

MOUNTAIN BIKE TRAILS MASTER PLAN



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INTRODUCTION

Mountain biking is one of the world's fastest growing recreational and tourism activities, and Western Australia is following this global trend:

- Almost 120,000 mountain bikes are purchased every year in Western Australia
- 19% of Western Australians own a mountain bike
- Mountain bikers are seeking places to ride in increasing numbers with 'Camakazi' and 'Scorpion', just two of the 30+ trails in the Kalamunda Circuit network, ridden over 50,000 times in 12 months.

According to the Western Australian Mountain Bike Strategy, the recent rapid rise of mountain biking now provides Western Australia with a unique opportunity to grow and evolve into a world-class mountain bike destination. This will support the growth and diversification of the state's tourism industry whilst also securing meaningful economic and social outcomes for our local and regional communities.



Demand for mountain biking experiences significantly exceeds supply. This provides opportunities for forward thinking local governments to target mountain bikers with diverse and quality experiences. The South West region is emerging as an area of long-term international level potential, but there will remain a need for quality trails and facilities closer to Perth.

As well as the potential to attract visitors, the provision of mountain bike facilities as a recreation resource for local residents reflects the changing nature of recreation.

There is a trend away from structured sport towards recreation activities that can be undertaken informally and at any time.¹ Mountain biking is just such an activity.

This Mountain Bike Master Plan identifies opportunities within the Shire of Chittering to provide high quality mountain biking experiences for ratepayers, that also have significant new tourism attraction potential.

¹ The Future of Australian Sport – Australian Sports Commission, 2013 p7

BACKGROUND

UNDERSTANDING MOUNTAIN BIKING

Understanding the various styles of mountain biking is important in being able to make sound management decisions about what styles are practical and appropriate for any given location and target demographic. There are numerous styles of mountain biking and mountain bikes. To the uninitiated the differences between styles can sometimes be subtle, but these subtle distinctions can make all the difference in quality of experience, which of course translates into user satisfaction and engagement.

The following table shows the main categories with a comment on suitability for inclusion in the Chittering Master Plan.

Style	Description	Bike type	Terrain Requirements	CMP Y/N
Cross Country (XC)	Cross country mountain biking utilises a broad variety of track types such as dirt roads, dedicated paths, single tracks and short or long (anywhere from 1 km to hundreds of km's) circuits. Usually, this type of track involves climbing and descending, and depending on the location can cover various steepness and includes a wide variety of terrain. Cross country riding is one of the most popular and caters to both recreational and competitive riders.	Hard tail or suspension bicycle	Varied	YES
Pump Track	A pump track is a progressive style of track that uses an up and down 'pumping' motion to propel the bicycle forward instead of pedalling. Pump tracks are a perfect track style for riders to progress on. Beginners can learn how to make the bicycle move without pedalling and more experienced riders can work on a number of skills such as 'manualing' between mounds or even jumping from one mound to the next. Pump Tracks are great for practicing balance, learning new skills and improving confidence and overall fitness on and off bike. They are fun to ride for all ages and skill levels.	any size bicycle – from balance bikes and kid's bikes, to BMX and full-size mountain bikes	Specially designed trail with a smooth clay gravel surface	YES
Dirt Jumps	In Dirt Jumping the rider jumps off of mounds of dirt or other material with the aim to gain lift into the air. While in the air, the goal is to perform tricks with the best style. The jumps are usually large with a number of jumps usually done in one run, and are relatively close together so that the rider can get a flow going with their trick riding. Dirt jumps are meticulously built by both machine and hand to allow for particular attention to detail. Dirt Jumps can include doubles, tabletops, spines, step-ups, hip jumps and berms.	BMX to full-size mountain bikes	Specially designed trail with as smooth clay gravel surface	YES

Downhill	Descent-only trails with emphasis on speed and technical challenge. These trails can cater for timed Downhill competitive racing. Downhill trails appeal to the more experienced market and typically require uplift to the trailhead via chairlift or vehicle shuttle.	designed for descending; typically long-travel dual suspension and built for strength over weight.	Highly varied, descending	NO
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.	If carrying panniers bikes are usually robust with limited suspension, however, for short sections or day trips most mountain bikes are suitable.	Varied	YES
Freeride	Typically descent focused trails with emphasis solely on technical challenge. 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 maneuvers and skills only.	Typically medium to long-travel dual suspension and built for strength.	Variable terrain using natural features.	NO
Slopestyle	A newer discipline that is descent-focussed and using primarily built features and constructed earth features	Typically short-travel dual suspension or hard tail bikes.	Smooth clay surfaces, natural or man-made elevation.	YES

Urban Mountain Bike Parks

The concept of the Urban Mountain Bike Park is worthy of special mention in the context of the Chittering Master Plan. Mountain bike parks tend to be areas that can accommodate many kilometres of trail, include a trailhead and may be in areas where there are existing uplift facilities such as ski resorts or in forest areas away from urban centres.

This is impractical in most urban areas, so a new form of compact facility has emerged that provides a compact sub-set of the experiences of a traditional mountain bike park. The **urban mountain bike park** requires relatively little space, and its central location makes it more accessible to locals.

Urban mountain bike parks can be thought of as larger versions of skate parks, where proximity to residential areas and clever use of (limited) space can create a quality experience for participants. Chittering Shire's new Sussex Bend Community Bike Park is an excellent example in development.

STATE MOUNTAIN BIKE STRATEGY

“It’s time for Western Australia to unlock the potential of mountain biking”

The recently released State Mountain Bike Strategy developed by WestCycle highlights the need for a statewide network of sustainable trails to address the increasing imbalance between supply and demand.

The Strategy recommended regional master planning and the establishment of a development process to ensure that all aspects of trail planning, design, construction and maintenance are realised in a sustainable manner. The need for marketing to realise the tourism and participation of mountain biking was identified, with the potential to unlock significant benefits in tourism, local community engagement and enjoyment, increased participation in healthy outdoors activity and economic benefits to local businesses.



A mountain bike planning hierarchy was proposed, and the Chittering Master Plan can be seen to sit within the Local Trail Planning focus.

Specifically, the Chittering Master Plan will align with the following recommendations of the State Mountain Bike Strategy:

STRATEGIES		RECOMMENDATIONS		ALIGNMENT
2.1	Reduce barriers to participation and grow a healthy, balanced mountain bike community	2.1.2	Increase the availability and accessibility of different styles of trail offering different levels of technical difficulty	Deliver new trails and facilities catering for a range of skill levels and interests
		2.1.4	Develop trails within or in close proximity to population centres	Create local community facilities and trail linkages. Develop a model for future subdivisions.
		2.1.7	Enhance availability and accessibility of bike and equipment hire	Create commercial opportunities for local businesses – eg bike and equipment hire in Bindoon.
3.1	Develop a statewide network of national, regional and local mountain bike facilities	3.1.2	Undertake regional master planning to identify and prioritise locations for mountain bike facilities	Contribute the Chittering Master plan as an component of the regional plan

3.2	Enhance the understanding of the need for sustainable trail development	3.2.3	Continue to work with local, national and international experts to upskill and understand sustainability best practice	Involvement of TC Trail Design in planning and construction of trails and facilities
3.3	Facilitate sustainable trail development in environmentally, socially and culturally appropriate areas	3.3.1	Establish and implement a development process to guide local trail planning and take trails from conception to implementation	Adoption of mountain bike development framework developed by Department of Parks and Wildlife (DPaW)
		3.3.2	Develop and apply general principles to provide clear benchmarks for sustainable trail planning, design, construction and maintenance	Conformance with DPaW mountain bike development guidelines and International Mountain Bike Association (IMBA) trails development best practice principles.
3.4	Build the Western Australian trails industry	3.4.1	Support the development of the Western Australian trails industry to partner landowners, land managers and volunteers in trail planning, design, construction and maintenance	Involvement of TC Trail Design in planning and construction of trails and facilities
3.5	Implement appropriate trail maintenance options	3.5.1	Develop a maintenance plan for existing sanctioned trails and include as part of the planning process for every new or rejuvenated trail	Maintenance plans to be developed as part of detailed trail design phase
4.1	Build awareness and recognition of the benefits and value of mountain biking	4.1.1	Advocate the economic, tourism, environmental, health, social and community benefits and value of mountain biking to landowners, land managers, other stakeholders and the wider public	The Chittering Master Plan will provide a new mechanism for attracting day trips to the area, with strategic placement of regionally significant facilities close to the key commercial centre.
4.2	Enhance the recreational and tourism profile of Western Australian mountain biking	4.2.3	Integrate mountain biking with other recreational activities, attractions, infrastructure and services	By providing a destination activity to complement existing tourism services and creating a new promotional focus for day tourism.
5.2	Establish a self-sustaining mountain bike community with reduced reliance on government support	5.2.5	Explore opportunities to secure the direct application of developer contributions to mountain biking infrastructure	Integrating MTB facility planning into new subdivision development process

CHITTERING TRAILS MASTER PLAN

The Chittering Trails Network Master Plan 2013-2023 identifies both the need for and lack of trails for mountain bikes (3.1). No mountain bike-specific trails were included in the current trail inventory, with only the 620m Lake Needonga Walk Trail listed as being available for bikes.

A mountain bike trail and / or park was mentioned as a way of attracting visitors to the area (5.3).

The need for a mountain bike trail feasibility study was identified (6.4) and this Mountain Bike Master Plan is the evolution of that suggestion.

The Bindoon & Muchea Local Dual Use Bike Plan (2011) is also noted, however this plan is considered to have limited current relevance as its focus was on constructed paths for cycling for transport and access rather than the off-road recreational trails that are sought by mountain bikers.

SHIRE OF CHITTERING COMMUNITY DEVELOPMENT PLAN 2014 - 2024

The Community Development Plan noted the population growth rate within the Shire of Chittering, which at 4.9% is significantly above the State average. The Shire has the second largest youth population in the Wheatbelt and has a comparatively large number of children aged 0-14 (978 or 22.1% of population),²

This population growth is forecast to continue, with the Western Australian Planning Commission projecting a doubling of the population by 2026.³

Amongst other conclusions drawn in the Community Development Plan is the recognition that there is a significant number of children who need recreation, education and lifestyle choices.

CHITTERING ECONOMIC DEVELOPMENT STRATEGY 2015-2015

The Chittering Economic Development Strategy reinforces the growth potential for the Shire, citing the 'Northlink' highway link between Tonkin Highway and Muchea as catalysing residential development in both Muchea and Lower Chittering, offering the 'best of both worlds', country "tree change" lifestyle in commuting distance to Perth.

² ABS 2011 Census data

³ WA Tomorrow – Report #7, February 2012

The Chittering “New Town” plan, with development targeted to commence in 2021 could provide around 16,000 lots accommodating over 41,000 residents, without losing its rural ambience.

The Economic Development Strategy highlights recreation choices and visitor attraction within the Key Strategic Direction, with specific support of the Chittering Trails Network Plan.

SHIRE OF CHITTERING SPORT AND RECREATION PLAN 2012 2022

The Sport and Recreation Plan identified the following of relevance to the Mountain Bike Master Plan:

- There is a shift from participation in organised sport to a desire to participate in less structured active and passive recreation.
- The Shire is the major provider of sport and recreation facilities.
- Changing work and leisure patterns affect participation rates in sport and recreation and the types of activities undertaken.
- The community is becoming more diverse with changing expectations.
- The natural environment is an untapped recreation resource that requires sound management practices.
- The Shire alone cannot provide all facilities, services and programs. There is a need to build partnerships and foster innovation and self-management to meet desired outcomes.

While articulating a vision for Chittering to be a dynamic, thriving community that values its diverse range of sport and recreation opportunities, the Sport and Recreation Plan acknowledged that “Chittering is a relatively small municipality on the fringe of the metropolitan area comprising of five small dispersed communities. It is unrealistic to expect that a comprehensive range of facilities and services can be provided in each of the communities. Understanding the limitations and setting achievable goals will ensure best use of finite resources.”

Community Recreation projects identified in the Plan that are of relevance to the Mountain Bike Master Plan include:

3.1 Continue to work with developers to ensure recreational areas and public open space is provided in new development applications.

3.2 Continue to seek funding to provide new recreation facilities as needed and land identified (the BMX track at Sussex Bend was cited as an example – now completed)

3.3 When property is released by the Developers for Stage 11 of Maryville Downs, develop a plan for Community Facilities on the land and seek funding opportunities (it is noted that a 10 hectare site was released to Council in 2014/15).

WA MOUNTAIN BIKE Management GUIDELINES

The Department of Parks and Wildlife (DPaW), in conjunction with WestCycle and the West Australian Mountain Bike Association has published a draft set of mountain bike management guidelines.

The objective of the guidelines is to provide guidance to ensure a consistent approach to planning, designing, constructing and managing sustainable mountain bike trails across the State.

Much of the guidelines relate to trail planning in DPaW estate such as State Forests and National Parks, however many best practice principles in planning, design and construction apply more generally. Much of these are based on published International Mountain Biking Association (IMBA) standards and these principles are followed in the planning and concepts contained within this Chittering Master Plan.



DEMOGRAPHY OF CHITTERING SHIRE - GROWTH PROJECTIONS AND IMPLICATIONS

ABS Census data shows Chittering with a high proportion of children 0-14 years (20.6% of population in 2013) and a growing population of young people 15-24.

In the key demographic of 10-19 year olds, the estimated resident population has increased by over 15% from 2009 (753) to 2013 (868).

While mountain biking as an activity attracts a broad age range of participants (and of both genders), the *need* for local facilities is most acutely felt by those who lack independent transport – ie., young people who have not yet obtained a driver's licence. For this reason the future growth in the 5-17 age range is an important consideration.

Applying the profile trends of the period 2009-2013 to the overall population projection for 5-17 year olds is 1,800 in 2026 – up from an estimated 955 in 2013. This cohort of residents will increasingly be looking for local activities. And given the trend away from structured sport, it can be expected that mountain biking in its various forms will be a sought-after activity.

TOPOGRAPHY AND LAND TENURE

The Shire of Chittering encompasses 121,900 hectares of land with a southern boundary 55km north of the Perth CBD.

Of this, around 1,500 hectares is protected Nature Reserve and 1,965 hectares is State Forest. The remainder is a mix of agricultural, industrial and residential development.

Agricultural properties are progressively being converted into residential subdivisions. As these new communities are rarely contiguous and are usually separated by land remaining in private hands, there is a challenge in providing safe and convenient access routes between them.

BEST PRACTICE URBAN DESIGN FOR ACTIVE LIFESTYLE OUTCOMES - THE PERI-URBAN CHALLENGE

“Less than a generation ago, every kid knew someone who owned a farm. Often it was the grandparents or an uncle, and the kids built lasting memories of those visits – treasuring the opportunities to roam free among the orchards or the cattle. Too few twenty-first century city kids have that opportunity.”

– Outdoor Recreation Strategy workshop – DSR

It is partly to recapture those experiences, or to ensure that today’s children have opportunities to properly engage with nature and space, that many people are moving to the urban fringe where they can enjoy large block living and the ‘freedom to roam’.

Peri-urban Shires such as Chittering are well placed to capitalise on this trend, but with the benefits of population growth comes the responsibility of preserving what it is that attracted people to the area in the first place.

Appropriate zoning and development control is essential, and so is the provision of recreational activities complementary to the peri-urban ideal.

Nature walks, equestrian, paddling, climbing and biking are all conducive to the active outdoor lifestyle. So the challenge is not simply to leave space for these activities to just happen, but to plan, develop, promote, nurture and protect them in the face of relentless urbanisation.

Chittering Shire is well placed to capitalise on the growing recognition of the benefits of an active lifestyle. Mountain biking, an activity that is enjoyed by both genders and a very broad range of ages, is the hottest of topics.

OPPORTUNITY: Urban MTB Parks

“A new, exciting era of bike park development is underway. Today, bike parks are getting built in attractive, easily accessed locations, and municipalities are funding them at the same level as other types of recreational facilities. Modern bike parks are designed to appeal to every skill level, with enough variety to keep riders coming back for years. Well-considered plans for maintenance and regular improvements ensure that these parks will be attractive and fun to ride for the long term.”

– International Mountain Biking Association

Chittering Shire has already raised the bar for urban mountain bike parks with the successful development and launch of the Sussex Bend facility in 2015. The opportunity exists to create a network of such parks in the Shire, along with quality facilities for other disciplines.

THE VISION FOR CHITTERING

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.

EXISTING TRAILS & Areas

The current inventory of dedicated mountain bike facilities in the Shire is limited to three small dirt jump / pump track facilities:

Clune Park – a jump track facility of approximately .3 Ha set in the otherwise undeveloped portion of Clune Park reserve, west of Brockman River, north of Gray Road Bindoon.

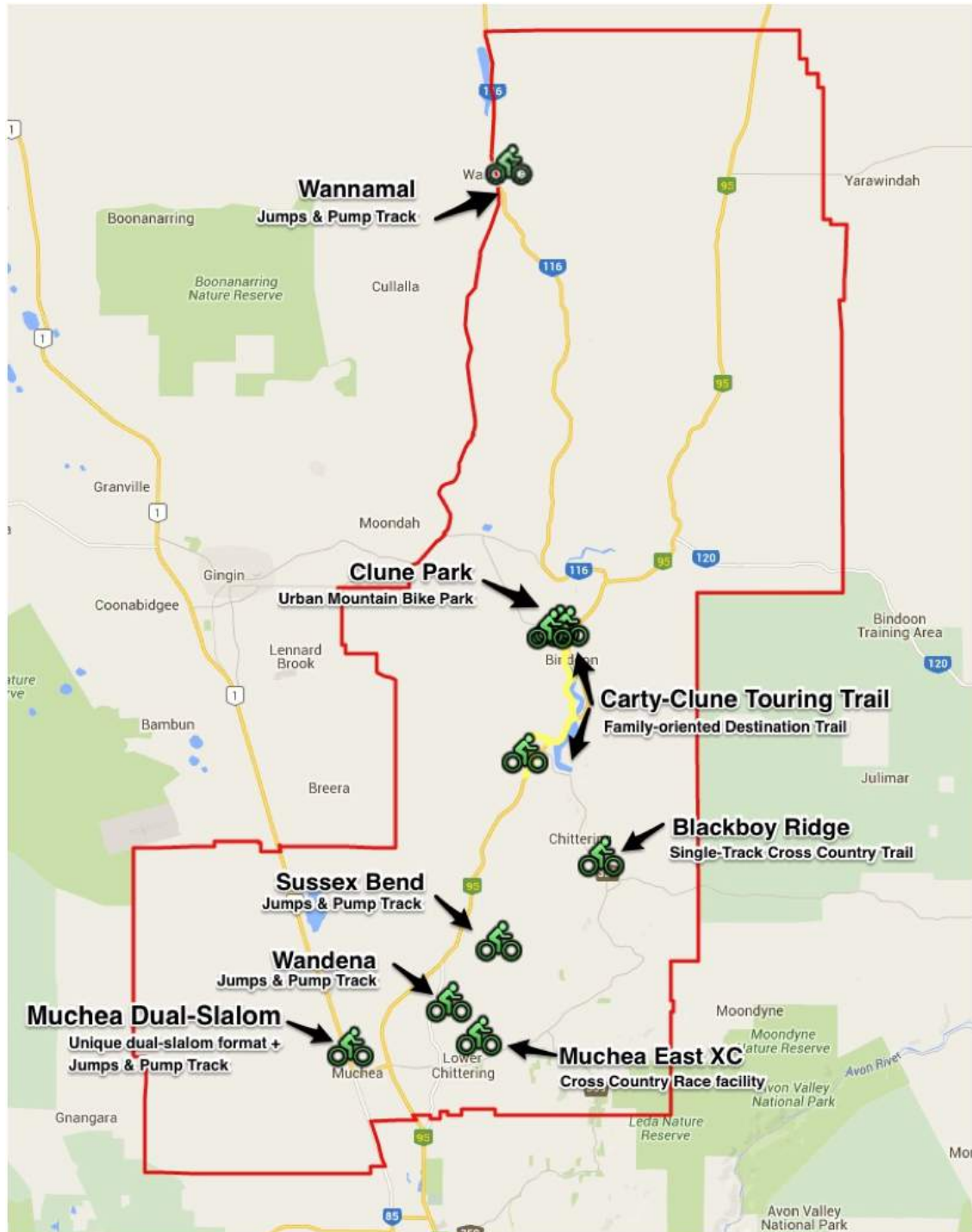
Muchea – a jump track facility of approximately .25 Ha that complements the playground and picnic area bounded by McKenzie Street and Muchea South Road.

Maryville Downs Dirt Jumps, Sussex Bend – represents the Shire's first foray into modern mountain bike facility design.

Further details about these locations will be covered under the Proposed Trails Network section.

PROPOSED TRAILS NETWORK

A total of seven potential new projects have been identified for consideration. Including the recently re-developed Sussex Bend facility, this would provide the Shire of Chittering with eight facilities targeting a range of demographics and mountain biking disciplines.



Project Name	Clune Park
Location	Bindoon
Area	9.5Ha
Discipline/s	Pump Track, Dirt Jumps, Slope Style features, Mini X-Country, Skills Park
Access / Linkage	Directly from Bindoon commercial centre Northern terminus of proposed Carty-Clune Touring Trail
Budget Estimate	\$9,000 for detailed design planning. \$244,520 construction estimate. This can be done in a staged approach.

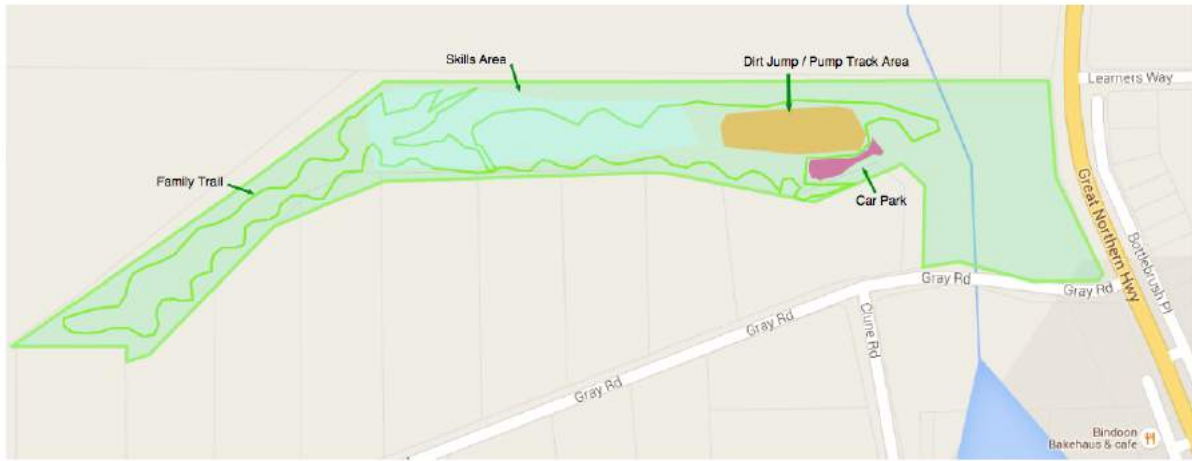
The Story:

Bindoon's Clune Park has an existing small dirt jumps circuit on the Eastern side of the Brockman River. It is proposed that this side of the reserve be developed into a showcase Urban Mountain Bike Park with the following features:

- A main green level family-friendly dual use mountain bike skills loop using a 'Trail Finger' style of design with blue and black trail skills sections branching off the main green trail. It is estimated that the primary loop could be up to 2 km.
- Slopestyle jump trail using the gentle fall from west to east. This style of trail would be integrated into the jump lines and be an integral part of the Dirt Jumps.
- Dirt Jumps – reconfiguration of existing jumps to create the centerpiece of the Clune Park bike riding area greatly improving user satisfaction and creating a draw card to the Bindoon Townsite.
- Pump Track – similar in scale to the recently developed track at Sussex Bend.

The topography is fairly flat through the site so man-made features for skill progression will be required. There is a creek line that will provide interesting crossings. On the north edge there is a rock outcrop and slight rise that can be utilised for ladder drops and other skill based features.

This area has great potential to become Perth's best jump and pump track area as part of an urban mountain bike park. A detailed design of Clune Park would be the first task in getting this area developed.



Clune Park - Urban Mountain Bike Park Concept



Aerial view of current Jump Track



Aerial view showing proposed skills area and family trail location



Vegetation and creekline at Western portion



Family Trail could run either side of access road

Carty Reserve

Project Name	Carty Reserve to Clune Park Family Touring Trail
Location	Carty Reserve to Clune Park, following alignment east of Great Northern Highway (refer map)
Area	10.0 km approx (20 km round trip)
Discipline/s	Family oriented touring trail
Access / Linkage	This double-headed trail has sealed road access and parking at both ends. There is potential to connect to a future trail from Sussex Bend via Chittering Springs.
Budget Estimate	\$10,000 for detailed design/concept planning, including detailed mapping, designing the trail on the lake foreshore and exploring access issues. Estimate to fully develop: Dependent on variables such as alignment alongside Great Northern Highway, resolution of access issues.

The Story:

The Carty-Clune trail presents an opportunity for a family-friendly ‘touring trail’ with a choice of destinations. Riders will be able to park at Carty Reserve and ride to Bindoon for refreshments, or park at Clune Park and pack a picnic to enjoy at the picnic area at Carty Park (to be upgraded as part of this project). The Brockman Centre and Bindoon Heritage Museum provides a mid-way point of interest from either end. The trail can be considered as a number of ‘legs’:

Carty Reserve to Hart Drive – 1.3km – the trail follows the existing walk trail from Carty Reserve.



Carty Reserve could serve as a starting or mid-way point



The existing walk trail could become dual-use

Herron Hill Loop – 3.2km – After crossing Hart Drive the trail would follow the creek line up to Godwit Glade, then run north along Hart Drive to remain to the west of the property at 11 Godwit Glade. It would then turn eastwards through the reserve until it reached Hart Drive to the northeast. An alternative, shorter route could be provided via the easement to the west of 21 Pelican Rise and 28 Pelican Rise.

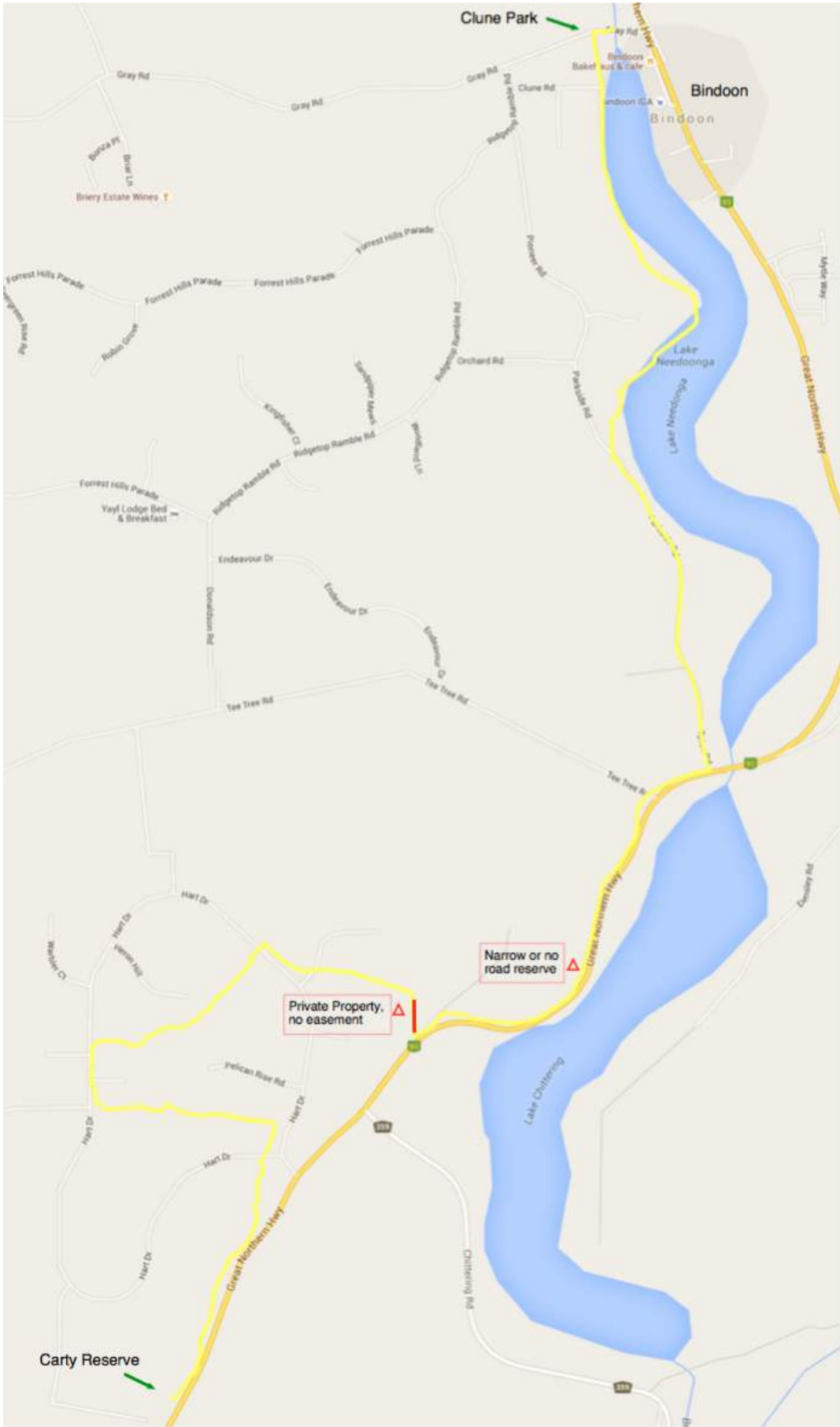
An issue to be solved with this alignment is the lack of access back to Great Northern Highway at the end of this section. There is currently no easement between 21 Teal Place and 5601 Gt Northern Highway, meaning approximately 70 metres of access would need to be negotiated from one or other of these property owners.

Great Northern Highway to Spice Road – 2.2km – This section presents some challenges with narrow or no road buffers in some places. Items of interest along this stretch include the Holy Trinity Church and the Brockman Centre.



The trail could increase visitation opportunities for these local attractions

Spice Road to Clune Park – 4.0km – The trail departs Great Northern Highway at Spice Rd and continues north along this road for 1.6km as it becomes Parkside Rd, then leaves the road for the reserve trail which it follows until it crosses Gray Rd and enters Clune Park. The opportunity exist to develop a dual use trail following the Lake Needonga Western foreshore linking the Gt Northern Highway to Stone House Trail.



Clarty - Clune Touring Trail - Proposed Alignment

BLACKBOY RIDGE

Project Name	Blackboy Ridge Cross Country Trail
Location	Blackboy Ridge Reserve, Chittering Road
Area	64 Ha
Discipline/s	Cross Country
Access / Linkage	Access via Chittering Road with approx .5 Ha parking

The Story

Blackboy Ridge was identified as a potential location for a cross country race venue, however, submissions during the public comment period identified a number of adverse environmental impacts that could be caused by the construction of a facility such as this. Accordingly this concept is included for completeness, not as a recommendation.

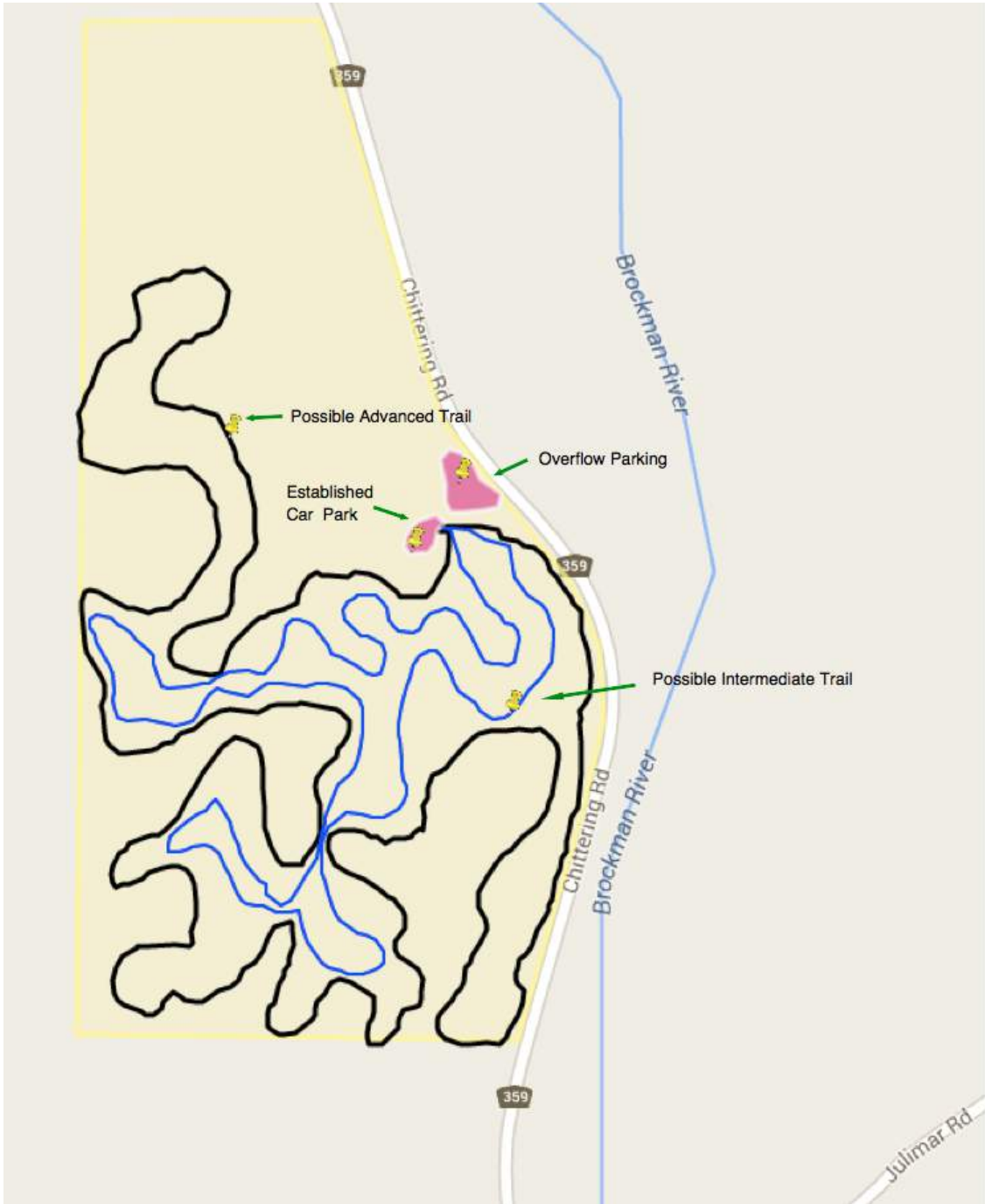
Blackboy Ridge has no cycling facilities. It is one of the few identified locations with significant elevation changes ranging from 130m at the carpark area to 190m at its highest in the South West corner. With its rugged rocky open terrain it is ideally suited to the development of a series of blue (intermediate) and black (difficult) natural style trails. This trails network could also use the existing fire road network as the more open wider trails as part of the overarching design.

These trails could then be utilised for the staging of XCO (Cross Country, Open) racing. This involves a circuit of approximately 4kms staged in variable terrain. The open fire road trails designed into the network would be used as overtaking opportunities within the context of racing. The lower section of this reserve has a cleared area close to Chittering Road that would be suitable for parking and event staging.

The quality of the topography and bushland would make this reserve suitable for the creation of very high quality hand built style bush trails that the more experienced mountain bikers are looking for.

These trails would be developed using best practice trail design to minimise erosion, avoid the spread of weeds, and preserve the amenity for current users including walkers and birdwatchers, while providing a compact but satisfying experience for intermediate to advanced riders.

Visitor management would be important in this area due to the environmental values and fire risk. Accordingly the trail network would be planned and constructed with sensitivity to these issues and it is assumed that the trail plans for this project would require the approval of Chittering Landcare.



Site currently has parking, picnic and toilet facilities, with easy overflow capacity. And elevation.

MUCHEA

Project Name	Muchea Dual Slalom Jump & Pump Track
Location	Muchea Townsite
Area	0.27 Ha
Discipline/s	Pump Track, Dirt Jumps, recreational racing opportunity
Access / Linkage	Road access via Brand Highway
Budget Estimate	\$4,000 for detailed design planning. \$77,840 construction estimate. This can be done in a staged approach.

The Story

Although small in area, the site is suitable for a unique new concept in mountain biking/cycling – a dual slalom style jump/pump race track.

This concept involves two parallel circuits – an inner circuit with larger ‘roller’ style jumps, and an outer circuit with faster but smaller speed jumps. The circuit would be calibrated to ensure that the lap times of both circuits were nearly identical. As part of this design the two separate trails form separate jump tracks. The smaller line would be considered the beginner trail and the larger jump line would be the expert jump line.

Riders would be able to transfer from line to line to add a fresh dimension to the jump lines. This would provide for years of new challenges and progression as the riders’ confidence and ability increases.

It is envisaged that this new form of track would generate considerable interest and could be used for competitions.

A reconfigured pump track consisting of a single loop with transfers and a couple of direction changing opportunities would complement the cycling area.



The existing track could be redeveloped into a unique attraction that would complement the other facilities.



Muchea Dual Slalom Jump & Pump Track



Dual Slalom – A unique attraction for Muchea

MUCHEA EAST ROAD, OLD RUBBISH TIP SITE

Project Name	Muchea East
Location	Muchea East Road (old tip site)
Area	9 Ha
Discipline/s	XCO Racing / Practice
Access / Linkage	Via Muchea East Road
Budget Estimate	N/A

The Story

The old tip site was identified as a potential location for a cross country race and practice venue, however consultation with Chittering Landcare identified opposition to the concept at this location, based on the quality of the bushland and the proposed alternative use for the land of creating a rest area and bushland appreciation walk.

Accordingly this concept is included for completeness, not as a recommendation.



Initially considered, but rejected on the basis of proposed alternative uses.

Project Name	Wandena Community Bike Park
Location	Cnr Patens Drive and Caladenia Close, Wandena
Area	3.97 Ha
Discipline/s	Jump & Pump Track
Access / Linkage	Access via Wandena Road.
Budget Estimate	\$6,000 for detailed design planning. \$58,640 construction estimate for two jump lines and a pump track. This can be done in a staged approach.

The Story

There are no MTB cycling facilities at the Wandena Reserve currently. The site is open, gently sloping and it is considered that there is sufficient room to develop a cycling area to predominantly cater for the local community.

This site is ideal for the development of longer jump lines, with the opportunity to create multiple lines using a common start mound over time. This could be started by the creation of two trails which could then separate and come back together to provide transfers and many options. In the gaps where the trails separate more jump faces and landings can be added over time giving the opportunity to keep developing this jump area over many years. The multiple lines would be designed into the overarching plan at the initial design stage.

The jump line could be linked to and from an adjacent pump track, further increasing the variety.



The Reserve has a small existing car park. The concept would see a start mound adjacent to the car park, utilising the natural slope of the reserve to shape the jump lines.

LONG DISTANCE TRAIL

Project Name	Toodyay Road/ Bald Hill/ Avon National Park to Bindoon Touring Trail
Location	Avon National Park to Bindoon
Area	Large – Distance 46km
Discipline/s	XC / Touring
Access / Linkage	Toodyay Road to Bald Hill camping area as a start or finish point
Budget Estimate	\$25,000 for feasibility study/planning. There are many variables to this proposed trail, so it is not possible to estimate development cost at this stage.

The Story

A longer distance touring trail is theoretically possible. It could use parts of the Avon Valley Heritage Survey Trails using Lord John Forrest's rock cairns as points of interest going into and coming out of the Avon Valley. It could then use the Avon Valley National Park's road system on the Northern side of the Avon River.

The trail could then link into Yozzi Road to Chittering Valley Road onto Chittering Road then onto Muchea east road, then via linkage between Sussex Bend, north to Chittering Springs, up Madden Rd south, Madden Rd North to Burradoo Well then through to Carty Reserve.

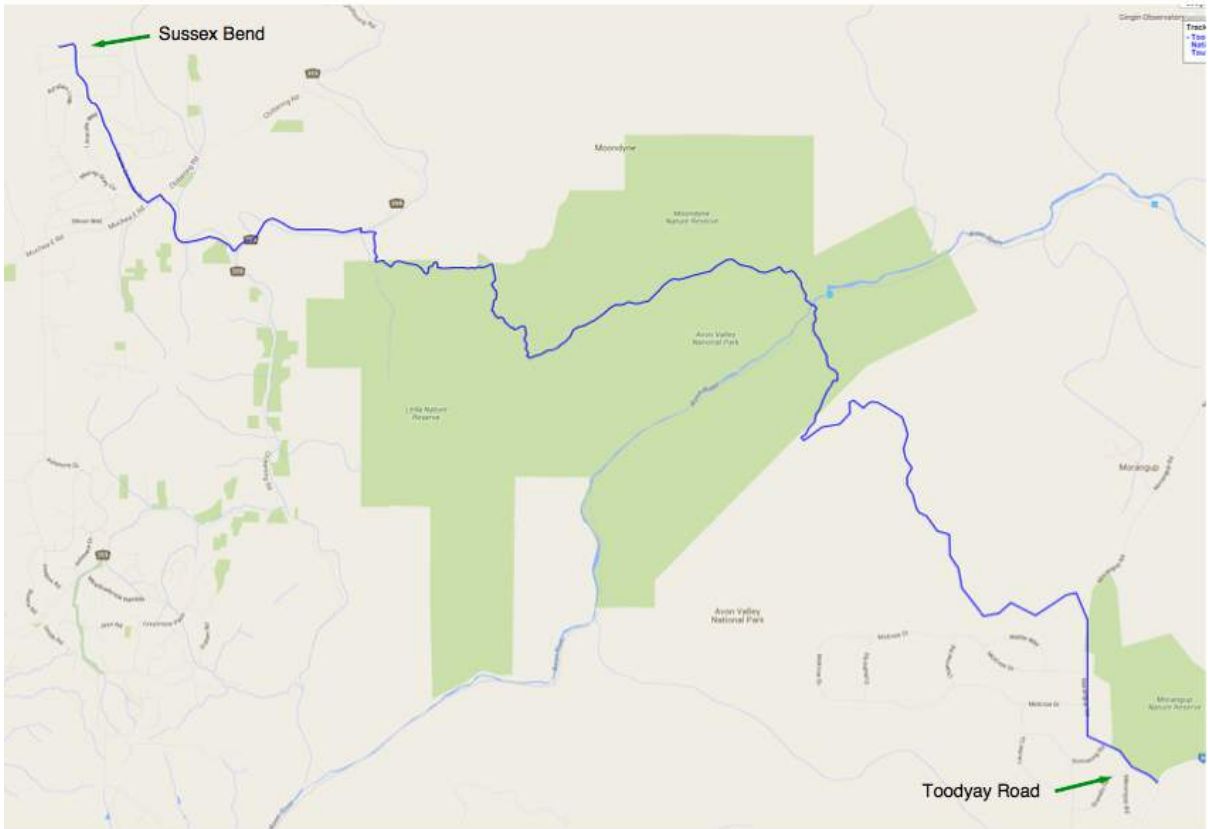
Parts of the trail would be utilise existing fire trails, so would be dual use with trail bikes.

Summer crossing of the Avon River should be practical, but winter crossing could be problematic. Another challenge would be creating a legal way of crossing the railway line.

The following diagram illustrates a potential route from Toodyay Road to Sussex Bend. In the trail could be extended as described above to link to Carty Reserve, where it would meet the Carty Reserve – Clune Park trail for a route through to Bindoon.

It is noted, following the public comment period, that should this project be considered in the future that there are a number of obstacles to be deliberated with all relevant stakeholders – this will form part of the feasibility and planning process.

Given the complexities of this route it is presented here as a longer term concept.



Toodyay - Chittering Touring Trail

SUSSEX BEND

Project Name	Sussex Bend Community Bike Park
Location	Sussex Bend, Lower Chittering
Area	.4 Ha Jumps Park within 6 Ha Reserve
Discipline/s	Jump Tracks, Pump Track & Skills Park
Access / Linkage	Potential linkage to Carty Reserve via Chittering Springs
Budget Estimate	\$15,000 – \$25,000 for the design and construction of the identified Skills Area as per the Bike Overview Plan 2015.

The Story

This world class pump track, double berm and jump lines facility was opened in August 2015 and has received high critical acclaim – and extensive use from locals and visiting riders from as far away as Armadale.

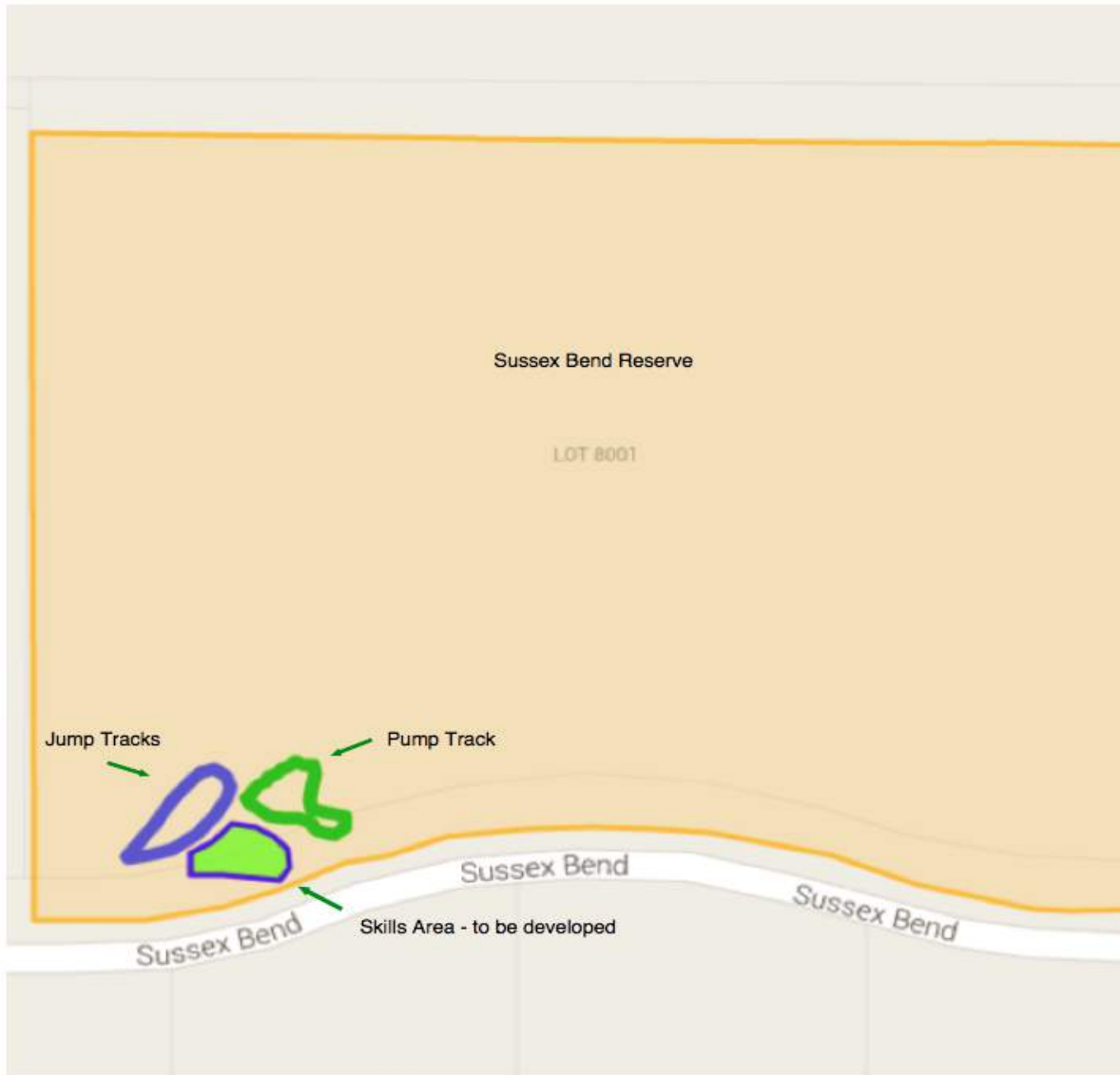
There is opportunity to further develop this area with a small Skills Park using constructed features such as see-saws and log-overs.



The new Sussex Bend park has become very popular with local and visiting riders.



A small skills park section has been identified as a future stage evolution.



Sussex Bend Community Bike Park

Project Name	Wannamal Community Bike Park
Location	Between Lake Street and Bindoon-Moora Road, Wannamal
Area	7.4 Ha – (total reserve)
Discipline/s	Jump & Pump Track, skills track and area
Access / Linkage	Access via Bindoon-Moora Road.
Budget Estimate	\$5,000 for detailed design planning. Construction estimate dependent on design concept.

The Story

There is an opportunity to create a small local facility within the area of recreation reserve and incorporating the rehabilitated tip. It is envisaged that a pump track could be created close to the car park and hall. With careful planning a dirt jump area and a fun skill-based trail could be created throughout the rest of the reserve.

Demand for local residents is considered low, so this would be seen more as a complementary activity for the adjacent camping area, particularly to service visitors entering to Shire from the north.



A fun trail could complement the existing recreation facilities.

TRAILS LINKAGE OPTIONS

The diverse nature of the mountain biking opportunities in the Chittering Shire and the distances between them suggests a virtual linkage is more appropriate than a physical one in most cases.

Community bike parks like Sussex Bend tend to be destinations rather than waypoints, but they can be imbued with sufficient individual personality to make a 'sampling tour' a compelling attraction.

In this scenario a visitor to the Shire would drive to each of several locations to enjoy the different riding experiences throughout the day. Common branding, and suggested itineraries would tie these locations together into a full day out.

For example, one itinerary could see a riding family enter the Shire via Lower Chittering Road and spend the morning at Blackboy Ridge before parking at Carty Reserve for the trail ride to Bindoon and Clune Park. After stopping for refreshments and experiencing the Clune Park skills area, jump tracks and family trail they could ride back to Carty Reserve and drive down to Muchea for the dual slalom before finishing the day with a blast around the Sussex Bend or Wandena park.

A different itinerary could promote an 'all jumps day', taking in Sussex Bend, Wandena, Muchea and Clune Park.

In this manner, suggested itineraries could be prepared for different style of bikes and riders, different compositions of family / friend groups and different skill levels.

The Chittering Trails Network could initially be promoted via downloadable maps and itineraries, with the branding reinforced via trail signage and signage at 'bike friendly' businesses. In time this could develop into a downloadable smartphone App with GPS tracking and loyalty-building functionality such as frequency and distance leader boards, achievement badges and competitions.

STAGED IMPLEMENTATION

The concepts presented in this Master Plan are unlikely to be completed in a single stage, therefore some sense of priority is required.

The following schedule identifies an order of development based on need and potential benefits. The actual timing will be dependent on the availability of funding.

Project	What	Why	Priority
Clune Park	Detailed planning and costing, begin construction	Clune Park will be the highest profile project, given its proximity to the commercial heart of Bindoon	High
Muchea Dual Slalom Jump & Pump Track	Detailed design and construction	This would give the town of Muchea a very high level facility to positively engage the local youth.	High
Blackboy Ridge	Detailed design and construction	This would give the Shire of Chittering a true Mountain Biking Facility perfect for recreational riding and a high level race venue.	High
Carty Reserve to Clune Park Family Touring Trail	Detailed design/ concept planning	This would tie in very nicely with the development of Clune Park. Giving the Shire of Chittering a family friendly touring trail as a draw card to the Town of Bindoon.	High
Wandena Community Bike Park	Detailed design and construction	This would give Wandena Estate a very high level facility to positively engage the local youth.	Medium
Wannamal Community Bike Park	Detailed design and construction	Provide complementary recreation facility.	Low
Toodyay Rd/Bald Hill/Avon Valley National Park to Bindoon Touring Trail	Feasibility study/ planning	Provide a day-trip touring trail that with significant scenic interest.	Low
Sussex Bend Community Bike Park	Design and construction of the Skills Area	Complete the vision for this park and add new interest and diversity for riders	Low