyunga National Park and Avon Valley National Park, including AvonLink rail corridor (see Figure 4).

Some gravel riders enter the Shire via the Tonkin Highway (NorthLink) Principal Shared Path (PSP) which runs the entire length of the Tonkin Highway on the eastern side, providing connections to local path networks.

The Tonkin Highway PSP is also used as part of an overnight loop that incorporates a train trip to Toodyay on the AvonLink Train. Riders board the train service, stay overnight in Toodyay and then ride towards the PSP using a range of different gravel routes.

Competitor assessment

Other day-trip gravel riding destinations close to Perth include the Railway Reserves Heritage Trail, and routes through Kalamunda, Jarrahdale, and Dwellingup.

For overnight destinations, Nannup is actively promoting its mountain biking experiences, including gravel riding routes and events such as the SEVEN Gravel Race (May 2023).

Development feasibility

There is an opportunity to work with Westcycle and Perth-based gravel riders to identify routes and itineraries and promote these routes via the Visitor Centre using print and online (digital) maps and other information.

Many of these routes incorporate road systems in adjoining local government areas and national parks, and will require liaison and collaboration with road and land managers.

Consideration should be given to installing signage along local routes to improve wayfinding and enhance safety of all road users.

Economic assessment

Gravel riders are primarily day riders who cycle long distances (average of 100-300km per day) for fitness and sport.

Generating economic opportunity from this market segment requires gravel riders to spend money within the local community. This is most likely to arise from purchases of meals and beverages, snacks, fuel, and retail items (e.g. sunscreen, medication).

This will require careful development of itineraries to ensure:

- Start/end points in Bindoon
- Routes that pass by food and beverage outlets (e.g. restaurants, cafes, wineries)
- Routes that pass by farmgate stalls

Otherwise the economic return from this visitor group will be minimal – in other words, they will ride through the Shire without spending on local services.

There are also opportunities to develop overnight itineraries for gravel riders. These routes should be developed to incorporate overnight stays at bike-friendly accommodation with ready access to evening meals, breakfast, and lunch supplies and snacks.

Overnight itineraries provide the greatest opportunity for increased spend. The following case study from Bright in Victoria's High Country provides an example of a 5-8 day gravel ride itinerary.

Events also provide a significant economic opportunity. The postponed *Chittering: Citrus Classic*, part of the WA State Fondo Series, utilised a route that included up to 25km of gravel riding.

Figure 4: Example of a gravel route in Walyunga and Avon Valley National Parks
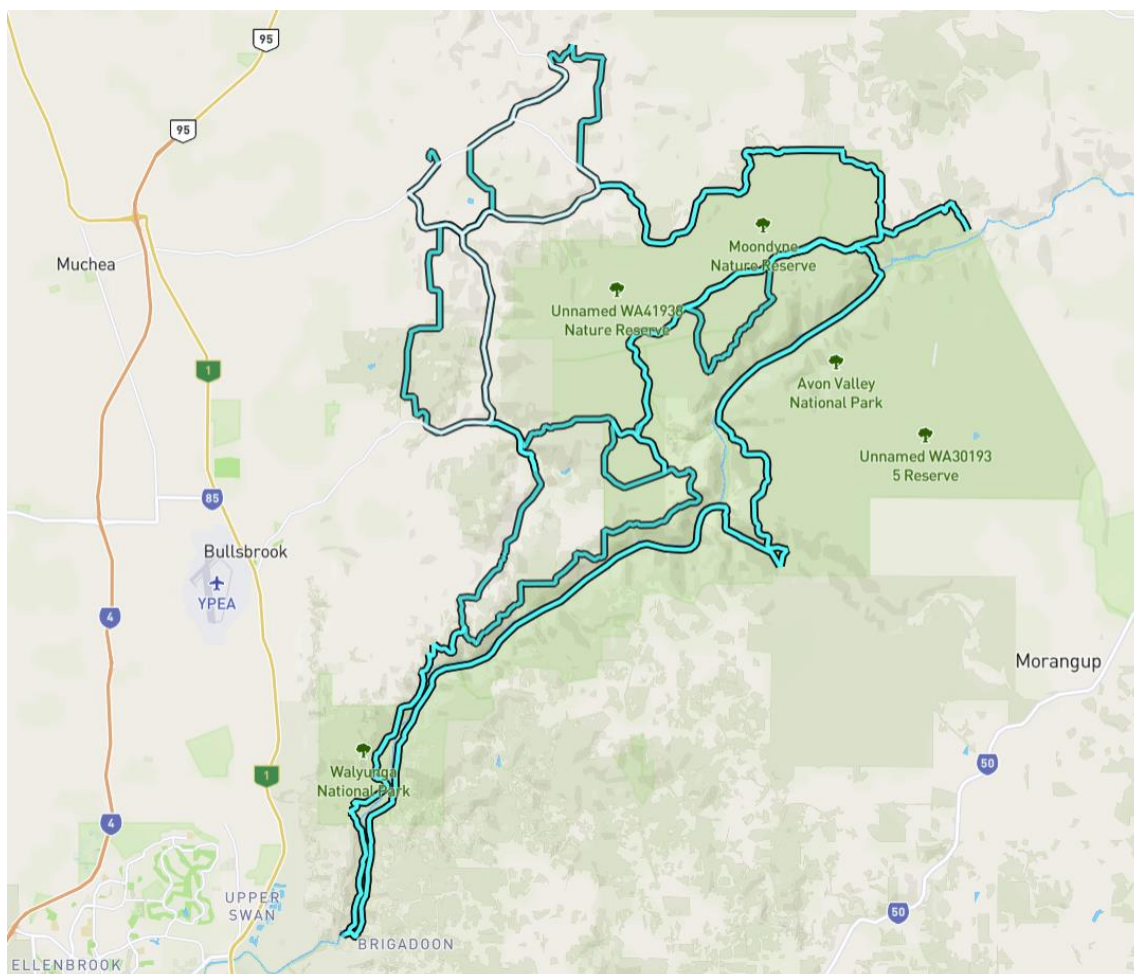

Source: Gravelmap (www.gravelmap.com); Lower Chittering routes

Case Study

The High country Breweries 550 (5-8 day ride)

Over 550km, with gains over 8,000vm, this ride has been devised to end each day at one of the Victorian High Country's independent craft breweries.

Taking in the High Country towns and villages of Beechworth, Eldorado, Chiltern, Rutherglen, Glenrowan, Milawa, Moyhu, Whitfield, Cheshunt, Porepunkah, Bright, Mount Beauty, Mitta Mitta, Tallangatta, Yackandandah and Stanley along the route, it includes hundreds of kilometres of gravel backroads riding, avoids main roads wherever possible, takes in sections of the Murray to the Mountains Rail Trail and the High Country Rail Trail, and conquers three big climbs – Goldie Spur, Tawonga Gap and Trappers Gap.
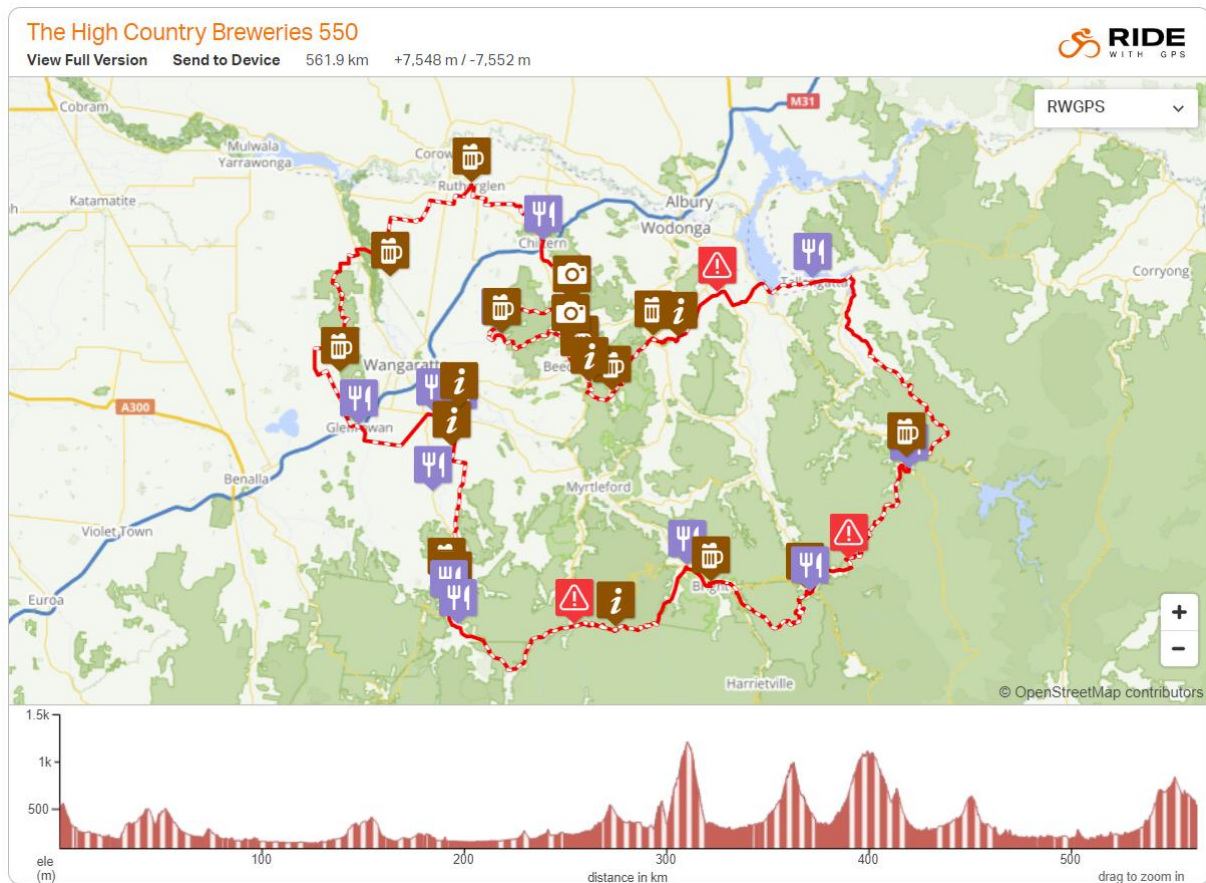
Source: Gravelmob (gravelmob.com.au)

Mountain Bike Touring

The following feasibility analysis focuses on the opportunity to develop a long-distance mountain bike touring route.

Assumptions

1. The opportunity assessed is described in Table 9.

2. Project aim is to increase the Shire's visitor economy.

3. Development opportunities were based on a review of existing plans and projects for MTB trails in the region. Additional input was informed by:

- Visual appraisal (on-ground assessment)
- Close interpretation of aerial imagery (Google maps)
- Interpretation of other map layers such as contours, property boundaries, and land zoning
- Interviews with key stakeholders, land managers, and trail users (see Appendix A)
- Review of local and regional trail and path plans and strategies (Appendix B)
- Strava Heatmap data (see Figure 5)

Potential routes

Analysis of Strava Heatmaps reveals popular cycling routes through Lower Chittering, and through Walyunga National Park, Avon Valley National Park (including rail corridor) and Julimar State Forest (see Figure 5).

Given that these routes are primarily on gravel roads and firebreaks, the assumption is that these are used by mountain bikers and/or gravel riders.

The feasibility analysis considered three types of long-distance MTB experiences:

A. Short-distance MTB touring in a primarily natural forest setting
B. Long-distance MTB touring in a mixed forest and rural setting
C. Short-distance MTB touring in a primarily rural setting

Figure 5: Strava Heatmap of cycling routes in and around Shire of Chittering
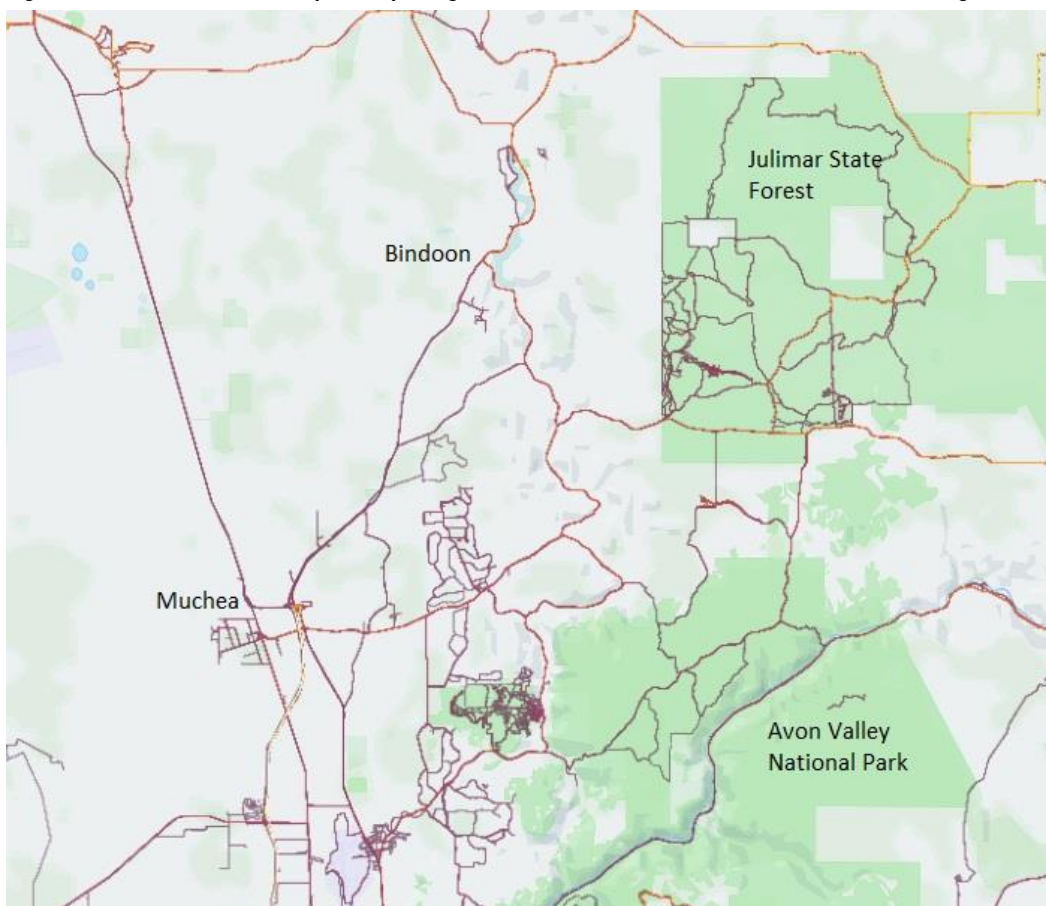
Source: Strava Global Heatmap. Available at: Strava Global Heatmap

Option A: Short-distance MTB Touring in a natural setting

The first option considered as part of this feasibility study is a short-distance MTB touring route in a primarily natural forest setting.

Such a route would be located within a national park or reserve (including state forest), providing for a wilderness riding experience over 2-4 days (or up to 100km).

The model proposed here would be similar to the experiences provided by The Timber Trail or The Old Ghost Road in New Zealand (see case studies).

This experience would cater to the **Independent Rider** who cycles long distances often in remote locations with limited facilities. Overnight camping facilities, including shelters and long-drop toilets, may be provided.

Who are Independent Mountain Bikers?[16]

Independent mountain bikers are skillful riders and outdoor enthusiasts, who ride frequently, as often as once a week. They often participate in other outdoor activities.

Independent mountain bikers enjoy planning their own rides which are frequently overnight or multiday rides. They ride a variety of trail classifications. Independent riders are more motivated by an adventure then the technicality of a ride. They have advanced skills and fitness - often seek out high-level challenge and adventure.

Independent mountain bikers are motivated by exploration, discovery, learning, adventure and challenge. There seek a sense of achievement and exhilaration and the opportunity to ride trails that others may not see.

Independent mountain bikers prefer:

- **Long distance trails** — requiring significant planning; challenging in the length of time required to complete the ride.

- **Challenging rides** — an experience that is significantly challenging to accomplish and a big achievement if successful — i.e. a long-distance ride completed in a relatively short time.

Competitor assessment

There is currently no overnight MTB touring route north of Perth.

The trailhead for Western Australia's iconic Munda Biddi Trail is located in Mundaring. Sectional riders often undertake overnight and multi-day trips starting from Mundaring or other locations in the Perth Hills, heading south along the Munda Biddi Trail.

Short-distance MTB touring loops have also been created using parts of the Munda Biddi Trail in other locations:

- The Waterous Trail in the Lane Poole Reserve near Dwellingup is a moderate 61.3 kilometre off-road cycling loop, with two overnight options.

- The Timberline Loop near Nannup, combines the Old Timberline and Sidings Rail Trails to create a 37km loop with three camping options.

Although not located entirely within a national park or reserve, the Kep Track, which uses the rail formation between Mundaring and Northam, provides an overnight touring experience close to Perth. It is a 75km length trail, with options for accommodation mid-way or at the start/finish.

Development feasibility

To ascertain the feasibility for a short-distance MTB route through a natural setting, this study reviewed the size and location of existing national parks and reserves within the Shire of Chittering boundaries.

Unfortunately, the Shire lacks national parks and reserves of sufficient size to support a MTB touring route.

However, such a route could be possible in the Avon Valley National Park and Julimar State Forest which are located along the south-eastern and eastern boundaries of the Shire. These areas are located primarily within the Shire of Toodyay.

The Department of Biodiversity, Conservation and Attractions (DBCA) is the land manager for both the Avon Valley National Park and Julimar State Forest.

Initial discussions with representatives of DBCA identified a number of challenges with developing a MTB touring route within these sites.

- Parts of Avon Valley National Park and Julimar State Forest are flagged for increased protection (expansion of conservation reserves) in the *Draft Forest Management Plan 2024-2033*.[40]

- The construction of new single-track MTB trails within Avon Valley National Park is not supported by the DBCA Perth District Office.

- There may be opportunities to identify a route on existing roads and firebreaks, but this would require a management agreement with the Shire of Chittering, who would be responsible for upkeep and maintenance. *Note: these areas are not located within the Shire boundaries.*

- Firebreaks are not constructed to the standard required for a mountain bike trail. Their primary purpose is to provide service access for fire management and emergency access.

- Any proposed trail construction would need to comply with the *Western Australian Trail Development Series* Eight-Stage Planning Framework. This includes site assessments to identify rare or threatened flora and fauna, heritage assessments (including for Aboriginal cultural heritage), and hygiene considerations (e.g. presence of *Phytophthora cinnamomi* or Dieback pathogen).[45]

- Arc Infrastructure which holds the lease over the AvonLink rail network does not permit cyclists to use the service access track within the rail corridor. They are unlikely to support trail development that uses the rail corridor. [46]

- Presence of unexploded ordinances within the Avon Valley.

- Mining leases within Julimar State Forest will limit the opportunity for new trail development, at least in the short to medium term.

The Gonneville Deposit is located on Chalice owned farmland. Chalice has been actively exploring the area since 2020, with exploration drilling underway to determine the size of the deposit on farmland (see Figure 6).

In parallel, low-impact, exploration has commenced to the north of Gonneville to determine if mineralisation can be found in other areas. Chalice is currently in the early period of the 'Feasibility & Permitting' Stage. The current stage is likely to take three-to-five years to complete.[41]

Economic assessment

Independent long-distance MTB touring routes generate a low return on investment unless they pass through towns or villages where riders can purchase goods and services; or incorporate a trail lodge that provides fully-inclusive touring packages (e.g. Timber Trail in New Zealand).

Routes located primarily within national parks or reserves, particularly those located outside of the Shire boundaries, are unlikely to grow the Shire of Chittering visitor economy.

There are, however, other benefits to these types of trail experiences:

- Potential to rehabilitate unsanctioned trails;
- Keeping users on designated trails to reduce environmental impact;
- Addressing fire risk management (i.e. knowing where users will be); and
- Providing recreation opportunities to address forecast population growth in City of Swan and Perth's northern suburbs.

Figure 6: Chalice Mining Julimar Project
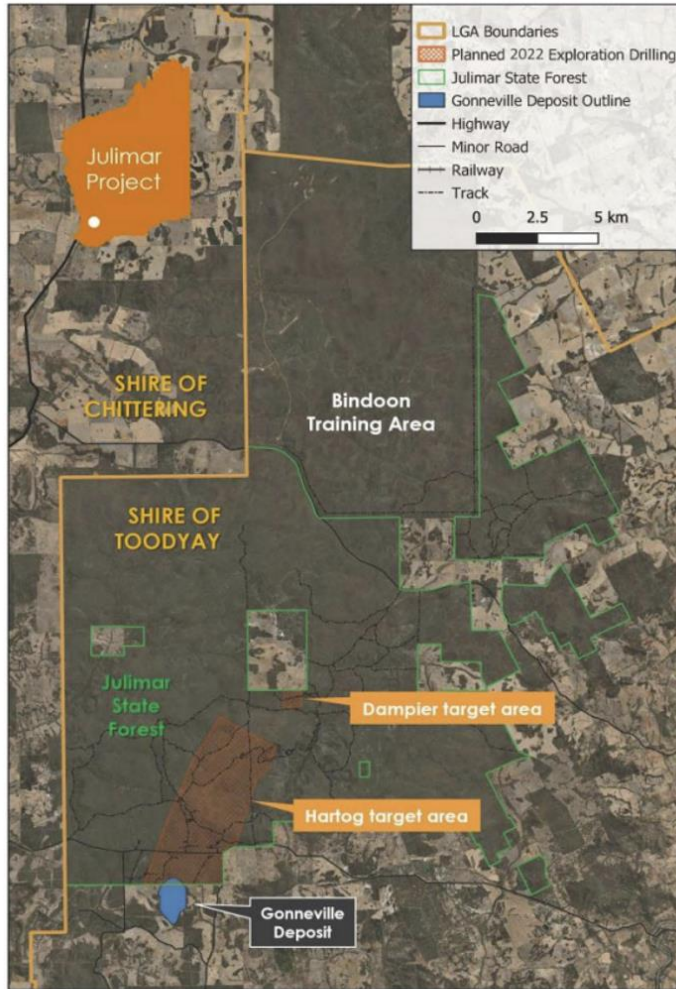
The Julimar Project: Gonneville Deposit, key target areas project tenure and nearby shire boundaries.

In March 2020, Chalice Mining made a significant discovery of platinum group elements (PGEs), nickel, copper, cobalt and gold at the Julimar Project near Toodyay.

Source: Chalice Mining.[41]

Option B: Long-distance MTB Touring in a mixed natural and rural setting

The second option considered as part of this feasibility study is a long-distance MTB touring route that traverses mixed landscapes, including forests as well as rural farmland.

Such a route would follow existing off-road trails, gravel roads, firebreaks and dedicated single track. It would provide up to a week of riding, covering 200-300km.

Ideally, each day's ride would end in a town or village providing accommodation, food and beverage, and other services.

The model proposed here would be similar to the experience provided by the Munda Biddi Trail.

This experience would cater to the **Active Lifestyle Rider.** These riders are outdoor enthusiasts who spend a lot of their down time in nature.

Who are Active Lifestyle Riders?[16]

Active lifestyle mountain bikers are outdoor enthusiasts who use off-road cycle trails. They own a mountain bike and ride regularly. They regularly participate in a range of outdoor activities such as hiking, cycling, or water sports, and are comfortable spending time in natural areas.

Active lifestyle mountain bikers are intermediate to advanced riders with a good understanding of the basics of mountain biking, they own their own bike and know their limits. They are always looking for their next mountain bike ride – this is their 'escape' from their everyday life.

The seek out well-designed and marked trails with associated facilities such as equipment hire/repair, safe parking, nearby access to accommodation, food and beverage facilities, shuttle services. They may seek out guided and/or packaged experiences when travelling to new destinations.

Competitor assessment

The Munda Biddi Trail is Western Australia's premier long-distance mountain bike touring route. Over 1,000km in length, it is a linear route running from Mundaring to Albany.

There are no other long-distance MTB touring routes in Western Australia.

Development feasibility

Such a route could be possible using a combination of off-road shared paths, proposed new off-road shared and/or cycle paths, gravel roads, and firebreaks.

To provide the length of trail required (i.e. approximately 200km as a minimum length), the route would need to incorporate roads and trails in neighbouring local government areas.

This feasibility study has identified a primary route (Route 1) for this experience, as well as two other route options (2 & 3). All proposed routes will require the support and involvement of several local government authorities as well as DBCA and Main Roads.

Initial discussions with representatives of the Shires of Toodyay, Northam, Mundaring, and the City of Swan, have revealed mixed levels of interest in developing a regional cycle touring route.

While all are supportive of the concept in principle, none saw it as a local priority and all agreed that it would need to be driven by the Shire of Chittering in the first instance.

The views of DBCA in relation to a route that incorporates areas under its management are consistent with comments made in relation to Option A. In sum:

- No support for new trail construction within Avon Valley National Park
- Mining leases pose challenges for new trail construction
- Arc Infrastructure does not permit access to the rail corridor

Economic assessment

A long-distance MTB touring route that passes through towns or villages where riders stay overnight and purchase goods and services, can provide an important new income stream for tourism and hospitality businesses. It can also generate new tourism product, including tours and shuttle services.

Although it is now dated, a 2011 study of Munda Biddi Trail riders found that the average daily expenditure for day-trippers was $40.36, and for overnight riders it was $74.51.[47]

The mean daily expenditure for overnight riders was significantly higher than that for day-trip riders, due to the costs associated with food, accommodation and equipment.

Those riding for more than one night often used trail campsites in combination with other accommodation types including off-trail campsites (28%) and a hotel or motel (16%). Twenty-one per cent used on-trail campsites exclusively.

To ensure a suitable return on investment, the Shire of Chittering will need to ensure that such a route incorporates the town of Bindoon as well as key tourism attractions and accommodation offerings in Lower Chittering.

Route 1: Identified route – Bindoon-Toodyay-Northam-Mundaring-Midland (Figure 7)

This route links Bindoon to Midland or Mundaring via Toodyay and Northam. It is approximately 180km in length and uses a combination of existing off-road trails, gravel roads and proposed new off-road shared use and cycle paths. The final route may change depending on land manager/land owner support.

Table 10: Proposed route for long-distance MTB touring experience

Trail	LGA	Length (approx.)	Type	Status	Additional planning
Carty Reserve to Clune Park Touring Trail	Chittering	8km	Dual use	Existing and under construction	Brockman Centre to Chittering Road link
Chittering Road	Chittering	10km	Cycle path	Proposed	Explore feasibility of constructing on-road and/or off-road path in road corridor
Julimar Road	Chittering Toodyay	12km	Off-road cycle path	Proposed	Secure DBCA, Main Roads and Chalice Mining support
Plunkett Road-Cobblers Pool-River Road	Toodyay	37km	Gravel roads	Existing	Secure road and land manager support; determine whether road surface and gradients are suitable
Avon River Trail	Northam Toodyay	30km	Dual use	Proposed	Identify potential trail corridor (on road or off-road?)
Dortnj Koorliny Trail	Northam	16km	Dual use	Existing	Upgrades and new sections to create continuous trail
Kep Track	Northam Mundaring	75km	Multi-use	Existing	Impact of Eastlink works on current alignment
Railway Reserves Heritage Trail	Northam Swan	19km	Multi-use	Existing	

Figure 7: Proposed Route 1 – Bindoon to Midland

Surfaces

▮ Paved	73.5 km	42%
▥ Unpaved	68.8 km	39%
▫ Unknown	33.9 km	19%
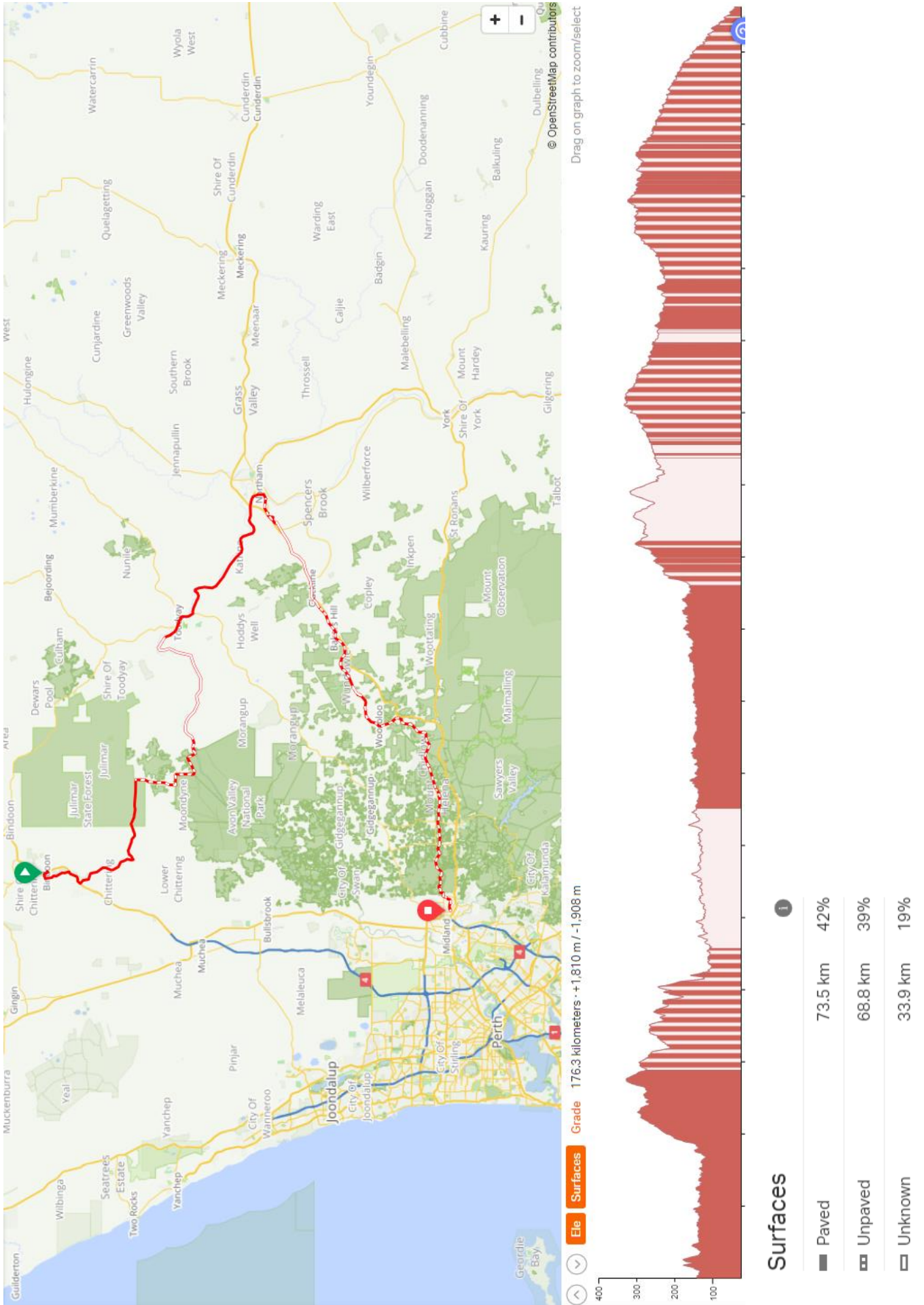
Source: RideGPS

Opportunities:

- This trail alignment is supported in the Department of Transport *Avon and Central Coast 2050 Cycling Strategy* (in draft).

- Upgrades to the Dortnj Koorliny Trail are supported in the *Northam Trails Master Plan.*

- There may be funding for trail construction through the Chalice Mining Community Investment program.

- There is an opportunity to create an extended loop from Bindoon to Muchea to join the Tonkin Highway PSP.

- There is an opportunity to cross promote this route with the Munda Biddi Trail Foundation.

- Potential development of glamping at Moondyne Convention Centre may provide an additional accommodation option

Challenges:

- Although Avon River Trail is identified in *Northam Trails Master Plan* as a "signature" trail experience, it is currently not a priority for Shire of Northam or the Shire of Toodyay.

- Avon River Trail as outlined in *Northam Trails Master Plan* is proposed to follow the Avon River to Bullsbrook which would divert riders from the Shire of Chittering.

- Distance and terrain between Toodyay and Bindoon will necessitate overnight accommodation for most riders. Currently no suitable commercial accommodation. There is potential to use the Valley Campground in Avon Valley National Park or the Moondyne Convention Centre (although this route has poor connectivity to the eastern side of the Avon River and would take riders away from Chittering).

- Gradients within the project area may make the use of existing road systems between Moondyne Nature Reserve and Julimar State Forest unsuitable for some riders (see elevation Figure 7)

Route 2: – Bindoon to Moondyne loop (Figure 8)

This route links Bindoon to Moondyne Convention Centre and returns via Chittering Road (Figure 8). It is approximately 130km in length and uses a combination of existing off-road trails, gravel roads and proposed new off-road shared use and cycle paths. The advantage of this route is that it keeps riders within the Shire for longer, with a start and finish in Bindoon. However, riders may decide to continue from Moondyne towards Bullsbrook or Walyunga rather than returning to Bindoon.

## Route 3: – Bindoon to Midland including Moondyne loop (Figure 9)

This route links Bindoon to Midland via Toodyay, Northam and Mundaring, with a diversion to Moondyne Convention Centre. It is approximately 210km in length and uses a combination of existing off-road trails, gravel roads and proposed new off-road shared use and cycle paths. The final route may change depending on land manager/land owner support. The diversion to Moondyne provides for an overnight accommodation experience. As with Route 2, some riders may continue to Bullsbrook rather than Toodyay.

Figure 8: Proposed Route 2 – Bindoon to Moondyne return
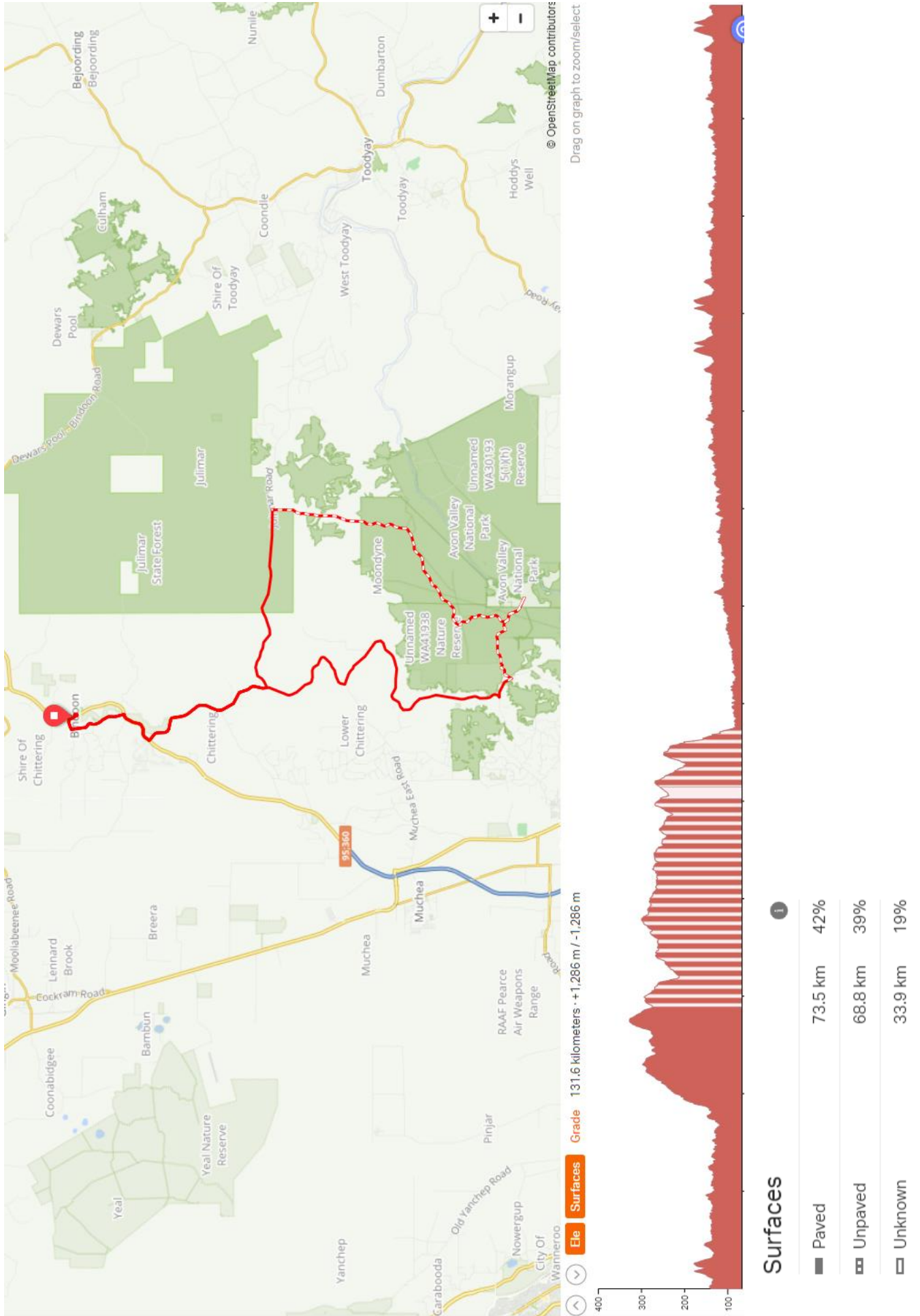
Source: RideGPS

Figure 8: Proposed Route 3 – Bindoon to Midland with Moondyne diversion

Source: RideGPS
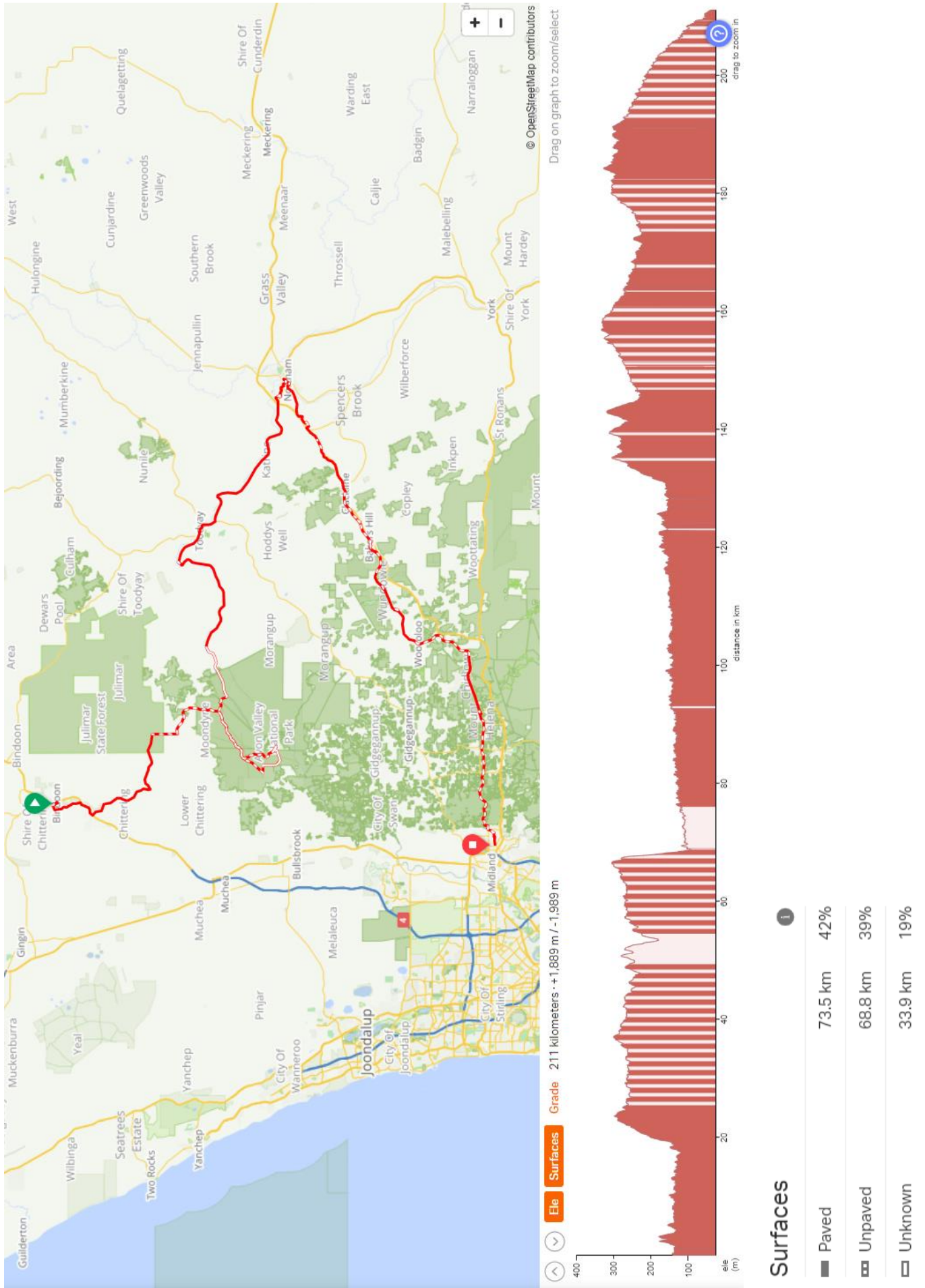
Option C: Short-distance MTB Touring in a rural setting

The third option considered as part of this feasibility study is a short-distance MTB touring route through Chittering's picturesque valleys.

Such a route would follow existing roads. It would provide up to 2 days of riding, covering 70-80km (see Figures 9 and 10 for potential route options)

The focus of the ride is showcasing the area's scenery, wildflowers, rivers and lakes. It would link to existing accommodation, food and beverage providers and farms, with easy access to Bindoon for a range of other services.

The model proposed here would be similar to the experience provided by a rail trail, with a focus on easy riding along rivers and the valley floor.

An overnight experience would cater to the **Active Lifestyle Rider;** and shorter linear or loop trails suitable for half-day or full-day rides would also cater to the **Leisure Rider** market**.**

Who are Leisure Riders?[16]

Typically, holiday makers who seek out unique outdoor activities for use with family and friends. They utilise mountain biking as an activity on their holiday, but it is not the motivator behind their holiday.

Time spent on trails is often short to half-day in duration.

They often have limited trails experience and therefore prefer trails with good signage and maps; picnic tables and toilets; and accessible parking. They often travel as part of mixed-age groups or families with young children.

Well-marked trails to suit range of abilities. Easy access trails linked to amenities and services such as bike hire, cafes and toilets, in natural areas.

Competitor assessment

The Pedal and Pint route is a 59km trail through the Perth Hills along the Railway Reserves Heritage Trail, incorporating stops as seven historic and heritage pubs.

The Swan Valley Heritage Cycle Trail is made up of three routes (4km, 30km and 32km) that utilise a shared-use path. The trail passes by fruit stalls, picnic spots, galleries, wineries, and cafes.

The Margaret River Wine Cycle Trail is a 28km long ride that showcases a range of cellar doors and producers in the Margaret River region. The route utilises off-road trails and road systems.

Development feasibility

Such a route could be possible using a combination of existing off-road shared paths, proposed new off-road shared and/or cycle paths, and existing sealed local roads.

This feasibility study recommends a route that utilises Chittering Road, Chittering Valley Road and local roads in Lower Chittering to avoid the Great Northern Highway. Short sections of off-road trail will need to be constructed along the highway to provide a continuous loop experience.

It will be important to work with local community members, tourism businesses, and Main Roads to identify the most ideal route.

Economic assessment

A short-distance MTB touring route that highlights the region's scenery and produce will support existing tourism businesses and encourage new tourism products.

It is ideally suited to the Perth visitor market looking for day trips or weekend (overnight) experiences in a rural setting.

This route provides the strongest return on investment because it retains visitor spend within the Shire by increasing visitor numbers and nights.

Figure 9: Option C proposed route (70km)
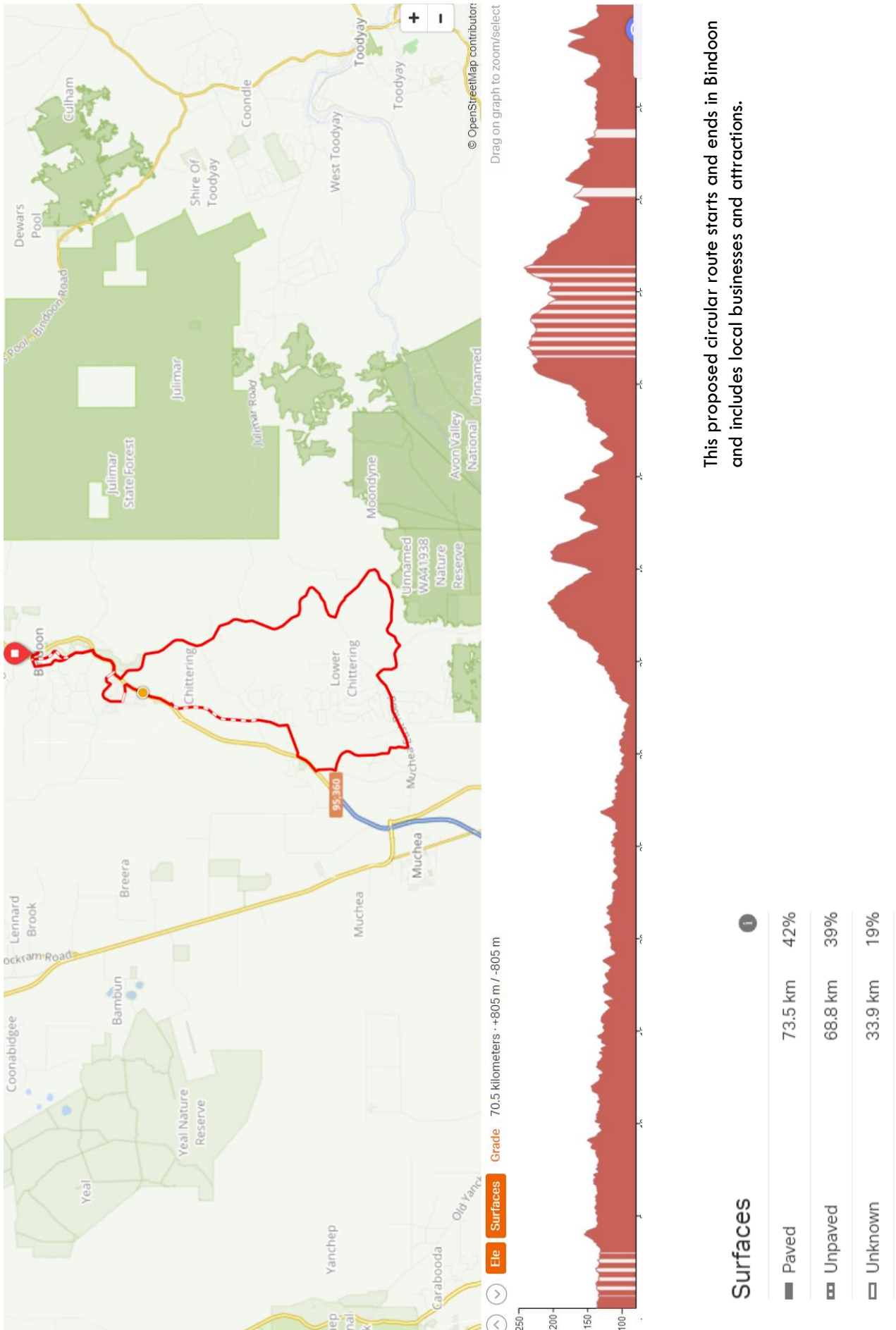
This proposed circular route starts and ends in Bindoon and includes local businesses and attractions.

Surfaces

■ Paved	73.5 km	42%
▤ Unpaved	68.8 km	39%
☐ Unknown	33.9 km	19%

Source: RideGPS

Figure 10: Option C proposed route with Sussex Bend (80km)
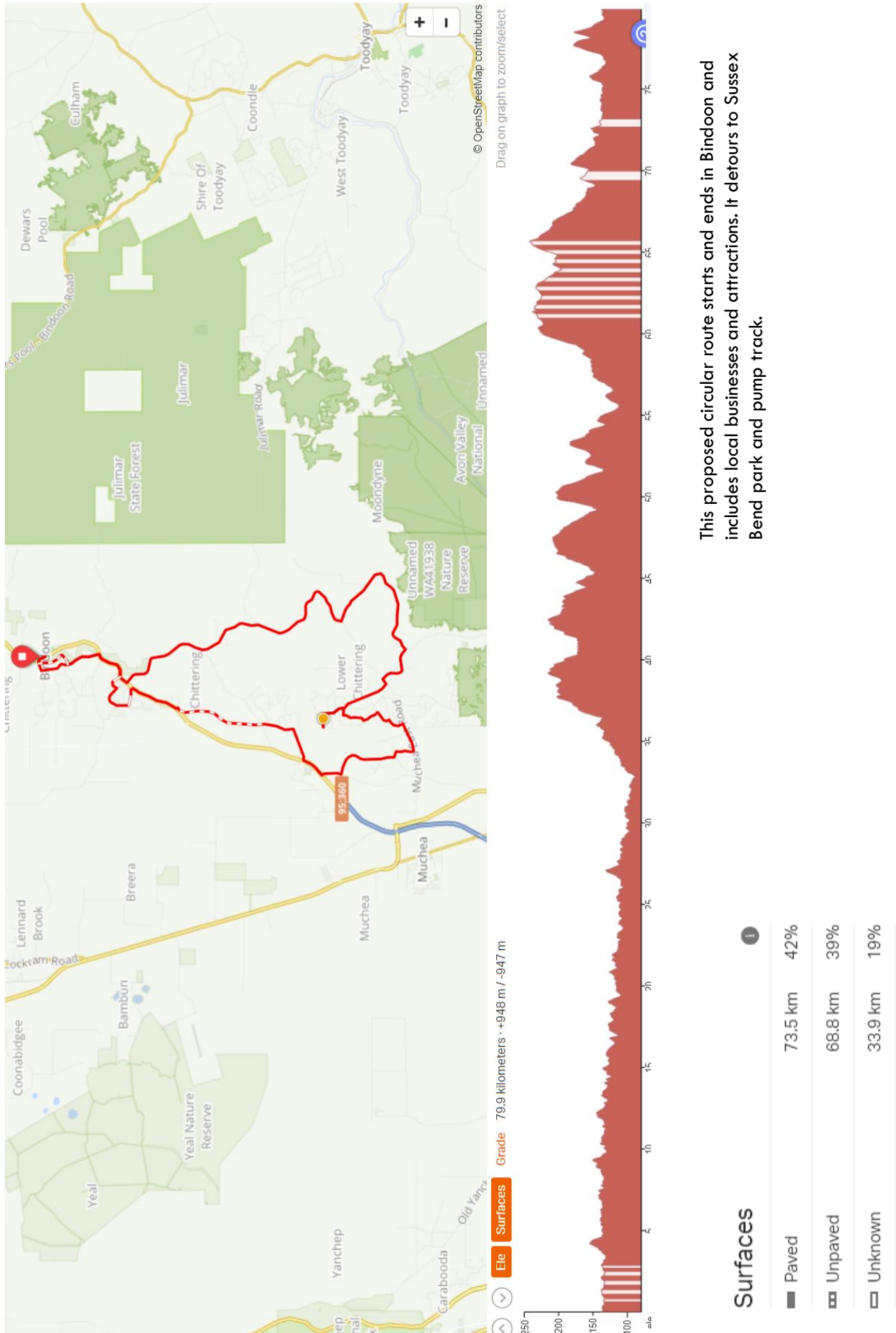
This proposed circular route starts and ends in Bindoon and includes local businesses and attractions. It detours to Sussex Bend park and pump track.

Surfaces

▬ Paved	73.5 km	42%
▥ Unpaved	68.8 km	39%
☐ Unknown	33.9 km	19%

Source: RideGPS

Case Study

Pedal and Pint (Perth Hills, Mundaring)

A 59km trail that explores the historical taverns and townships along the Railway Reserves Trail. Route includes John Forrest National Park, Hovea Falls, the Golden Pipeline and the Swan View Train Tunnel. The trails traverse from Bellevue in the west, to Chidlow/Wooroloo in the east and down to Mundaring Weir (Beelu National Park) in the south.

Route is supported by a dedicated website and print brochure.

Source: Pedal and Pint (www.pedalandpint.com.au)

Comparison of options

Table 11 provides a summary of the three options presented above.

Table 11: Comparison of the feasibility of different long-distance MTB options

Type	Option A	Option B	Option C
Description	Short-distance MTB touring route in national park or state forest	Long-distance MTB touring route from Bindoon to Midland via Toodyay, Northam and Mundaring. May include a diversion to Moondyne Convention Centre; or a return route Bindoon-Moondyne.	Short-distance MTB touring route incorporating day rides in Lower Chittering
Market	Independent riders	Active Lifestyle Riders	Active Lifestyle Riders and Leisure Riders
Length	100km	180km (130km/210km)	70-80km
Deliverability	Very difficult. Lacks land manager support.	Difficult. Will require regional support and investment.	Somewhat difficult. This route is entirely within the Shire of Chittering local government area, which means that it is more achievable over the medium term because it does not rely on the support and investment of regional partners. Will require Shire and Main Roads investment into new off-road paths.
Economic return	Low	Medium	High
Feasibility assessment	Not feasible	Feasible	Feasible
Timeframe	Long term (10 years)	Long term (10 years)	Medium term (5 years)

Recommendations

Credit: Tourism Western Australia

Demand for trail-based and nature-based tourism experiences amongst international and domestic visitors is growing. Recreational cycling, including mountain biking, is becoming increasingly popular and e-bikes are making cycling holiday experiences available to a wider cohort of visitors.

The project team has concluded that a **long-distance mountain bike trail through the Shire of Chittering is feasible.**

This trail has the potential to attract "Local Trail Users", primarily from the northern parts of the Perth metropolitan area. Forecasted population growth, particularly in the City of Swan, will see increased demand for recreational experiences in Perth's hinterland and the Shire of Chittering is well placed to take advantage of this opportunity.

A secondary market of "Destination Trail Users" may be attracted to the trail, depending on the quality of the trail experience.

The deliverability timeframe is estimated to be approximately ten years because there are several challenges which will need to be addressed.

- **Stakeholder support** - foremost amongst these challenges is the need to work collaboratively across local government boundaries, and with a diverse group of land managers, to identify and establish a suitable route. The current level of interest amongst stakeholders for this project is low. Critical to the project's success will be securing land manager and stakeholder support.

- **Determining a suitable route** – from a technical perspective, a route from Bindoon to Midland that uses gravel roads, firebreaks, shared-use paths, and single-track is highly achievable. While there are some constraints, particularly within DBCA managed estate, these are not insurmountable and can be overcome by applying the sustainable trail building principles outlined in the *Western Australian Trail Development Series* and *Western Australian Mountain Bike Management Guidelines*.

- **Ensuring economic viability** – the Shire of Chittering has expressed interest in this project as an economic development opportunity. To ensure a return on investment, Shire-based tourism and hospitality businesses need to benefit from increased visitation and spend. There is a risk that uneven route development, or the failure to establish a route within the Shire boundaries that is attractive to cyclists, will limit visitor demand. Focusing on business development therefore needs to be a critical part of the trail development process.

Recommendations

This section outlines recommendations to assist the Shire achieve its vision of establishing a long-distance mountain bike touring route in the region.

A. Securing advocates for the trail

1. Advocate for the development of a Regional Trails Masterplan

The *WA Strategic Trails Blueprint 2022-2027* advocates for a consistent, integrated and collaborative approach to trail planning at the state, regional and local levels. Where practical, regional trail masterplans should be undertaken to provide a scheme for targeted trail development and management for all types of trails in regional areas. This approach ensures that priorities for achievable trail opportunities are identified and avoids duplication of trails.

The proposed trail route incorporates five local government areas – Chittering, Toodyay, Northam, Mundaring, Swan – as well as land managed by DBCA. There is currently no regional planning framework supporting trail development across this region. Local level trail planning is also limited, with the Shires of Chittering and Northam having the most comprehensive local trail plans.

A Regional Trails Masterplan would cater for a diversity of trail users, types and experience; covering planning for relevant trail towns, trail networks and visitor services; and establish trail development priorities. It would assist local governments and state government agencies to identify, support and prioritise trail investment, ensuring that trail construction meets both local and regional user needs.

Importantly, a Regional Trails Masterplan will help to identify:

- **Level of significance of the proposed trail**. The concept of "significance" refers to the ability of a trail or trail network to attract and service the needs of a particular user group (interstate, regional population centre, or local community) based on the quality and types of facilities, products and services associated with a trail or trail network.

- **Governance and management models.** An effective and appropriate governance model will ensure long-term sustainability of the trail.

- **Timeframes and investment strategies**.

The process of developing a Regional Trails Masterplan would also help to secure support for the proposed long-distance MTB trail from a diverse range of stakeholders. It would assist in creating advocates for the trail and identifying potential funding sources.

Currently, there is limited understanding or interest in undertaking regional trails planning amongst the region's local governments. It will require the Shire of Chittering to take a leadership role, in partnership with state government agencies, including the Department of Local Government, Sport and Cultural Industries (DLGSC), DBCA, and the Wheatbelt Development Commission, to secure regional support.

2. Ensure the route is included in regional planning documents

As part of a strategy to create advocates for the proposed trail, it is critical that the route is incorporated into other regional planning strategies. This includes:

- *Avon and Central Coast 2050 Cycling Strategy* (Department of Transport)

- *Destination Perth Tourism Development Management Plan* (Tourism WA)

- *Concentric Circles – Guidance for Trails Tourism Close to Perth* (DLGSC)

3. Actively promote the benefits of the proposed trail

The stakeholder engagement undertaken as part of this study has helped to raise interest in the project and improved understanding of its aims and objectives.

It will be important to maintain contact with regional stakeholders and other interested groups to create advocates and continue project momentum. This could be achieved through a dedicated Shire webpage, through briefings with key stakeholder groups, and sharing this report (or a summary).

B. Developing the Shire's cycle tourism offering

1. Develop a short-distance MTB touring route in the Shire of Chittering

Establishing a long-distance MTB touring route in the region will take many years. A medium-term strategy to grow the Shire's share of the cycle tourism market is to develop a short-distance MTB trail that showcases the Shire's scenery, local produce and tourism attractions (see Option C). This product provides the foundation for the future long-distance trail, while at the same time offering residents and Perth-based visitors with recreational opportunities.

The benefits of this approach are manifold:

- It will attract new visitors to the Shire.

- **It will address a missing link necessary for the long-distance MTB route to access Bindoon**. A new cycle path along Chittering Road, linking Julimar Road to the Brockman Centre, will be required if the long-distance MTB trail project is to succeed.

- It will help to grow Chittering's reputation as a cycle destination.

- It will help local tourism business to better understand and cater to the needs of cycle tourists.

2. Develop and promote a series of gravel riding routes and itineraries

A short-term strategy to grow the Shire's share of the cycle tourism market is to actively develop and promote gravel riding itineraries.

To ensure a share of visitor spend, these itineraries need to incorporate local businesses and farm gates.

Itineraries and maps (digital and print) should be actively promoted on the Visitor Centre website.

Action Plan

The following table outlines key actions, timelines and indicative costs to progress the recommendations outlined above.

Item	Action	Lead	Partners	Timeline	Budget ('000)
A1	**Develop Regional Trails Master Plan**				
A1.1	Identify potential funding sources and project partners; apply for funding	SoC	WC DLGSC DBCA WDC SoT SoN SoM CoS	FY22-24	Officer Time (OT)
A1.2	Engage expert consultant; develop regional trails master plan	WC	SoC DLGSC DBCA WDC SoT SoN SoM CoS	FY24-25	≈$150k total budget [SoC: $10-15k]
A2	**Ensure routes are in regional planning documents**				
A2.1	Ensure routes are identified in Avon and Central Coast 2050 Cycling Strategy	SoC	DoT	FY22-23	OT
A2.2	Ensure routes are identifies in Destination Perth Tourism Development Strategy	SoC	TWA	FY22-23	OT
A2.3	Ensure routes are included in "Concentric Circles" [cycle tourism in Perth hinterland]	SoC	DLGSC	FY23-24	OT
A2.4	Ensure routes are included in revised Shire of Chittering MTB Master Plan	SoC	-	FY22-23	OT
A3	**Promote benefits of proposed long-distance MTB touring route**				
A3.1	Prepare and implement communication strategy	SoC	WC CMTBC	FY23-24	OT
A3.2	Undertake community engagement strategy	SoC	WC CMTBC	FY23-24	$5k [or OT]

CMTBC – Chittering MTB Club	SoM – Shire of Mundaring
CoS – City of Swan	SoN – Shire of Northam
DBCA – Dept of Biodiversity, Conservation and Attractions	SoT – Shire of Toodyay
DLGSC – Dept of Local Government, Sport and Cultural Industries	TWA – Tourism Western Australia
DoT – Dept of Transport	WC – Westcycle
SoC – Shire of Chittering	WDC – Wheatbelt Development Commission

Action Plan

Item	Action	Lead	Partners	Timeline	Budget ('000)
B1	**Develop short-distance MTB touring route**				
B1.1	Undertake community and stakeholder consultation	SoC	WC CMTBC	FY23-24	$5k
B1.2	Undertake site assessment of proposed route – determine suitability of road and other reserves; identify any constraints (e.g. flora, fauna, heritage, hygiene, etc)	SoC	Main Roads	FY24-25	$40k
B1.3	Develop Concept Plan; identify potential funding sources and apply for funding	SoC	WC Main Roads	FY25-26	$40k
B1.4	Design and construct short-distance MTB touring route	SoC	WC Main Roads	FY26-28	TBD
B1.5	Develop and deliver marketing and promotion strategy	SoC	DP TWA	FY27-28	$10k
B2	**Develop and promote gravel routes**				
B2.1	Engage gravel riding community on existing routes and proposed routes	SoC	WC	FY23-24	Officer Time
B2.2	Develop and promote routes using digital maps and other information on Shire of Chittering Visitor Centre website and gravel grinding community social media and apps	SoC	WC Visitor Centre DP	FY23-24	$2k

* Budget will be determined by final route alignment [on-road vs off-road] and path/trail surface treatment.

CMTBC – Chittering MTB Club
DP – Destination Perth Regional Tourism Organisation
SoC – Shire of Chittering
WC - Westcycle

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Appendix A: Stakeholder List

The following individuals were contacted as part of this project and provided input and feedback on project feasibility and relevance to their organisational strategic and management plans.

State Government Agencies

- Steve Bennett, Senior Policy Officer, Department of Local Government, Sport and Cultural Industries (DLGSC)
- Emma Draper, Regional Officer, Wheatbelt, Department of Local Government, Sport and Cultural Industries (DLGSC)
- Matthew King, Commercial Business Coordinator, DBCA
- Ross MacCulloch, Planning Manager, Tourism Western Australia
- Chris Sharples, Senior Regional Development Officer, Wheatbelt Development Commission
- Elisa Skillen, Parks and Reserves Manager, Perth Hills District, Department of Biodiversity, Conservation and Attractions (DBCA)
- Martin Spencer, Project Officer, Department of Transport (DoT)
- Kerstin Stender, A/Coordinator, Trails and Recreation Unit, Department of Biodiversity, Conservation and Attractions (DBCA)

Local Governments

- David Emery, Manager Sport and Recreation, Shire of Northam
- Kimberley Hardie, Economic Development Coordinator, Shire of Toodyay
- Jeremy Manning, Coordinator – Sustainable Environment, City of Swan
- Mike Pengelley, Strategic Projects Advisor, Shire of Mundaring
- Wes Sutton, Community Development Officer, Shire of Toodyay
- Stewart Winfield, Community Facilities Coordinator, Shire of Mundaring

Other Organisations

- Rosanna Hindmarsh, Executive Officer, Chittering Landcare Group
- Oliver Laing, Executive Officer, Munda Biddi Trail Foundation
- Chris Ord, Specialist Consultant, TRC Tourism

Appendix B: Strategic Context

State Planning Documents

Name	Relevance
Trails Reference Group (2022) Western Australian Strategic Trails Blueprint 2022-2027	The WA Strategic Trails Blueprint 2022-2027 is an overarching guide for consistent and coordinated planning, development and management of quality trails and trail experiences across Western Australia. It provides a vision, guiding principles, strategic directions and actions for consideration across the state by government, trail managers, landholders, trail organisations, tourism operators and the community. With reference to this project, key priority areas: • Strategy B1. Continue the development and implementation of an integrated and consistent approach to trail planning at the state, regional and local levels. • Strategy B2. Continue to evolve the regional trails masterplan framework • Strategy F1. Strengthen state-wide governance arrangements for trails across the trail sector through ensuring a coordinated approach. • F1.5 Develop a regional coordination framework to guide the establishment of sustainable regional governance structures
WestCycle (nd) Western Australian Mountain Bike Strategy	The Western Australian Mountain Bike Strategy provides a statewide approach to coordinating and developing mountain biking in Western Australia over the period 2015 – 2020. With reference to this project, key priority areas: • Objective 1: Planning and Governance – Establish a strong and coordinated approach to mountain bike planning and governance • Objective 3: Trails, facilities and infrastructure – Develop a statewide network of sustainable trails, facilities and associated infrastructure
Jina: WA Aboriginal Tourism Action Plan 2021-2025	The four-year plan, backed by the $20 million Aboriginal Tourism Fund will support a range of initiatives including the development of new Aboriginal tourism experiences; encouraging more Aboriginal people to work in the tourism industry; and the development of administration and booking systems to support Aboriginal tourism businesses. Opportunities for Aboriginal tourism product related to trails, including guided tours, Camping with Custodians, and associated services (e.g. bike hire, shuttle services, and trail maintenance).

Name	Relevance
Western Australian Cycle Tourism Strategy 2018	Strategy to assist Western Australia to become an internationally renown cycling destination. Priority areas: • Investing in the industry • Marketing • Events • Delivering a great riding experiences
Western Australian Bicycle Network Plan 2014-2031 – 2017 Update	The vision of the Western Australian Bicycle Network Plan 2014-2031 (WABN Plan) is to make Western Australia (WA) a place where cycling is safe, connected, convenient and a widely accepted form of transport.
Western Australian Mountain Bike Management Guidelines 2019	Identifies the need to establish and implement a trail development process to guide mountain bike trail planning from proposal to implementation. Provides guidance to ensure a consistent approach to planning, designing, constructing and managing sustainable mountain bike trails across the State.
Western Australian Mountain Bike Strategy: Mountain biking and Off-road Cycling in Western Australia 2022-2032	**Vision:** 'More West Australians and visitors can access and participate in mountain bike opportunities that are sustainable and provide long term health, economic, social, cultural and environmental benefits to the community' **Focus Areas:** **1.2 Develop a state-wide network of sustainable mountain bike facilities and experiences.** 1.2.1 Use master planning to identify and prioritise locations for mountain biking trails as part of a state-wide network. Regions where there is a gap in master planning should be prioritised. 1.2.2 Ensure that Mountain Bike trail developments are strategically coordinated by applying the significance hierarchy so that trails are developed in the right place, in the right way and for the right reasons. 1.2.3 Apply the WA Mountain Bike Management Guidelines incorporating the 8-stage trail development process to all mountain bike trail developments to ensure high quality and sustainable trail experiences. 1.2.4 Provide advice and support to assist Local Government Authorities in initiating and progressing the development of Mountain Bike trails where appropriate **2.1 Sustainably develop and manage high quality mountain bike trails.** **4.3 Support the development of unique and culturally appropriate mountain bike trails, experiences and events.** 4.3.1 Continue to develop iconic and unique mountain bike experiences that capitalise on the diversity and unique features of the West Australian landscape. 4.3.2 Support the appropriate development of Aboriginal cultural experiences within the WA mountain bike experience. 4.3.3 Continue to support iconic events that contribute to the tourism and economic return to Western Australia.

Regional Planning Documents

Name	Relevance
Wheatbelt Development Commission (2020) Perth's Northern Growth Corridor: Jobs and Economic Outlook 2050	The Northern Growth Sub-region (NGSR), comprises the local government areas of Chittering, Dandaragan, and Gingin. Predicts that by 2050, the NGSR will be highly integrated within Perth's outer metropolitan north with Gingin, Bindoon, Lancelin/Ledge Point and Jurien Bay functioning as sub-centres. Notes that "with the NGSR on the doorstep of the high population growth in northern Perth suburbs and population catchment of almost half a million people, the region will increasingly become a daytrip destination" (p. 6). Priority projects: 6. Tourism: **(i) Tourism: Bike Trail/ Path Developments** - The development of bike trails/paths across the region, with the expansion of the existing Jurien Bay to Cervantes bike path and investigation into the development of mountain bike trails. There are many opportunities for such development. There has been discussion about this in the Shire of Chittering. There may also be opportunities in the region's National Parks. **(ii) Trails Development** - In partnership with Tourism WA and with collaboration across the NGSR and City of Wanneroo, the further development of tourism trails that will initially consist of 'agritourism' trails will promote the region's agricultural production. This will be expanded to other areas including adventure tourism, natural and built amenity.
Wheatbelt Development Commission (2015) Wheatbelt Blueprint	Shire of Chittering sits within the Central Midlands sub-region of the Wheatbelt Development Commission. The Blueprint identifies nature-based tourism as strategic priority, and includes the Avon and Chittering Valleys as significant regional tourism assets. "Opportunities exist to expand the range of visitor attractions beyond the coastal areas of the Wheatbelt, especially in relation to cultural, heritage and 'experience' tourism" (p.41). Notes the need for "A whole of region tourism strategy is required to focus investment, build capability and product and market this" (p.41).
RPS (2014) Central Midlands Sub-Regional Economic Strategy	Describes the Central Midlands as "Perth's Playground" and identifies tourism as a key economic opportunity. Notes that there is limited tourism accommodation, restaurants, pubs and cafe's in the sub-region, and that the lack of diversity of accommodation is constraining the capture and/or conversion of travellers into overnight visitors, with associated increases in local expenditure and economic impacts (p. 35).
An Investment Prospectus for the Northern Growth Alliance of Western Australia (nd)	The Northern Growth Alliance is a collaboration between the Shires of Chittering, Dandaragan and Gingin. The investment prospectus notes opportunities for tourism development, however, it does not feature as part of the Shire of Chittering's competitive advantage or investment priorities.
Wheatbelt Development Commission (2019) Northern Growth Alliance Tourism Strategy – Draft Report (April 2019)	Draft Tourism Strategy includes a gap analysis and identification of priority projects for each Shire and the Alliance as a whole. With regards, the Shire of Chittering, the draft strategy identifies a long-term project to "explore adventure tourism opportunities" including mountain biking.

Name	Relevance
Department of Transport (nd) Avon Central Coast 2050 Regional Cycle Strategy [in draft]	Document in draft form to be circulated to regional stakeholders in February-March 2023. Opportunities identified for long-distance transport (tourism) routes connecting Beverley - York - Northam - Toodyay - Bindoon – Gingin – Guilderton. Primary routes include Kep Track (and/or Great Eastern Highway) from Mundaring to Northam. Projects are aspirational to 2050, with feasibility studies recommended to progress ideas.
Avon River Management Authority (1999) Avon River Management Programme, Water and Rivers Commission Report WRM 11 [status unknown]	Provides blueprint for management of the Avon River and its tributaries. Notes that the river and many of the inland lakes are important resources for recreation – primarily motorised water vessels, other water craft, and four-wheel drives. Management Plan includes objective of managing recreation to avoid negative impact on river environment, including preparing a list of acceptable/non-acceptable recreational pursuit; developing recreational areas; integration of education (interpretation); and require commercial operators to obtain approval to operate on/along the river and waterways.
Conservation Parks Commission and DBCA (2022) Draft Forest Management Plan 2024-2033	The most significant change for forest management from 2024 will be the cessation of large-scale commercial timber harvesting in native forests. In future the only timber to be removed from native forests will be sourced from management activities that improve forest health (such as ecological thinning) or clearing for approved mining operations and infrastructure. The other significant change is that DBCA and each of the Noongar Regional Corporations will enter into a Cooperative Management Agreement to cooperatively manage the Estate in each of the Noongar agreement areas. The FMP includes management objectives that seek to (i) provide for a range of recreation and nature-based tourism opportunities, through visitor planning that seeks to minimise impacts on other values and uses and delivers economic benefits to meet public demand; and (ii) seek to enrich visitor experiences and promote environmental stewardship by providing opportunities to learn, explore and interact with the natural and cultural environment (p. 86). Parts of Avon Valley National Park and Julimar State Forest are flagged for increased protection (expansion of conservation reserves).
Chalice Mining (nd) The Julimar Project Information Sheet [download: Julimar Information Sheets | Chalice Mining]	In March 2020, Chalice Mining made a significant discovery of platinum group elements (PGEs), nickel, copper, cobalt and gold at the Julimar Project near Toodyay. The Gonneville Deposit is located on Chalice owned farmland Chalice has been actively exploring the area since 2020, with exploration drilling underway to determine the size of the deposit on farmland. In parallel, low-impact, exploration has commenced to the north of Gonneville to determine if mineralisation can be found in other areas. Chalice is currently in the early period of the 'Feasibility & Permitting' Stage. The current stage is likely to take three-to-five years to complete.

Name	Relevance
WestCycle (nd) Perth & Peel Mountain Bike Master Plan	Developed to guide future strategic investment in mountain bike recreation, tourism and event development across the combined Perth Metropolitan and Peel regions. It proposes 575km of MTB trails across 24 sites in order to create an international MTB destination. The master plan does not include the Shire of Chittering. • The Swan Valley is identified as a potential centre of regional significance with up to 30km of trails. This includes cross-country and all-mountain style trails in Walyunga National Park. However, this is not supported by the land manager (DBCA). • The Avon Valley (including Avon Valley National Park and Moondyne Reserve) is identified as a potential locally significant trail network with a lower order priority compared to the Swan Valley.
Common Ground Trails (2021) John Forrest National Park Trail Network Concept Plan	The park receives over 40,000 bicycle visits per year (Park Stats) these are predominantly along the popular Railway Reserve Heritage Trail (Class White – Easiest – Type Touring). Off-road cycling (mountain biking) is permitted within the park on approved trails only. There are no sanctioned dedicated off-road cycling trails in the park, however, a significant network of unsanctioned (Class predominantly Black – difficult type cross country and gravity) trails exist. DBCA Perth Hills District is actively removing and rehabilitating unsanctioned trails, primarily in high conservation areas (p. 3). Focus on provision of adventure style riding experience – journey rather than technical session-ability – of up to 35km of new trail on two new trails (single-direction cross-country): • John Forrest Green Ride 15.9km (green) • John Forrest Blue Ride 15.8km (blue), accessed via green ride (total ride of 34km) The aim is to cater for beginners to intermediate riders with a focus on cross country and touring. The primary target market is leisure and enthusiast trail users. These markets are comprised of casual recreation off road cyclists who require accessible trails, good support infrastructure and trails with limited technical challenge. These trail users will typically spend a few hours up to a day on the trail. The leisure and enthusiast trail user prefer accessible trails close to home and seek nature, escape, solitude and authenticity in the experience. The secondary target market is the sport and independent trail users. These markets are seeking a more challenging trail and like the leisure and enthusiast markets seek nature, escape solitude and authenticity in the experience.

Name	Relevance
Avon Valley National Park	There is no management plan for Avon Valley National Park. It will come under the new Parks of the Darling Range Management Plan. This plan has not been published as it has been delayed due to the native tile settlement and the establishments of the local area corporations. [Advice received from DBCA]
Julimar State Forest	There is no management plan for Julimar State Forest. This is covered under the new Forest Management Plan (in draft) [Advice received from DBCA]

Shire of Chittering - Planning Documents

Name	Relevance
Shire of Chittering (2022) Strategic Community Plan 2022-2032	**Vision:** Prosperous and diverse rural communities living in harmony with nature **Initiatives relevant to this report:** S3 Improving Infrastructure S3.2.3 Provision of community facilities to allow sport and recreation participation S4 Increase Visitors S4.3.3 Increase in nature based tourism and agritourism
Shire of Chittering (2021) Economic Development Strategy 2021-2031	The growth of the economy features in the Strategic Community Plan as a major strategic pillar, focusing on three outcomes; Economic Growth, Local Business Growth and Increased Visitors. Tourism Strategy Goals: 1. Become the premier agritourism or country experience destination in the Destination Perth RTO region, by positioning Chittering as 'Perth's Countryside'; a high quality tourism destination for visitors from, and to, Perth. 2. Become a premier destination for trails; cycle, walk and drive trails intersected with other key offerings such as agritourism and dark sky tourism 3. Encourage investment in Chittering; maximising product diversity, increasing carrying capacity and employment opportunities Identifies four key tourism product offerings: agritourism, dark sky tourism, pilgrimage tourism, and trails. Domestic segmentation: 'Escape and Connect'; 'Off the Beaten Track' [*note: not a clear alignment with MTB focus as hero product*]
Shire of Chittering (2014) Community Development Plan 2014-2024	The Strategy provides for the high-level objectives of the Shire in relation to the wider community development. Imperatives relevant to this study: • Provision of a high standard of infrastructure to cater for community demands for Sports & Recreation, community services and cultural development opportunities; • Planning for a youth services
Shire of Chittering (2021) Sport and Recreation Plan 2021-2031 [incorporating Chittering Trails Network Masterplan]	Identifies the following projects: • Bindoon-Clune to Brockman Centre connection Trail Stage 2 & 3 • Bindoon MTB Park • Chittering – Djidi Djidi Trail • Muchea Dirt & Pump Track • Chittering – Sussex Bend (pump track maintenance, road safety track, redevelopment, boardwalks, landscaping and nature play) • Muchea to Northlink Connect • Bindoon – Needona Boardwalk • Footpath - new/upgrade/replacement

Name	Relevance
Shire of Chittering (2016) Disability Access and Inclusion Plan 2012-2017 [amended 2016]	Strategies to ensure that people with disabilities have the same opportunities as other people to access the buildings and other facilities of the Shire of Chittering include: • Ensure that all recreational areas are accessible where practicable. • Continue implementation of the Dual Path Use Program ensuring that all surfaces meet Australian Standards. • Continue to develop and promote safe walking routes within the Shire. • All new residential sub divisions to include an accessible network of footpaths and kerbing where possible. • Upgrade footpaths utilising appropriate surfacing where possible and ensure that that footpaths are in accordance with Australian Standards and the Association Western Australian guidelines for the blind
Shire of Chittering (2013) Chittering Trails Network Master Plan 2013-2023 [Updated version of 2008 Trails Network Master Plan]	Vision: "A trails network which will cater for the community and visitors, with quality trails that are well promoted and linked. Use of the network will be an enriching natural and historical Shire experience". Due to resourcing constraints, the Plan "does not focus on developing new trails, but recognises the existence of a number of trails and walking opportunities. It supports the enhancement of what already exists along with the requirement for a carefully targeted, high-quality and ongoing marketing and promotion campaign" (p.10). **Five (5) priority projects:** 1) Bindoon Townsite Heritage Trail [linking Clune Park to Lake Needoonga and Stonehouse Trails] - *completed* 2) Blackboy Ridge Walk [walking trail upgrades and enhanced signage] – Djidi Djidi Ridge – *close to completion* 3) Carty Reserve Walk Trail [parking, signage and trail construction] – *completed but now required upgrade* 4) Long-distance MTB Feasibility Study – *this project* 5) Wannamal Heritage Trail [enhancement of heritage trail] – *requires upgrade to signage* **Other projects [future partnerships/funding dependent]:** 1) Lake Needoonga link to Stonehouse Trail and Clune Park 2) Country Club walk trails (local-use) 3) Udamung Reserve [walk-trail to areas of historical significance] 4) Yozzi Road "Kyotmunga" Walk Trail **Comments:** • Does not include MTB park projects • Status of projects unclear • Link to tourism strategy unclear

Name	Relevance
Shire of Chittering (2016) Mountain Bike Trails Master Plan, April 2016 [under review]	Vision: "By 2020 Chittering Shire will be a highly regarded mountain biking destination for day trippers from Perth, and will be appreciated by residents and prospective residents for its mountain bike friendly approach and commitment to quality mountain bike trails and facilities." **Potential projects:** 1) Clune Park [Pump Track, Dirt Jumps, Slope Style features, Mini XC, Skills Park] 2) Carty Reserve to Clune Park Family Touring Trail [20km return] 3) Blackboy Ridge XC Trail – *not recommended* 4) Muchea Dual Slalom Jump & Pump Track 5) Muchea East [XC racing] – *not recommended* 6) Wandena Community Bike Park [jump & pump track] 7) Toodyay Road/Bald Hill/Avon National Park to Bindoon Touring Trail [46km, XC/touring] 8) Sussex Bend Community Bike Park [jump, pump & skills park] 9) Wannamal Community Bike Park [jump, pump & skills park] **Comments:** • Does not include new Bindoon MTB Park [under construction] • Identifies projects that are not recommended/not supported by community • Does not identify significance of trails/networks in context of market and purpose
Breakaway Tourism (2019) Feasibility Study for the Shire of Chittering, June 2019	"The opportunity to capture the interest of a growing consumer market of mountain bikers of all ages with a high quality, world-class mountain bike attraction may become the 'hero' product within a broader tourism and recreation strategy for the Shire of Chittering. Due to the planning and development of mountain bike trail networks, hubs and trail towns in State Forests and National Parks in the south west of Western Australia such as Dwellingup, Collie and Nannup, an opportunity to provide a unique point of difference with a dedicated mountain bike park, with collocated adventure activities all at one convenient location, may be capitalised on. With the benefit of close proximity to the major population base of Perth, the activation of a unique, world-class mountain bike and adventure park attraction in Bindoon" (p.16) "The proposed development of a world-class adventure tourism attraction in Bindoon may significantly elevate the tourism status, overall brand awareness, and consumer market appeal to the Chittering Valley" (p.37).
Three Chillies Design (2021) Bindoon Trails Network Concept Plan, February 2021	MTB and walking trail concept plan for area known as 'Red Hill' ('Bindoon Hill'), 89.49ha property adjacent to Bindoon town centre. Aimed at the leisure and active markets. Stage 1 includes shared use XC and walking trails (5.5km) and green and blue downhill and cross-country (XC and All Mountain (AM) (7.4km)). Stage 2 is blue and black XC/AM technical trails (9.8km). Stage 1 incorporates shuttle route.

Name	Relevance
Shire of Chittering (2022) Bindoon Mountain Bike Park Business Case	"This project, as the only mountain bike park north of Perth, with its unique natural landscape and close proximity to both Perth and the food and wine district of the Swan Valley, provides the opportunity to combine with mountain bike offerings in the South West to enhance WA as a cycle tourism destination."(p.16)
TDL (nd) Bindoon Mountain Bike Park Tourism Recreation Precinct Concept Plan	Incorporates entry statement, car parking, skills park, caravan park, bike maintenance stand, bike wash, bike locker, kiosk wth bike hire and café, outdoor cinema, camping sites, glamping sites, trailhead shuttle point, lookout point, summit point, eco-resort/accommodation/day spa.
RPS (2022) Bindoon Mountain Bike Trail Cost Benefit Analysis	"The Bindoon Mountain Bike Trail Stage 1 will represent a new catalytic tourism asset and attraction for the Bindoon community and the wider Chittering economy. This new asset has the potential to attract an additional 100,000 visitors per year to the Shire (in line with benchmark locations and DCBA data) and support local construction and tourism jobs in the region. The project has very positive benefit cost ratios of 8.1 at the 3% discount rate and 6.1 at the 7% discount rate. WA Resident Social Value Benefits accounts for the largest share of the benefits at 57% of the present value. This is followed by Interstate and International Tourism Direct Expenditure Benefits (27%). Based on RPS' analysis, the proposed Project will stimulate a total of $50.2m in Economic Output and over $23.7m in Gross Value added over the 20-year assessment period. This will directly and indirectly support up to 13.5 additional FTEs in the Shire of Chittering economy over this time" (p.21)
Shire of Chittering (2011) Bindoon & Muchea Local Dual Use Bike Plan	Objectives relevant to this study: To create a pathway network that: • Links new and existing developments to the Town sites of Bindoon and Muchea • Provides a strategic link to new and existing infrastructure eg schools, bus stops, sporting ovals, parks, walk trails, conservation areas, shops, post office, library, public toilets, halls, aged care facilities, museums and the Shire office • Provides a safe environment for pedestrians, cyclists, disabled and the aged • Provides a path network linking the North of the Shire to the South with strategic links to the Shire's infrastructure and facilities

Shire of Toodyay – Planning Documents

Summary: The Shire of Toodyay does not currently have a Trails Master Plan and trails are not a high order priority in key strategic planning documents. However, there is interest in developing overnight experiential tourism, with the opportunity to leverage existing cultural tourism assets, including heritage trails (drive and walk trails).

Name	Relevance
Shire of Toodyay (2018) Strategic Community Plan: Toodyay 2028 [major review 2017/18]	**Vision:** "We are a vibrant rural community that respects our environment, celebrates our past and embraces a sustainable future". **Economy: Objective 2: Promote Toodyay as a tourism destination** S. 2.1 Develop successful and collaborative partnerships that support the Tourism Strategy. S 2.2 Support the focus on boosting overnight experiential tourism. S 2.3 Advocate for infrastructure to support tourism. S 2.4 Support the development of arts, cultural, heritage and environmental tourism. **Natural Environment: Objective 1: Preserve and protect our natural assets for future generations** S 1.5 Develop strategies to interpret and utilise the natural environment for recreation, eco-tourism and land conservation. • Medium term priority (2-4 years): "Develop walk and mountain bike trails" (p.24) **Comment:** *The only mention of trails is in relation to managing the environment; no clear statement of how/where/what in relation to MTB trail development*
RPS (2015) Toodyay Economic Development Plan	Four local imperatives, includes: **Overnight Experiential Tourism**. 90% of visitors a day-trippers. Natural amenities and cultural heritage are major attractors, supplemented by wineries, agritourism and outdoor adventure. "Lack of critical mass means Toodyay requires full integration with sub-regional and regional tourism markets to reach its potential" (p.45) **Comment:** *Opportunities for tourism does not include mention of trails.*
Icon Tourism (2018) Toodyay Tourism Strategy 2018-2021	**Vision:** "To establish Toodyay as a sustainable tourism destination, by developing the business and leisure experiences to their full potential focusing on the natural and heritage environments, whilst enhancing a sense of community, liveability, and tourism appeal of Toodyay." **Comment:** *Strategy references opportunities associated with "walking/bike trails" without any specific action plan. Trails are not identified as a priority product development need.*

Name	Relevance
SGL Consulting Group (2014) Shire of Toodyay Recreation Strategy	• Potential exists to expand existing trails and create linkages between trails and to open spaces or community facilities (p.10) • Two types of trails may be highly beneficial to the economy of Toodyay – short trails in areas of scenic or historical interest (probably within Toodyay township) and longer distance trails linking areas of interest (suitable for walking, cycling and horse riding). (p.11)
Shire of Toodyay (2015) Heritage Master Plan	Identifies the following heritage trails: • Toodyay Pioneer Heritage Trail (route into West Toodyay) • Pioneer's pathway (Perth to Merridin) • Avon Valley Survey Heritage Trail • Living History walk trail

Shire of Northam – Planning Documents

Summary: The Shire of Northam recently adopted a Trails Master Plan for the Shire. The Master Plan identifies three "signature" trail experiences – the Kep Track, Dorntj Koorliny Trail, and the Avon River Trail. These long-distance trails may provide an opportunity to link to Toodyay and Mundaring.

Name	Relevance
Shire of Northam (2021) Corporate Business Plan 2021-2022	Theme Areas: 1) **Economic: Outcome 1.4:** A robust tourism industry which contributes to the economic development of the Shire of Northam and optimises Northam's role as a hub for tourists to the region. 2) **Community Wellbeing: Outcome 2.2:** There are a variety of recreation and leisure activities available for all ages, across the Shire of Northam. Project: Develop a shire-wide trails master plan
Shire of Northam (2022) Council Plan 2022-2032	Local Priorities - community safety and crime prevention and local roads, followed by streetscapes and verges, economic development, footpaths, trails and cycleways, and the river and waterways. **Theme areas: Place** Current situation - Community members are concerned with streetscapes and paths. They would like more attractive, better maintained streetscapes with regular mowing, weed control and rubbish management. They would also like an improved network of well-maintained paths, trails and cycle ways. A Trails Master Plan was co-designed with the community to better service our residents and visitors alike.
Shire of Northam (2016) Wundowie Community Plan 2016-2026	Wundowie currently has no developed tourism product and very limited amenity. <u>Recommendation</u>: • "Promote further development and diversification of tourism in the Shire by providing infrastructure support to encourage investment in tourism infrastructure and services." [LPS 2013] • "The substantial Woondowing Nature Reserve skirts much of the Northern part of the region and offers trails for walking, riding and other pursuits." (p.26)
Shire of Northam (2017) Bakers Hill Community Plan 2017-2027	Bakers Hill currently has no developed tourism product and very limited amenity. <u>Recommendation</u>: • "Promote the diversification of the Shire's economy by encouraging the development of intensive agriculture, downstream processing of primary produce, diversified industries and further tourism opportunities including farm stay accommodation and ecotourism subject to adequate buffers being maintained between such uses and surrounding broadacre agricultural activities in order to minimise potential land use conflicts" [LPS 2013] (p.22) • "Improve and develop walking and cycle paths" (p.4)

Name	Relevance
Shire of Northam (2019) Grass Valley Community Plan 2019-2029	Grass Valley currently has no developed tourism product and very limited amenity. Recommendation: • "Tourism is recognised by the residents of Grass Valley as an opportunity, however there are mixed perspectives regarding the extent to which it should be promoted given the lack of local businesses who would receive any economic benefit from tourism. There is concern that external visitors could have a negative impact upon the local environment of the Reserves and disrupt the peace and quiet which is highly regarded by residents." (p.20) • "Improve and develop walk and bike trails" (p.33)
Common Ground Trails (2022) Shire of Northam Trail Master Plan	**Vision**: The Shire of Northam will be recognised a trails destination with an emphasis on experiences connecting locals and visitors to cultural heritage, environmental values and key destinations. **Signature trail experiences**: • Dorntj Koorliny Trail [existing, requires upgrades] • Kep Track [existing, requires upgrades] • Avon River Trail [new, requires feasibility; long term vision links Toodyay, Northam and York via the Avon River]
CCS Strategic (2016) Northam Recreation Facilities Development Plan Review	Recommended preparation of trails master plan. Makes no reference to mountain biking.
TPG Place Match (2018) Northam Town Centre Development and Connectivity Strategy	**Purpose**: The Strategy aims to create an environment which promotes additional development and economic opportunity within a more engaging and connected streetscape environment, that will contribute to overall revitalisation and facilitate economic investment and vitality. The focus is on developing a strategy for the revitalisation of streetscape spaces through infrastructure improvements which will enhance and promote Northam as vibrant, attractive and welcoming. The primary objectives are: • Economic revitalisation to support existing businesses and guide investment; • Revitalise, activate and connect key existing and future activity nodes and increase passive surveillance; • Facilitate an increase in tourism and visitation; • Public realm improvements; • Improved connectivity within the Northam Town Centre; **Comment**: *Makes mention of walk trails in CBD area but no mention of cycling, bike paths or dual-use paths; no mention of active transport.*

Shire of Mundaring – Planning Documents

Summary: The Shire of Mundaring does not have a local trail plan. Its economic development and tourism strategies are currently under review and may provide a focus on trail tourism opportunities.

Name	Relevance
Shire of Mundaring (2020) Strategic Community Plan 2020-2030	Ten year priorities include: • Business-led economic and tourism development **Goal 1: Community**: Healthy, safe, sustainable and resilient community, where businesses flourish and everyone belongs • 1.2.3 Support tourism development and promote the distinctive character of the attractions of the district including arts, food, sustainability and natural environment **Goal 3: Built Environment**: Transport, infrastructure and planning for liveable, connected communities • 3.1.2 Footpaths, verges and trails are appropriately managed according to their need and use **Comment**: *Trails do not features in the strategic community plan.*
Shire of Mundaring (2019) Recreation Facilities Informing Strategy	"Trails were also not included as a separate strategy was previously developed for trails in the Perth Hills which included the Shire of Mundaring" (p.22).
Shire of Mundaring (2013) Tourism Information Strategy [currently under review]	Mundaring has a good range of trails for walkers and riders ... but... a lack of loop trails for cyclists and walkers (p.15) **Comment**: *Does not contain any initiatives for trail development.*
Shire of Mundaring (2009) Economic Development Strategy [currently under review]	**Tourism Strategies**: • 5. Work in conjunction with the EMRC to look at the management and promotion of all trails within the Shire with particular emphasis on the Railway Heritage Reserves Trails • 11. Develop partnerships with regional councils and other stakeholders to further develop cycle tourism opportunities • 12. Develop and implement Perth Hills Trails Master Plan in conjunction with the Shire of Kalamunda, DEC, Water Corporation and other key stakeholders • 14. Identify opportunities for new tourism products and tourism infrastructure, particularly those that can be developed in partnership ventures with other stakeholders (includes transport connection e.g. to bike and walking trails)

Name	Relevance
Shire of Mundaring (2023) Economic Development and Tourism Strategy 2023-2028 (in draft)	**Competitiveness Profile highlights trail offering:** • Access to world class environmental recreational assets (the Bibbulmun Track, the Golden Pipeline Heritage Trail and the Munda Biddi Trail). Network of recreational and interpretive trails for walking, cycling and horse riding. **Opportunities:** • Network of trails -the Railway Reserve Heritage Trail, the Bilgoman Well Heritage Trail, Lake Leschenaultia Trails and heritage walk series featuring the villages of Darlington, Mundaring and Parkerville - together contribute to the Shire's unique lifestyle and liveability advantage. (p.10) • There is an opportunity to capitalise on the Shire's comparative advantages including its location at the head of the Bibbulmun Track (from Kalamunda to Albany), the Golden Pipeline Heritage Trail to Kalgoorlie and the Munda Biddi Trail (which extends from Mundaring to Albany) by articulating, in marketing and branding, these attributes as part of a wider regional tourism offer with a reach that could extend into interstate and international markets (p.11). • Opportunity to establish the Shire of Mundaring as an accredited WA Trail Town. (p.11). **Tourism Product Development (p.12)** • Utilising new technologies and drawing on local creative expertise to elevate the trails status • First Nations culture and heritage could also be illuminated as an integral component of the local tourism offer, and Indigenous cultural tourism experiences could be explored in consultation with Traditional Owners (e.g. camping with custodians, bush tucker tours and First Nations art). **Vision (p.20)** **Promote sustainable tourism in the Shire of Mundaring** • 3.3. Investigate the steps required and gaps to be addressed for the Shire of Mundaring to achieve accreditation as a WA Trail Town • 3.8 Collaborate with regional tourism organisations, visitor information centres, and other Councils to promote the Bibbulmun Track, the Golden Pipeline Heritage Trail and the Munda Biddi Trails as key features of the Shire of Mundaring's tourism offer

City of Swan – Planning Documents

Summary: The City of Swan Tourism Strategy identifies the opportunity to develop cycle trails that link wineries, cafes and the river. A Tracks and Trails Study completed in 2019 prioritised the Swan and Helena River Walk/Cycle. The recently completed trails plan is not yet a public document.

Name	Relevance
City of Swan (2021) Strategic Community Plan 2021-2031	Strategy areas: E3.1 Strengthen the capacity and integration of the tourism industry B1.1 Create community places to live, relax and work B3.1 Advocate and provide sustainable transport solutions
City of Swan (2015) Tourism Development Strategy 2015-2020	Positioning statement: "We will be the destination of choice for our target markets - Perth day visitor and overnight stays plus a growing share of international visitors by aspiring to be one of the four great experiences for visitors to Perth. We will also generate growth in awareness of the region through a renewed focus on events" (p.3). Key experiences: gourmet food and beverage; events; and unique heritage, people and places. Action Plan: • Invest in infrastructure to support new experiences that deliver on the positioning of the Swan Valley, including; a plan and business case for a cycling itinerary and trail that leverages off the Swan Valley positioning and links wineries, cafes and the river, and options for siting of new riverside infrastructure (jetties, launching etc) to support river based experiences between wineries. (p.16) • Encourage visitors to explore Guildford via the existing supply of heritage trails (p.18) • Gidgegannup - Build awareness of the nature based experiences in this area including the Avon River, equestrian trails and opportunities for cycling (p.18)
City of Swan (2019) Tourism Strategy Addendum 2017-218 and 2018-2019	The City of Swan secured federal tourism funding to progress a Swan Valley Heritage Trail that will provide a new cycle and river experience as well as educational information about the heritage of the Swan Valley. (p.4)
City of Swan (2020) Tourism Strategy Addendum 2019-2020	A Tracks and Trails Study 2019-20 was prioritised to progress: • Bells Rapids Trails; • Bridle Trails; • a Swan River Paddle Trail; and • Swan and Helena River Walk/Cycle Trails.
City of Swan (2018) Cycling Network Audit and Development of a Cycling Network Plan [Prepared by Cardno October 2018 – status unclear]	Provides an overall indicative cycling network that incorporates regional, local, and neighbourhood linkages. Cycling network plans may be useful for identifying linkages into the City of Swan area.

Name	Relevance
Tredwell (2019) City of Swan Tracks and Trails Study	The purpose of the Tracks and Trails Study is to provide an assessment of the extent and nature of current trails to inform future strategic trail planning initiatives. **Key recommendations:** • Bells Rapids Trails - Improve the trail user experience • Bridle Trails - Ensure that bridle trails are accessible and • fit-for-purpose • Swan River Paddle Trail - Support the formalised development of a Swan River Paddle Trail with the appropriate level of support infrastructure • Swan and Helena River Walk/Cycle Trails - Improve the walk/cycle trail experiences along the Swan and Helena Rivers. • Promote these trails as key recreation facilities/attractions. • Railway Reserve Heritage Trail - Investigate options to enhance • connectivity with the Midland Railway Precinct • Camino Salvado Pilgrim Trail - Ensure that the Pilgrim Trail section through the City of Swan is a high-quality experience and key attraction • Consistent Trail Signage - Introduce a standardised trail signage • approach throughout the City ensuring that key trail attributes are outlined • Updated Trails Brochure - Update the City's existing 'Trails, Parks and Picnics Guide' to include all formalised trails and key trail information • Trails in Future Developments - Ensure that trails and support • infrastructure is considered as part of all relevant planning initiatives
City of Swan (2018) Bullsbrook Local Area Plan	The Local Area Planning Model integrates with the Strategic Community Plan (SCP) and the Local Planning Strategy (LPS) in order to inform corporate business planning to achieve place based planning and service delivery. Based on the forecast population growth, there will a need for additional community infrastructure. The projected increase in families with dependents will generate demand for junior sport activities, while an ageing population creates demand for more targeted mid-week recreational activities. The City has identified the need for District Open Space with unrestricted sporting space, in order to cater for the community. The need for this development will be triggered when 50% of residential lots are developed in the catchment area.

Appendix C: Mountain Biking

Mountain Bike Styles

Mountain biking incorporates a diverse range of riding styles and interests. The following MTB Trail Types are outlined in the *Western Australian Mountain Bike Strategy 2022-2032*.[28]

Trail Type	Description
Cross Country	Primarily single-track orientated with a combination of climbing and descending, and natural trail features of varying technicality. Cross Country trails appeal to the majority market and can cater for timed competitive events. Typically bikes are lightweight with shorter travel dual suspension or have no rear suspension.
All Mountain / Enduro	Similar to Cross Country and primarily single-track orientated, with greater emphasis on technical descents, with non-technical climbs. All Mountain trails can cater for timed competitive events (Enduro). All mountain trails may use uplift to the trailhead where appropriate. Bikes are typically light to medium weight with medium-travel dual suspension.
Downhill	Purely descent-only trails with emphasis on steep gradients for speed and technical challenge with a focus on skill development. These trails can cater for timed competitive racing. Downhill trails typically appeal to the more experienced market. However, green (easy) downhill trails are emerging to cater for all experience levels. Downhill trails usually require uplift to the trailhead via chairlift or vehicle shuttling. Bikes are designed for descending, built for strength over weight and typically long-travel dual suspension.
Freeride	Typically descent-focused trails with emphasis solely on technical challenge and skill development. Trails feature both built and natural terrain technical features with a focus on drops and jumps. Appeals to the more experienced market and caters for competitions judging manoeuvres and skills only. Bikes are typically medium to longtravel dual suspension and are built for strength.
Park	Built feature environment with emphasis on manoeuvres, skill development and progression. Appeals to wide market including youth and can cater for competitions judging aerial manoeuvres. Can include jump tracks, pump tracks and skills parks. Typically dirt surfaced but can include hardened surfaces. Bikes are typically built for strength, with short travel suspension.
Touring	Typically long distance riding on reasonably uniform surface conditions and lower grades. Touring trails are dual direction linear trails or long distance circuits with a focus on reaching a destination. Touring trails can include rail trails, access/fire roads and single track. While there is a limited market for long distance mountain biking, touring trails can be ridden in sections making them accessible to all. Bikes may be carrying panniers or towing trailers, and are usually robust with limited suspension. However, for short sections or day trips most mountain bikes are suitable.
Gravel	While not a new concept, the popularity of gravel riding has increased significantly in recent years. It is typically conducted on gravel or unsealed roads or paths and can be considered as bridging the gap between traditional road riding and mountain biking combining the higher speed and efficiency of road cycling with the capability to ride on rough and loose terrain. While traditional mountain bikes can be used for gravel riding, specialised bikes have become popular in recent years and typically feature a drop bar bike with clearance for bigger tyres and a more relaxed comfortable geometry.
Cyclocross	Cyclocross is a growing discipline of cycling which provides off-road riding opportunities over a short course predominantly on natural surfaces such as grass, mud and sand. Races are conducted over multi-laps and can be conducted in a variety of settings where there is access to off-road terrain.

Trail Difficulty Rating System

The following Trail Difficulty Rating System (TDRS) is based upon widely-recognised and used international standards.[29]

Colour	Symbol	Difficulty	Description
White		**Easiest**	• Wide trail with a gentle gradient • Smooth surface with no obstacles • Suitable for beginner cyclists with basic bike skills and most bikes
Green		**Easy**	• Wide trail with a gentle gradient • Smooth surface • Some obstacles, usually natural such as roots, logs and rocks • Suitable for beginner cyclists with basic mountain bike skills with off-road bikes
Blue		**More Difficult**	• Single Trail with moderate gradients • Variable surfaces and some obstacles and features • May include some steep sections • Suitable for skilled mountain bikers with mountain bikes
Black		**Very Difficult**	• Suitable for experienced mountain bikers, used to physically demanding rides • Navigation and personal survival skills are highly desirable • Expect large, dangerous and unavoidable obstacles and features • Challenging and variable with long steep climbs or descents and loose surfaces • Some sections will be easier to walk
Double Black		**Extremely Difficult**	• Suitable for highly experienced mountain bikers, used to physically demanding routes • Navigation and personal survival skills are highly desirable • Severe constructed trails and/ or natural features, all sections are challenging • Includes extreme levels of exposure and / or risk • Expect large and unavoidable obstacles and features • Some sections will be easier to walk