

A photograph of a narrow-gauge railway bridge over a stream, surrounded by trees and grass. The bridge is made of metal and wood, with a wooden deck and metal truss structure. It spans a small stream and is surrounded by lush greenery and trees. The sky is blue with some clouds.

NARROGIN WILLIAMS RAIL TRAIL

Feasibility Study

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DRAFT REPORT

Prepared for



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EXECUTIVE SUMMARY

The Shire of Narrogin commissioned Mike Halliburton Associates and Transplan Pty Ltd to prepare a Feasibility Study for a possible rail trail from Narrogin to Williams. The project was funded through contributions from the Shire of Narrogin, the Shire of Williams and the Department of Local Government, Sport and Cultural Industries.

A rail trail is a multi-use recreation trail constructed on a disused railway corridor (public land) for non-motorised users. There are well over 150 open or partially open rail trails in Australia, many of which are in Victoria, and they attract thousands of visitors from all over Australia. There are over 20 in Western Australia, including the nearby Collie Darkan Rail Trail and the Congelin Rail Trail in Dryandra Woodlands National Park. Although rail trails are extremely popular with all types of recreational cyclists, they are also very well used by walkers/hikers, horse riders (where permitted), joggers, trail runners, people in wheelchairs, people in mobility scooters (gophers), parents pushing prams, school groups, clubs and families. Rail trails also provide excellent venues for various events such as half-marathons, duathlons etc. The ever-increasing sales of electric bikes, and their growing use on recreation trails, needs also to be factored into future use of the proposed trail.

Rail trails have become very popular across Australia over the last 30 years with communities gaining benefit from the visitors they attract, and the money spent in local communities.

Although the initial intention of this study was to examine the feasibility/desirability of establishing a trail along the disused railway corridor, it was agreed at the outset that the report should contain sufficient detail for the respective Councils to proceed to construction (should it be a feasible proposition).

Consequently, even though considerable lengths of the corridor were examined on the ground by walking (or being driven by adjoining landowners) some parts of the corridor were not assessed on the ground. However, sufficient knowledge of the corridor was gained to allow reliable works lists (and cost estimates) to be prepared. This is particularly important as considerable lengths of the former railway corridor require new fencing. There is also a need for the installation of numerous stock and machinery crossing points (where the proposed trail divides paddocks or farming operations).

Numerous costs are involved in the conversion of a disused railway into a trail. These include clearing of vegetation to create a trail corridor, the provision of a good trail surface, the installation of new or refurbished bridges, new fencing, the provision of safe road crossings, trailhead facilities (including parking, picnic facilities, information signage), trail crossings for machinery and stock, and an assortment of signage.

In developing a trail such as this, which passes through productive crop and grazing country, there is no option but to ensure both sides of the trail corridor are fenced. The requirement to have a completely fenced trail corridor adds a considerable cost to the development budget.

Additionally, ample stock and machinery crossing points must be established to ensure that adjoining landowners are still able to move stock and equipment from one side of the trail corridor to the other. There is no escaping these requirements.

Initially it was considered desirable to develop a rail trail at a lower grade (i.e. minimum standards) and therefore at a minimal cost. This was a possibility for the crossings of the

Williams River and the other smaller creeks along the corridor. It was believed that cyclists and walkers could simply pick their best route through, or around, these water crossings. An alternative (boardwalk) structure, built at a lower level, might also be possible. However, while this is possible, it is far from desirable and doing so would limit the potential user numbers and detract significantly from the overall experience that rail trail users seek. Therefore, the cost estimates set out in this report envisage that each of the six bridges on the route be refurbished to cater for cyclists and walkers at the original railway level on the original railway bridges (rather than forcing users to depart from the railway formation and wading through potentially inundated ground).

To arrive at a statement of the trail's feasibility, it was necessary to consider the cost of developing the trail to its ultimate configuration (i.e. replacing missing fences, clearing undertaken for the trail route, refurbishment of bridges, creating safe road crossings, developing trailheads etc). It is only when all these costs are known (or reasonably estimated) can the trail's potential success be measured against expenditure in the region by future users.

There has been no effort to develop a staged development program or an implementation schedule. This is not the role of a feasibility study. Once a decision (to proceed) has been taken by each of the two Councils, and funding obtained, a Committee of Management should be appointed to guide the preparation of a Corridor Management Plan, a Bush Fire Risk Management Plan and the Construction Plan (where further detailed consultation with adjoining landowners is undertaken). This is the time to develop a staged implementation plan. Depending on availability of funds, the 'staged' development might occur in one of two ways:

1. Development of sections of the trail to their full potential (and possibly commencing development at both ends, and then meeting in the middle); or
2. Constructing the entire trail from one end to the other (albeit at a lesser grade or quality), and then progressively upgrading it by significant enhancements (such as refurbishment of bridges).



Potential Issues

In determining whether the proposed Narrogin Williams Rail Trail is worthwhile and viable an assessment was made of several potential issues and opportunities. None of the issues that follow are insurmountable, though some are difficult. (A fuller description of each issue is contained in Section 4).

- **Stakeholder positions** – both the Shire of Narrogin and the Shire of Williams' Councils are keen to explore the merit of developing the trail between Williams and Narrogin and sought funding for this study. Both Councils have previously looked at the prospect of leasing their respective sections of the railway reserve from the Public Transport Authority.
- **Tenure and land ownership** – the railway corridor is Crown land and remains in public ownership. There are several small leases of parts of the corridor. Much of it is now grazed by stock as fences have been removed over the years by adjoining landowners.



- **Bridges** – there are seven bridges between Williams and Narrogin, in various states of useability. All cross areas of flowing and/or standing water and usually with a steep gully and a steep descent/ascent from the embankment to the water. Most bridges have steel I-beams and either concrete piers or timber piers that appear to be in comparatively good condition. Only one bridge needed complete replacement. One bridge would be avoided by an alternative route to the Williams trailhead.
- **Regrowth vegetation** – since the last trains ran along the line in the late 1980s there has in many areas been a considerable amount of regrowth within the railway corridor.
- **Road crossings** – the most significant road crossing between Williams and Narrogin is the crossing of the Williams-Kondinin Road (which carries approximately 1,000 vehicles

per day in the vicinity of the proposed crossing point). There are other minor road crossings between Williams and Narrogin, none of which present any significant issue.

- **Disturbance to formation/embankment** – the removal of the steel track from the railway in the early 1990s caused significant disturbance to the formation in numerous locations.
- **Western Australian College of Agriculture Narrogin** - the College has approximately 4 kilometres of the disused railway passing through its landholdings. It is vitally concerned about the safety and security of its students and of biosecurity issues pertaining to its stock and crops.
- **Fencing** – the Williams Narrogin section of this railway was originally fenced at a corridor width of 35 (in some locations) or 40 metres (in other locations). Since the closure of the railway over 35 years ago some side fences have been removed and other have deteriorated significantly. Ample stock and machinery crossing points of the corridor will be needed to enable farmers and their stock to cross the rail trail corridor without the necessity of opening and closing gates.



- **Quality of construction** – the better the quality of trail, the better the experience for most potential trail users. The better the quality, the better the chance of attracting more users and consequently the bigger the financial returns to the communities at either end.
- **Gating at road crossings** – there is a potential for unauthorised users (such as motorised trail bikes and motor vehicles) to access the rail trail corridor. Most rail trails put in place secure gating systems at road crossings to prohibit or at least deter all but the most dedicated intruder.
- **Exit out of Narrogin** – the route south of the Visitor Centre towards Railway Dam is troublesome as sections are very unattractive, and well used for the movement and parking of cars and heavy machinery, storage and dumping of rubbish. However, a route that utilises existing shared paths and gravel verges is possible.

- **Choice of alignment** – in many locations the actual railway embankment/formation is not clearly discernible due to years of neglect and the dumping of waste materials. Years of regrowth vegetation also masks the actual alignment of the former railway line. In some locations where there is a parallel track.
- **Authenticity of experience** – using as much of the former railway infrastructure (such as bridges, embankments and cuttings) is a highly desirable outcome to provide future trail users with an ‘authentic’ rail trail experience.
- **Need for a mid-point trailhead** - the proposed rail trail, at approximately 34km, is an ideal range for cycling either as a one-way experience by many cyclists, or a return journey for fitter, more capable cyclists. However, 34km is a very long day’s walk and too far for most people. Therefore, a trailhead at a point preferably mid-way along the corridor would provide more options for future users.
- **Culverts** – lack of maintenance of the former railway corridor has resulted in most, if not all, culverts under the embankment becoming clogged with debris and mud.
- **Lack of maintenance** – since closure maintenance has been virtually non-existent and there are numerous locations where weeds are growing, and rubbish has been dumped.
- **Removal of remaining sleepers** – removal of the steel track from the railway occurred in the early 1990s. Sleepers were evidently removed at that time too, but not all.
- **Costs** – both capital and maintenance costs are a major consideration in any public infrastructure project. These need to be offset against a range of benefits – both economic and non-economic.
- **Landholder concerns and issues** - adjacent landowners are, understandably, apprehensive about trails close to their properties. It is important that these concerns are seriously addressed before any trail conversion takes place.
- **Flooding** - railway construction involved numerous bridges and dozens of pipe or timber culverts to carry the railway across rivers and creeks and water from one side of the railway embankment to the other. All existing bridges need refurbishment (or replacement in the case of one bridge) to carry trail users across flood prone land at these bridge locations.
- **Dogs and legal liability of landowners** - the recommended solution to having dogs on a rail trail is to only permit them in ‘town’ sections. The exclusion of dogs from farming areas means that someone who takes their dog into these areas is in breach of the trail regulations and any subsequent liability action would take this into account.
- **Aboriginal heritage** – there are no registered aboriginal heritage sites within, alongside, or in close proximity to the former railway corridor. The closest registered site is Aboriginal Cultural Heritage Register Place 5826 (some 300 metres to the north of the corridor). Earthworks and construction activity over 100 years ago (to develop the embankments and cuttings), and the clearing of vegetation within the entire corridor, would have destroyed evidence of any artefacts – should they have existed.
- **Horses on the trail** – a decision to not permit horses on the trail has been taken by both local governments. As with dogs, horses on a rail trail can and will pose a significant issue to adjoining landowners and their stock (and horses).

Opportunities

Rail trails also provide many notable opportunities. There are a number of specific elements within the area encompassed by the proposed trail route that provide opportunities and reasons for why a trail should be built. (A fuller description of each is contained in Section 5).

- **WA State Government funding** - the WA government committed \$17.5 million to completing the Wadandi Track (formerly known as the Busselton-Flinders Bay Rail Trail). This major funding commitment, which was announced at a time when several other trail projects received significant grants, is an indication that the WA Government is prepared to pursue the development of significant recreational trail projects for the benefit of Western Australians. Furthermore, the WA Government considers underutilised transport and service corridors (including former railways) in rural areas as excellent candidates for “transport trails” due to their relatively gentle gradients, and ability to support recreational and tourism trips between towns and regions.
- **Public Transport Authority** – the PTA is keen to divest its responsibilities for ongoing maintenance of assets along this disused railway corridor and would likely support any approach by the local governments should they decide to take the lease of the corridor for the purpose of developing a trail.
- **Possible funding from green energy projects** in the region – there is considerable opportunity for both Councils to utilise significant financial contributions from Community Enhancement Funds set up in the process of approving windfarms and other ‘green energy’ projects proposed for the region.
- **Appealing landscapes and infrastructure** - the proposed Rail Trail would pass through attractive rural farming scenery. Views of gently undulating countryside, containing water bodies and trees are the most attractive and relaxing for many people. Embankments and cuttings - whilst not a common feature on the corridor - are present and add to the diversity of the landscape.
- **Topography of the route** - one of the major appeals of rail trails is the gentle gradient, suitable for all types and levels of cyclists and all walkers (including parents with prams and people on mobility scooters).
- **Aesthetics on the corridor** - overall, the corridor has all the attributes that potential rail trail users desire: attractive landscapes and distant views, history, railway embankments and cuttings, railway bridges across rivers, scenic farmland and a gently curving but generally flat formation.
- **Access to the trail** – the visibility of the proposed trailheads (Lions Park in Williams and the Narrogin Visitors Centre) will help encourage use. The proposed trail has excellent access opportunities via the numerous crossroads, as well as from Railway Dam in Narrogin.
- **Connections between towns** - taking trail users to the towns at either end will provide new business opportunities for service providers. Development of the shared use trail may provide a range of new business opportunities (or allow existing businesses to expand).

- **Attracting new visitors who spend money** - a trail such as the proposed Narrogin Williams Rail Trail will provide several opportunities. A trail will bring additional tourists and assist in keeping them longer in the area. A trail will create opportunities to build on existing industries and enterprises of the area.
- **Capitalising on local trail network** - the recent development of mountain biking trails in Narrogin, coupled with the new in-town Heritage Trail and the upgraded cycle/walk trails within Foxes Lair, provide a broad spectrum of trail related activities for a range of potential users, including family groups.
- **Business development** - there is a range of business opportunities for private sector investors arising from the potential development of a rail trail. Providing accommodation, food and beverages, supported and guided tours and equipment, are some of the businesses that have arisen along other trails.
- **Broadening the recreation offerings** - provision of an additional off-road trail adds to the list of tourist offerings in the region and encourages visitors to stay a little longer to go for a pleasant walk or ride. A new nature-based attraction has the power to retain those visitors for longer, spending money and generating business opportunities. A trail is an attraction open 365 days each year.
- **A part of a longer journey** - the Rail Trail could become part of a much longer trail journey – from near Collie in the west to Darkan (on the Collie Darkan Rail Trail) and northwards to near Dardadine Siding (the northern extension of the Collie Darkan Rail Trail, north of Darkan within the Shire of West Arthur). The missing link in the potential 130 km rail trail (Collie to Narrogin) would be the 33km section between Dardadine and Williams.
- **Non-monetary benefits** - Trails can improve community connectivity and provide increasing recreational options for local people thus contributing to both physical and mental health of communities through which they pass.



Costs

The costs of construction of the proposed Narrogin Williams Rail Trail are an estimate of probable costs only. Accurate costs can only be determined via a competitive tendering process.

It is also anticipated that the use of the resources of each local government might result in significant savings.

The trail will cost in the order of **\$4.0 million (\$3,988,860) (plus GST)** to construct. This is the expected cost for developing a rail trail of good quality, with all bridges repurposed or replaced to accommodate the full range of potential users (cyclists, hikers, parents pushing prams, gofers, mobility scooters, e-bikes, etc).

Further details relating to the calculations of these costs are contained within the body of this report.



Business Case

With good marketing, the trail will attract local users and visitors. Under a relatively conservative scenario, the following outcomes are achievable.

- Local use – 4,145 local users/year is a reasonable expectation. This will result in an economic injection of \$10,735/year;
- If 3,000 visitors stay an extra day to use the trail (or part of the trail), an additional \$739,170/year would be injected into the regional economy.
- If 500 new visitors come to the region solely (or primarily) to do the trail, an additional \$246,390/year would be injected into the regional economy.

The total injection of dollars into the local economies from local, day trip and overnight visitors may be of the order of **\$996,295/ year** (under a range of conservative scenarios) from **7,645** users.

In other words, the expenditure to construct the trail (say, \$4.0 million) may be “recouped” (by businesses within the two communities) after approximately 4 years (at approximately \$1.0 million per year).

Further details relating to the calculations of these possible user numbers and expenditures are contained within the body of this report.



FEASIBILITY STATEMENT

A rail trail on the disused rail corridor between Narrogin and Williams is technically feasible. The issues raised can be overcome with good design and the corridor remains in public ownership.

To establish whether the proposed rail trail is a feasible proposition, this Feasibility Study sought to answer several questions:

Is there a viable trail route? Yes. As is the case for the vast majority of disused railways in Australia, the entire corridor is still in public ownership. However, several small sections near Narrogin are leased and CBH leases the Williams station area. Although the line was developed as a fenced railway, and several adjoining landowners have had unrestricted access to the public land within the corridor since the railway closed, the land remains in public ownership.

There will inevitably be disruptions to long established farming practices should the trail be constructed. However, as is the case with many other successful rail trails developed in similar broadacre farming areas in Australia and overseas, there is a range of practical and viable solutions to each and every issue that adjoining landowners raise. The fact that some farms straddle the railway corridor should therefore not be considered as a reason for not proceeding with the development of a trail.

Although the bridges over Williams River and the other watercourses have been partially dismantled, and an at-grade crossing of the Williams-Kondinin Road (and other minor roads) will be necessary, these minor discontinuities can easily be overcome through design solutions.

Are there alternative uses for the corridor that will provide more value to the community? Are these alternative uses viable? Unlike some other railway corridor re-use proposals, there has been no proposal to run a tourist train (or any other sort of train) along the disused railway corridor. This is principally because the steel track and sleepers have long been removed and the bridges have been partly dismantled (or in one case destroyed by fire). The other alternative use is continuing to crop and graze the corridor as currently occurs in parts and leave the rest of the corridor as is.

Will the trail provide a quality user experience (terrain/landscape/history)? Yes. The proposed Narrogin Williams Rail Trail would pass through attractive rural farming scenery, as this was where rail lines historically ran. Views to distant hills are sometimes present (though these are “low-rise” in nature). Undulating topography is constant along the corridor. Views of sheep grazing in adjoining paddocks adds to the interest. Some infrastructure along the railway corridor remains. Most bridges remain (albeit in various states of repair); distance pegs remain in most places. Embankments and cuttings - whilst not a common feature on the corridor - are present and add to the diversity of the landscape. All these elements of the original railway would add to the enjoyment of trail users. The trail would pass immediately north of Railway Dam and Archibald Park and increasing access to the areas will add to the user’s experience.

Is there a market for the proposed trail? Yes. Existing rail trails in other states, notably Victoria and elsewhere in Western Australia, are extremely well used and very popular recreational assets of the communities in which they are situated. The success of the Tumbarumba Rosewood Rail Trail in NSW, a recent development, is testimony to the demands for such facilities. The Wadandi Track (formerly known as the Busselton to Flinders Bay Rail

Trail) has recently been awarded \$17.5 million for its completion, due to its popularity and a surge in interest in outdoors activities.

This Feasibility Study has examined the potential for users to travel to the region from Perth in particular specifically for the rail trail and as an added component to their leisure time activities. Given the potential trail's proximity to Perth (a journey of approximately two hours from the heart of Perth), it will be a significant day trip attraction. The existence of a growing network of new and upgraded trails in and around Narrogin could make Narrogin a trail destination.

Will the rail trail create any unmanageable or unmitigated impacts on adjoining landholders' farming practices and lifestyles? A conditional no. It is true that a rail trail is a different use to the historic use of the corridor (for trains) and adjoining landholders may have expectations of how the corridor will be used in the future. A rail trail probably was not one of their expectations and they have concerns. However, the corridor remains publicly owned land and the issues and concerns raised by adjoining landholders have been satisfactorily addressed in the other rail trails round Australia (of which there are well over 100). Evidence shows no long-term negative impacts on farming practices and lifestyles. In consultation, adjoining landholders raised a number of usual concerns. It is believed that these issues can be satisfactorily addressed, managed or mitigated if the trail proceeds. It is important to recognise landholder concerns and, if the trail proceeds, to work closely with them to address individual concerns and arrive at mutually agreed solutions.

Are the local governments and key stakeholders supportive of the concept? The answer is unclear. Both Councils have committed to helping fund this Study which indicates a commitment to exploring this project thoroughly. However, there have been no formal commitments beyond that process. This is a critical issue. Both Councils will need to be convinced that development of the rail trail has considerable merit. The costs of construction, and the costs of ongoing maintenance and the impacts on neighbouring landowners will be key factors in any future decisions made by each Council. This will be tempered by the recommendations of this study, the estimates of financial (and other) benefits that the rail trail will bring to the two towns and a host of other factors.

Is there a supportive community? Yes. The general tone from the two community consultation sessions was that the project is worthwhile for a range of reasons. Of the adjoining landholders who attended, three were opposed, and had genuine queries about potential issues and how they might be addressed if the trail were to proceed.

Would the trail be value for money? Yes. Trails repeatedly demonstrate that there are numerous benefits to be gained through their construction: economic benefits to the towns where they start and finish – a boost to businesses associated with the trail; social and physical health benefits; and a range of environmental and cultural benefits. Use scenarios and possible numbers of users means that, for an investment of \$4.0 - \$4.5 million, there will be an opportunity for users to traverse a 34km rail trail in the region providing undulating landscapes and good views with towns at either end. In summary, it can be reliably anticipated that development of the proposed rail trail will result in increased annual visitor numbers who will inject nearly \$1 million/year into the region's economy. Local use rates of 4,000 people/year are forecast. There will also be several non-quantifiable benefits also arising to members of the communities around the trail as well as further afield.

Is there a commitment to maintenance (“friends of ...” group or support network)? This has not been explored in any detail but the Wheatbelt Cycling Collective has indicated strong support for the trail –its members have already been involved in other trail projects in Narrogin. This Feasibility Study identifies likely maintenance costs. The experience of other rail trails indicates that individuals and community groups (such as Landcare groups, school groups, service clubs, etc) will help to maintain sections of the trail, or areas through which the trail would pass.

Will the trail provide a unique experience? **Yes.** The project delivers a rail trail which is of appeal to a broad range of users – a 34 km rail trail is an ideal distance for a bike ride and with the development of a mid-point trailhead would enable a good two day walk. The development of signposted sections at either end (Narrogin Railway Station to Railway Dam in Narrogin, and Lions Park in Williams to near the CBH bins) broaden the opportunities for local users to take shorter journeys on a regular basis. The trail provides users with the opportunity to use some of the former railway bridges and enjoy the experience offered by these.

Is there a demonstrated benefit to trail users and, especially, the host communities? **Yes.** This question has been answered partially in answers to other questions posed. The demonstrated benefits come in the form of economic and non-economic benefits that will accrue to both users and host communities (with the creation of a range of economic opportunities arising from the development of the rail trail).

Recommendations

Following consideration of the major issues pertaining to the development of a trail on the disused railway corridor Narrogin and Williams and taking into account the views of key stakeholders, groups and individuals consulted (and background information obtained during the course of the project), this Study recommends that the proposed rail trail proceed, *subject to a number of conditions being met.*

The conditions upon which the rail trail should proceed are:

1. This feasibility study report be forwarded to the Public Transport Authority for review and comment and, assuming a positive response, the two Councils (the Shire of Narrogin and the Shire of Williams) proceed with negotiations with the Public Transport Authority regarding taking on the lease of their respective sections of the former railway corridor.
2. Advertise the availability of this draft feasibility study to the wider community via each Councils’ website, and via direct contact with community groups, and seek comment and thus gain a greater understanding of the likely usage numbers and popularity of the proposed rail trail.
3. Prior to construction, a comprehensive programme of one-on-one discussions on-site with all affected adjoining landowners be undertaken to ascertain their individual concerns and to work out together solutions to each issue raised;
4. The Shire of Narrogin and the Shire of Williams seek funding from external sources, including Community Benefit Funds being established by the proposed Narrogin Wind Farm and other green energy projects, for the construction of the proposed rail trail;

5. A Committee of Management, comprising (at least) representatives of each local government, residents of each town, local Landcare groups, local business proprietors and adjoining landowners, be formed to guide the ongoing planning, design and construction, management and maintenance of the proposed Narrogin Williams Rail Trail and the former railway corridor;
6. The preparation of a Corridor Management Plan before construction, including a comprehensive maintenance programme (detailing the ongoing maintenance) for the trail and corridor;
7. The preparation of a Bush Fire Risk Management Plan for the corridor;
8. Grazing and various other existing uses of the corridor to be considered on their merits, and suitable solutions found to enable the activity to continue where reasonably achievable;
9. The relevant local governments should assume liability for trail users within their respective jurisdictions and take all necessary actions to mitigate potential claims from landowners, neighbours, and users;
10. A commitment to ongoing maintenance of the trail being given by each Council, a Committee of Management and volunteers; and
11. The local governments should consider either assigning these duties to an existing officer or appointing a part-time trail manager or managers to ensure landowners have a direct point of contact for any issue resolution.

Factors Supporting the Decision

In formulating a decision about whether the proposed Rail Trail is feasible or not, due consideration has been given to a range of factors.

- The entire railway corridor between Narrogin and Williams remains in public ownership (although several small sections are leased and CBH leases the majority of the Williams station ground) with few constraints to the development of a trail along its entire length.
- The rail trail provides, at 34 kms one way, a good one-day bike ride and a good two day walk.
- The proposed rail trail is relatively close to the existing Collie-Darkan (Dardadine Siding) Rail Trail (in the Shire of West Arthur) meaning that rail trail aficionados could potentially visit the area to experience both rail trails (should the Narrogin Williams Rail Trail be developed). Even more importantly, the future development of the missing link along this disused railway corridor between Dardadine Siding and Williams (in the Shire of Williams) would be a more compelling reason for trail users to visit the area. That would result in a rail trail of over 130 kilometres – several days riding and a true multi-day walk.
- Furthermore, the development of two rail trails in the Great Southern as proposed in the Great Southern Regional Trails Master Plan by (GSCORE) would also stimulate

visitation to the Wheatbelt by cyclists and walkers. There are two lengthy rail trails proposed in the Regional Trails Master Plan, the 157km Kojonup-Katanning-Pingrup Rail Trail and the 94km Tambellup-Gnowangerup-Ongerup Rail Trail (known collectively as the Grain Train Rail Trail).

- The Narrogin Williams Rail Trail represents a reasonable expenditure of capital and more importantly maintenance funds.
- The Narrogin Williams Rail Trail add another attraction in the region and will potentially bring additional visitors and keep visitors longer in the area.
- The proposed rail trail does not have a particularly complicated route through and getting out of Narrogin or Williams (unlike some existing rail trails in Australia and overseas). Existing verges and/or paths can be utilised if necessary.
- Even though the proposed rail trail is not supported by everyone in the community, in particular several adjoining landowners, there are those who strongly support it. As with all infrastructure projects, the silent majority in the community, and those who might visit Williams and Narrogin to use the trail, are rarely heard from.
- The indigenous history of the region, the surrounding farming properties and various other land uses, the natural qualities of the region, the history of construction of the railway and a host of other interesting subjects results in good potential for interpretation along the rail trail – adding to and enriching the experience of trail users.
- As a rail trail, the corridor is reasonably flat (as it was built with low grades for steam locomotives) and will therefore accommodate the full range of cyclists, as well as walkers, joggers, runners, wheelchair and gopher users etc.
- As has happened on other rail trails in other locations around Australia, the rail trail will provide local people with a new opportunity for walking, cycling, fun runs, triathlons, half marathons (or full marathons), wheelchair use and educational opportunities for school children.

SECTION 1 – INTRODUCTION AND BACKGROUND

1.1 The Purpose of this Feasibility Study

The primary purpose of this Study is to provide information outlining the benefits and opportunities arising from developing a rail trail between Narrogin and Williams. The Study is to determine likely costs, benefits and opportunities arising from the development of the rail trail.

The proposed Narrogin Williams Rail Trail is envisioned to follow the disused rail line from Williams to Narrogin, which passes through two old sidings and crosses several rivers and creeks (see plans in Appendix 4 for more detail).

1.2 The Scope of Works

The Shire of Narrogin, in partnership with the Shire of Williams, required a feasibility study for the conversion of the disused railway corridor between Narrogin and Williams. The rail line itself is approximately 34 kms. The rail trail – if it proceeds – would likely start at the Visitor Centre in Narrogin and finish at Lions Park in Williams (or vice versa).

Whilst this is primarily a feasibility study and provides a level of detailed costing, it does not provide the fine level of detail that a Trail Development Plan would. As stated earlier, although the initial intention of this study was to examine the feasibility/desirability of establishing a trail along the disused railway, it was agreed at the outset of the study that the report should contain sufficient detail for the respective Councils to proceed to construction (should it be a feasible proposition).

This report does provide sufficient detail to determine whether the rail trail has merit. Feasibility is determined by an analysis of numerous factors. It is not just the cost of the project, but a combination of several factors.

In considering trail feasibility, the costs of construction need to be weighed against the benefits (direct and indirect) that such a trail brings.

A Feasibility Study answers several questions:

- Is there a market for the proposed trail (i.e. local people and visitors who will be attracted to use it)?
- Is the local government(s) and other key stakeholders supportive of the concept?
- Is there a supportive community?
- Will the trail provide a quality user experience (terrain/landscape/history)?
- Would the trail be value for money?
- Is there a commitment to the ongoing maintenance of the trail (“friends of ...” group or support network)?
- Will the trail provide a unique experience?
- Is there a demonstrated benefit to trail users and, especially, the host communities?

This Study has addressed a number of potential issues (as well as answering the key questions). These will allow informed consideration of the proposal. Issues addressed include:

- What is a rail trail, including an overview of history and development, and operations;
- Community benefits and socio-economic benefits (including estimate of the potential monetary value) of rail trails;
- Requirements for successful rail trail development;
- The potential demand and source of demand (local vs. tourism) for use by walkers and the various types of cyclists;
- Opportunities for small-scale tourism development around trailheads or along the proposed rail trail;
- Current condition of the corridor with regard to vegetation, formal or informal activities, presence of track and any other relevant matters;
- Geological or environmental significance and environmental issues for the trail/corridor;
- General review of works necessary to establish the trail to bring the bridges and trail surface to a condition where they can be incorporated into the trail;
- Heritage aspects of the route including any railway heritage artefacts associated with the corridor;
- Rail trail infrastructure requirements in accordance with standards having regard to user demand, other local trail facilities, consideration of ongoing maintenance costs, and the need to minimise conflicts between users;
- Key links to other existing or proposed trails;
- Cost estimates to establish the rail trail to the preferred standard including bridges, trail surface, rail removal (where required), signage, road crossing points and additional community infrastructure. This should include initial estimates of annual costs of maintenance and management; and
- An economic evaluation of the project including the expected benefits and costs associated with the complete rail trail development.

All these factors feed into the preparation of a feasibility statement.

1.3 The Feasibility Study Process

One of the first phases in determining feasibility is examining the various factors that influence the practicality of building a trail along a disused railway. Some of these factors will make construction difficult and/or expensive, while many of these factors will facilitate development of a rail trail. These factors can be grouped under “Potential Issues” or “Opportunities”. Some issues that may impact negatively on the proposal can of course be resolved through design, negotiation or by the spending of funds to mitigate the problem.

In progressing this study, the following tasks were undertaken:

- Meeting with the CEO and other staff of the Shire of Narrogin, and the consultants Mike Halliburton and Mike Maher.

- A meeting with CEO and staff member of Shire of Williams, and the consultants Mike Halliburton and Mike Maher.
- Consultations and on-site inspections with several adjoining landowners.
- Consultation with the Public Transport Authority.
- Consultation with the Wheatbelt Cycling Collective.
- Community consultation sessions in Narrogin.
- Field work to assess the entire disused railway corridor between Narrogin and Williams. This fieldwork included an examination of all road crossings, and the condition of the former railway corridor including all bridges and bridge sites.
- An examination of potential trailheads (at Narrogin, Williams, Geeralying Siding and Dumberning Siding).
- General observations made of the terrain and topography through which the railway corridor passes, an assessment made of the scenic qualities of the region, and observations made of the services available to potential trail users in the towns.
- Fieldwork to enable observations and conclusions to be made of a range of factors that will assist in the determination of whether the rail trail is feasible.
- Assessments of the amount of regrowth vegetation along the corridor to determine the extent of clearing that would be required.
- An examination on-ground of the amount of new fencing that will be required.
- An examination of the expected construction and infrastructure works required along the corridor and the likely costs.
- An assessment of the likely visitor numbers, where they might come from, what they might spend and consequently an indication of the likely economic benefits of developing the trail.

Clearly, a project such as this demands extensive consideration of the desires of the 'community' surrounding the corridor. In this study, the approach taken defines the community not just as the local community (being those people living and working alongside the railway corridor), but also all of those people living in the wider region encompassing residents of Narrogin, Williams and surrounding communities. The approach has also encompassed visitors to the region in its scope, as these numbers are likely to be important.

Naturally, those living alongside the corridor have a direct and often very personal interest in the corridor and perceive that they may be losers out of any conversion to a rail trail due to a perception of negative impacts on lifestyles, and loss of currently used land. The beneficiaries from such a project are often a much more diverse and geographically spread group – local users, visitors, and local businesses. This is a typical pattern for the impacts of most public infrastructure projects. It is important that such a project be cognisant of all these interests and concerns.

1.4 What is a Rail Trail?

A rail trail is a multi-use recreation trail constructed on a disused railway corridor (public land) for non-motorised recreation. There are over 150 open or partially open rail trails in Australia, the majority of which are in Victoria, South Australia, Western Australia, Queensland, Tasmania, New South Wales and the Northern Territory also have rail trails.



Above: Around 25% of rail trails in Australia allow horses. One example is the Lilydale Warburton Rail Trail (Victoria).



Above: Walkers and joggers are a significant user group on all rail trails – the Tumbarumba Rosewood Rail Trail (NSW) is no exception.



Above: Allowing mobility scooters on rail trails such as the Shiraz Trail (SA) means a rail trail can appeal to a wider range of users.



Above: Local users often include parents pushing prams such as on the Kilkivan Kingaroy Rail Trail (Qld).



Above: Cyclists are the most common user group on rail trails. The Tumbarumba Rosewood Rail Trail (NSW) attracts its share of cyclists.



Above: Innovations such as trioBikes on the Tumbarumba Rosewood Rail Trail allow even people with limited mobility to get out and enjoy the countryside (photo courtesy of Friends of Tumbarumba Rosewood Rail Trail).

1.5 Requirements for Successful Rail Trail Development

Rail trails are different from each other, but a number of characteristics often distinguish the good ones. These features are drawn from several published sources and the consultants' own extensive experience with rail trails.

- Many successful rail trails have accessibility to large population centres both for visitors and as a stimulus for local demand.
- There is existing or easily developed tourism infrastructure in or near townships along the rail trail - places to eat and drink, explore and stay.
- Good rail trails have some heritage infrastructure in place such as historic stations, bridges, tunnels, goods sheds, sidings, platforms, turntables, switches, signals, and distance posts. Rail trails elsewhere have utilised their railway history as part of their attraction. Remaining major elements of the railway infrastructure (formations, deep cuttings, high embankments, bridges, culverts) add significantly to the user's experience. Built and social heritage values are a critical part of the rail trail experience not often experienced on other types of recreational trails.



The Port Fairy to Warrnambool Rail Trail in Victoria offers peaceful riding through rural landscapes with outstanding views to the coast and to an extinct volcano (Tower Hill).

- A common feature is community and adjacent landholders' level of support for the project to move ahead. Many (though not all) adjacent landholders are initially sceptical of rail trails; they often become converts once a trail is built.
- A uniqueness of experience is often important – be it a stunning landscape with views to distant snow-capped mountains, adjoining land uses or special attractions (such as long timber bridges, railway tunnels or railway museums).
- The good rail trails often provide opportunities for short, medium and long length rides and walks on the main trail. Having options is a bonus.
- Well-signed and mapped trails - both on the trail and easily available elsewhere - are more successful than those that are not.

- The best rail trails offer a challenge, and they offer peace and solitude.
- Many of the good rail trails have a regional or state tourism significance (some have national and international significance). Significance is elevated where extensions are made to connect to services in towns. The best rail trails have natural terminuses in major centres or towns. Intermediate towns easily accessible along the trail are critical when a trail is long and a bonus when the trail is short.
- The best rail trails are in highly scenic surrounds, with spectacular views of the surrounding landscapes. These trails are often full of variety and interest. The best rail trails traverse places of cultural and natural history and conservation and provide opportunities to view birds, other wildlife and remnant vegetation.
- Railway corridors can provide a great insight into the history of the region – both European settlement and Aboriginal use. Good interpretation will mark out an excellent trail. There are many good recreation trails (including rail trails) in Australia – few have good interpretation. Interpretation adds significantly to the user's experience.
- A well-maintained trail and a strong community support network add to the user's experience, primarily because the trail remains in good condition. Such a community network could include a committed and purpose-dedicated management committee, a strong "Friends of the Trail" group or even a full-time trail manager.
- Informed, friendly and supportive locals make a user's experience more pleasurable.
- In a similar vein, trails that emphasise local conditions – flora, fauna, history, construction materials, etc. - are very popular. Good interpretation will bring out this local flavour.



Rail trails often are routed along river valleys, where it was easy to build railways. This is the case for the Row River Rail Trail in Oregon USA, above.

Various rail trails in Australia feature at least some of these elements.

In addition, all rail trails have several positive features which mark them out as uniquely rail trails (as opposed to other recreational trails):

Rail trails are trails for people of all abilities and all types of bicycles. Good trails provide equity for people of many levels of fitness and equipment to gain access to the types of experience within the region.

All rail trails are motor vehicle free i.e. safe for all types of trail users. Minimising the number of major road (at-grade) crossings adds to the experience. Trails rarely interrupted by road crossings appeal more than those which constantly cross roads – well marked and safe crossings where necessary add to the success.

All railway formations (through cuttings and along embankments) provide a gentle gradient and sweeping bends, suitable for all types of cyclists, walkers, wheelchair and gopher users, and where appropriate, horse riders.

All rail trails offer safety for users compared with urban shared pathways which have driveways, light poles, blind corners, poor sightlines, and are often ‘congested’ as users cannot see other users approaching due to poor sightlines.

Some Facts About Rail Trails

-  *Rail trails are not something new.*
-  *There are over 2,300 rail trails in the USA - totalling over 24,000 miles (that's 40,000 kilometres!). First one was developed in the 1960s.*
-  *There are rail trails in the United Kingdom, Canada, New Zealand, Spain, France, Germany, numerous other European countries (e.g. Latvia, Estonia) and other countries around the world.*
-  *There are already over 150 open or partially rail trails in Australia (44 in Victoria, 22 in WA, 20 in Tasmania, 22 in Queensland, 27 in SA, 18 in NSW and 3 in NT). (Note: the way these are counted can give different numbers).*
-  *First rail trail in Australia? Railway Reserves Heritage Trail in Mundaring, Western Australia. It was developed over 30 years ago.*
-  *Rail trails are built along **publicly** owned disused railway corridors.*
-  *Rail trails are for “non-motorised” users - cyclists, walkers, runners, parents pushing prams, horse riders (sometimes), people in wheelchairs, fun runs and triathlons.*
-  *Rail trails offer safe, flat routes away from dangerous roads and provide access into rural areas for people of all abilities.*
-  *They traverse a variety of urban and rural landscapes including farms and paddocks, vineyards, forests and wetlands.*

Indeed, it is the comparative flatness and good sight lines offered by rail trails, coupled with a motor-vehicle-free walking and cycling environment, that rail trail users seek out. This type of experience cannot be provided in a road-side trail, as numerous opponents of rail trails often suggest.

Who Uses Rail Trails and Why?

-  *Predominant user group is cyclists, ranging from elderly people to baby boomers, young couples, family groups with children, teenagers and young children.*
-  *Walkers and horse riders are also attracted to rail trails, but in far lesser numbers.*
-  *Rail trails appeal to individuals, to couples, and to groups. A significant proportion of trail users on the Otago Central Rail Trail (South Island, New Zealand) are groups (school groups, sporting clubs, work groups, service clubs, social clubs, Over 50's clubs and organised tour groups).*
-  *Some use rail trails for team building, some use it for fitness training, others for a social club outing. Others cycle and walk a rail trail simply for the outstanding beauty and scenery that it provides.*
-  *Users enjoy routes free from motor vehicles, routes that are away from the noise and smell of roads, and away from trucks and cars.*
-  *All railway formations (through cuttings and along embankments) provide a gentle gradient and sweeping bends, suitable for all types of cyclists, walkers and horse riders.*
-  *All rail trails offer safety for users compared with urban shared pathways which have driveways, light poles, blind corners and poor sightlines.*
-  *Many users are attracted because of the railway heritage artifacts that remain (such as station buildings, bridges, turntables, signals and other signage, cuttings and embankments).*

1.6 History of Rail Trails

Rail Trails in the USA

The rails-to-trails movement began in the USA in the mid-1960s. Local people came up with the idea to convert abandoned or unused rail corridors into public trails. Once the rail tracks were removed, people naturally walked along the old tracks, socialising, exploring, discovering railroad relics, marvelling at the industrial facilities such as bridges, tunnels, abandoned mills, sidings, switches and whatever else they could find.

Today, nearly 60 years later, rail trails have made a significant mark in America, with around 100 million users per year travelling on over 40,000 kms of trail on 2,320 rail trails. There is another 876 rail trail projects being planned and/or developed for a total of almost 15,000 kms.

Sustrans Long Trail Cycle Network, United Kingdom

In the UK, a number of disused rail corridors form part of the Sustrans long trail cycle network across mainland Britain – the rail trail movement is not as clearly articulated in the UK as it is in the USA or Australia.

Murray to the Mountains Rail Trail, Victoria – User Experiences

A 1999 survey of users of the Murray to the Mountains Rail Trail in NE Victoria (by Professor Sue Beeton of La Trobe University) revealed that:

-  *Of the 128 respondents, only 22 identified themselves as living close to the Rail Trail but were all travelling with visitors. Travel companions were evenly spread between travelling with a partner, family or friends, while only a small number of respondents (5%) travelled alone.*
-  *The respondents were predominantly employed in professional and administrative positions (47% and 25% respectively) with 14% retired; however, no respondents identified themselves as unemployed.*
-  *Ages were varied, ranging from one year old to 79, with a slight majority of men (53%). The largest group was aged between 41 and 60 years old, however the high representation of riders in the 0-10 age groups illustrates the significance of mixed family groups and the suitability of the Rail Trail for all ages.*
-  *Half of the respondents had past experience in using rail trails and identified the Murray to the Mountains Rail Trail as one they had visited previously. Over half (53%) considered themselves to be frequent riders, cycling more than once a week, but not daily. The next largest group (23%) were regular weekly riders, suggesting that while the trail is being used by people who cycle often, they are primarily recreational cyclists with a quarter who do not cycle regularly.*

Rail Trails in Australia

In Australia, conversion of corridors to rail trails is a relatively recent phenomenon driven by the closure of many railways in the 1980s and 1990s (though rail closures have been occurring continuously since the end of the Second World War).

Rail trail conversions have proven most popular in Victoria. The Victorian Trails Strategy 2014-2024 reports that there are currently over 800 kilometres of rail trail in Victoria, while the Rail Trails Australia website lists over 30 rail trails throughout Victoria. Some listed are still under construction or require signage and/or publicity materials, though they are in use.

Tumbarumba Rosewood Rail Trail, NSW

The Tumbarumba Rosewood Rail Trail is the first rail trail on a former Government-owned railway in NSW. Since opening in April 2020, it has attracted over 38,000 visitors. According to the recently released *Rail Trails for NSW Evaluation Summary*, the trail has made a positive economic contribution to the economy of Tumbarumba and NSW, with an increased tourism expenditure of 20% between June-December 2019 and June-December 2020 – a higher growth figure than the broader Snowy Valleys region and NSW as a whole. The trail has contributed to nine new or expanding businesses across the two towns (Tumbarumba and Rosewood).



Above: the Tumbarumba Rosewood Rail Trail in the Riverina region of NSW has proven to be incredibly popular and successful and serves as an extremely useful model for other proposed rail trails.

Lilydale Warburton Rail Trail, Victoria

One of the best known of Victoria's rail trails is the Lilydale Warburton Rail Trail which is situated some 40km east of Melbourne (at the end of the suburban train line). This trail caters for all types of bikes, walking, horse riding and wheelchairs (for some segments) due to the outstanding surface material used. The trail passes wineries, cafes, pubs and restaurants along the Yarra River valley. The trail has recently been extended.

Murray to the Mountains Rail Trail, Victoria

The Murray to the Mountains Rail Trail, in northern Victoria, is the most developed of all Victorian rail trails with a sealed surface for its entire distance (97 kilometres). The trail follows the picturesque Ovens Valley and has views of Mt Buffalo and a good climb to historic Beechworth.

Riesling Trail, South Australia

In South Australia, the Riesling Trail is perhaps the best-known rail trail. This trail is located in the Clare Valley, 130 km north-east of Adelaide. The trail passes numerous wineries and offers spectacular views from several points along the trail. The idea for the trail is attributed to local business people (winemakers) who saw the potential for the disused railway line from Riverton to Spalding that ran through their region. While the closure of the railway in the 1980's was regarded as a major loss to the area, the conversion of the former railway corridor into one of Australia's best-known trails has benefited local businesses, as well as users. Local people named the trail after the grape that is so celebrated in the Clare Valley. Several wineries have created picnic locations along the trail. There are more than 30 bed and breakfast cottages, several hotel/motels and caravan parks close to the rail trail, enabling users to turn a comfortable one-day bicycle ride into several days.

Coast to Vines Rail Trail, South Australia

The Coast to Vines Rail Trail (34 kms) continues this very popular South Australian theme, connecting many of the vineyards of McLaren Vale. The trail offers scenic coast to hinterland views with spectacular vineyard vistas and changing landscapes.

Brisbane Valley Rail Trail, Queensland

Queensland currently offers Australia's longest rail trail. The 161 km Brisbane Valley Rail Trail (BVRT) follows the disused Brisbane Valley rail line. The BVRT winds its way up the Brisbane Valley, traversing farmland, forests, picturesque rural settings and country towns. The final section of the trail was opened in 2018.

The Brisbane Valley Rail Trail



 *"The Brisbane Valley Rail Trail is a tremendous asset for the Somerset region. The trail is a significant economic driver for Somerset, boosting businesses, accommodation providers and tourism operators and building on the region's reputation as a destination for adventure-based outdoor experiences."* Somerset Mayor Graeme Lehmann (much of the trail runs through Somerset Regional Council)

 The Brisbane Valley Rail Trail was named Public Works Project of the Year (2019). Somerset Regional Council received the top award of Best Public Works Project (\$2 to \$5 million) for the 161km trail. The accolades were delivered by the Institute of Public Works Engineering Australasia Awards for Excellence.

 *"The BVRT 's our biggest tourism driver and a really significant part of the Somerset economy,"* Somerset Mayor Graeme Lehmann



Above: The Lilydale Warburton Rail Trail (Victoria) is about an hour from the Melbourne CBD. This proximity helps attract over 100,000 users per



Above: The Riesling Trail is South Australia's premier rail trail, travelling through the very attractive wine-growing country of the Clare Valley.



Above: The Kilkivan Kingaroy Rail Trail is one of Queensland's newest rail trails. Average monthly figures for 2018 were between 1,200 and 1,600 users/month.



Above: The Brisbane Valley Rail Trail (Qld) is now Australia's longest rail trail. It attracts users from South East Qld, one of Australia's fastest growing regions. The Yelgun Tunnel is a stand-out attraction on the trail.



Above: The Tumbarumba Rosewood Rail Trail is the first rail trail on a former Government-owned railway in NSW. Since opening in April 2020, it has attracted over 38,000 visitors.



Above: The Murray to the Mountains Rail Trail is one of Australia's highest profile rail trails; users are spending around \$250/day while using the trail.

SECTION 2 – THE CURRENT SITUATION

2.1 History of the Railway

The Collie – Narrogin Railway was constructed from 1904-1908 and primarily used to transport timber, farm produce, livestock and grain, as well as running a passenger service. It operated until the late 1980s, with the sleepers removed in the early 1990s.

The Narrogin-Williams rail link was completed in 1905. While the siting of the Great Southern line to the east had been the demise of many of the old settlements on the Albany Road, the access to this main line through secondary lines was helpful to those areas serviced in this way. The line from Narrogin westward was completed in stages - Williams, then Darkan and finally through to Collie. The first passenger train was run on the inaugural Williams Show Day on 24 October 1905.

Narrogin remained a major rail centre until the late 1970s when competition from road transport saw a reduction in the railway's workforce. By 1987, Narrogin was very much in decline, largely as the result of altered working of engines through from Avon Yard. The station ceased to be served by scheduled passenger trains from 1978. The number of employees dropped from about 280 people to fewer than a dozen in 1995. (Source: Wikipedia: Narrogin).

Two sidings were constructed between Williams and Narrogin: Geeralying Siding (at Manaring Rd) and Dumberning (on Tarwonga Rd).



Above: Extract from map showing railway lines of Western Australia 1935 (Source: Wikipedia - Wheatbelt railway lines of Western Australia)

2.2 Construction of the Railway

To facilitate the movement of steam trains 100 years ago, the landscape through which the railway was routed was heavily modified by the creation of embankments (the railway formation) and the excavations for the cuttings. Much of the soil for the embankments was sourced from within the corridor itself (often the nearby cuttings that were being built) and piled in a long continuous embankment. The entire railway corridor was cleared of vegetation and kept clear of vegetation to prevent sparks from the steam engines from igniting any regrowth.

Since the last trains ran along the line in the late 1980s there has been a considerable amount of regrowth vegetation within the railway corridor. Much of the regrowth vegetation is sheoaks but there is a variety of eucalypts in patches along the corridor. It is important to note that the vegetation now seen along much of the former railway corridor is regrowth. Though clearing for the proposed rail trail is required, it will be nowhere near as extensive as the original clearing made for the railway and the passage of steam trains.

Most of the steel track and sleepers were removed in the early 1990s. Some steel and timber remain on the original bridges and there are some localised sections of embankment where rotting sleepers remain in place, which will need to be removed to enable a trail to proceed.

2.3 Leasing of the Corridor

Several small sections of the former railway corridor near Narrogin are leased and the Williams station ground is leased to CBH.

Although the Shire of Narrogin and the Shire of Williams made initial enquires in 2020 to the Public Transport Authority about the possibility of taking on the lease of the entire corridor, this never proceeded.

The two Councils will need to recommence negotiations with the Public Transport Authority regarding taking on the lease of their respective sections of the former railway corridor for the proposed rail trail to proceed.

2.4 The Public Transport Authority

The WA Government's *Western Australian Cycling Network Hierarchy* describes the benefits of "transport trails" which are typically located within underutilised transport and service corridors in rural areas. Due to their relatively gentle gradients, former railways and certain utility corridors make excellent candidates for these trails. They often support recreational and tourism trips between towns and regions. "Transport trails" provide long-distance, off-road (predominantly unsealed) riding experiences through natural settings, away from motorised traffic. The PTA is a co-author of the *Western Australian Cycling Network Hierarchy*.

Informal advice received from the Public Transport Authority (PTA) indicates that it would look positively on any approach by the two local governments for the lease of their respective sections of the disused railway corridor.

The PTA is keen to divest itself of assets to minimise ongoing risks associated with the old railways, such as deteriorating bridges and other infrastructure. It views transfer of these assets to another organisation as a good outcome, particularly when the corridor may be reused for some other community purpose.

SECTION 3 – CONSULTATION

Gauging the level of public, stakeholder and business support is important. It is also important to elicit any issues that people in the community may have about the project. Community consultation is extremely important in building the community understanding and support vital in delivering such a project.

Clearly, a project such as this demands extensive consideration of the desires of the 'community' surrounding the corridor. But exactly what is this community, and just whose desires should be considered.

The community is not just the local community (i.e. people living and working alongside the railway corridor), but also all those people living in the wider region encompassing residents of Narrogin, Williams and other towns in the region. The needs and interests of visitors to the region also need to be considered as these numbers are likely to be significant.

The best way of finding out the level of community support is by engaging thoroughly with it. As mentioned, the community is more than those living and working close to the disused railway corridor. The community in this context are those people living, not only in the two towns or in the region, but those living further away such as in Perth who may travel to walk or ride the trail and spend money in the local area. This can be achieved by widely advertising the availability of this draft plan to the wider community and seeking comment.

Despite the obvious advantages of a rail trail conversion, there are often opponents to the idea of turning the railway corridor into a multi-use trail. Neighbouring and nearby landowners, some of whom have farmed the publicly owned land for long periods, may be disturbed about the prospect of change to a situation that they have grown accustomed to. It is important to consider the issues that may be raised by adjoining landowners and investigate what options are available for resolving some of these concerns. Adjacent landowners are traditionally – and understandably – apprehensive about trails close to their properties. It is important that these concerns are seriously addressed before any trail conversion takes place. Many landowners resent having things imposed on them or feeling as if they have no say in what is happening around them. Many landowners are resistant to change of any sort, let alone one they perceive will have detrimental impacts on their lifestyle as well as on their farming operations. It needs to be appreciated that opposition will never completely cease – some people will never be convinced, despite a plethora of testimonials (indicating nothing but positive results from the trail) from people in very similar situations.

Conversely, adjacent landowners who understand and support the reasons behind a trail, and who see that the trail is going to be well organised and efficiently managed, will prove to be extremely valuable partners in years to come. Indeed, some of them will take advantage of business opportunities offered by the rail trail project. Some opponents become avid supporters – in the case of the Tumbarumba Rosewood Rail Trail in southern NSW, one of the most outspoken adjoining landholders is regularly seen enjoying the rail trail now it is open.

3.1 Inception Meeting with Staff of Shire of Narrogin

An inception meeting was held with staff of the Shire of Narrogin.

The following matters were discussed:

-  The existing characteristics of the rail corridor between Williams and Narrogin.

- The genesis of the project noting which organisations were advocating for the project and what public commentary there had been to date.
- The notification sent out to adjoining landowners about the study, and the media release alerting the community.
- The desire for the study to incorporate details about the work involved and estimates of costs (in the feasibility study) as the Councils would likely be unwilling to fund a separate study to determine these. The Councils would prefer to be able to proceed straight to construction if proven feasible (and Councils desire to do this).

3.2 Meeting with CEO and Community Development Officer of Shire of Williams

The following matters were discussed:

- Reiterated that Council has a desire for a trail link between Williams and Narrogin.
- Suggested shared path along Williams River as preferred route into Williams.
- Agreed that Lions Park would make a good trailhead.
- Council is aware of adjoining landowners' use of the corridor on the outskirts of Williams (and driveways that cross the railway corridor).
- Not aware of any opposition to the proposed rail trail within the Shire of Williams.
- Concerned that most of the bridges on the corridor are within the Shire of Williams, and the cost of refurbishing these for the trail.
- Regards ongoing maintenance of the proposed trail as simply another asset to be enjoyed by ratepayers, similar to other assets such as roads.

3.3 Meeting with CEO of Shire of Narrogin

The following matters were discussed:

- Shire staff have a can-do attitude and would be keen to undertake the construction work required to develop the trail.
- Referred to other local and nearby trails (including at Dryandra, Foxes Lair, Railway Dam, Yilliminning Rock).
- The Community Enhancement Fund to be established because of the proposed windfarms, and the likely funding that may be available for community projects.

3.4 Community Consultation Events

3.4.1 "Open House" Sessions Wednesday September 11, 2024 (12.00-2.00pm and 4.00-6.00pm)

The sessions provided attendees the opportunity to view a display including:

- "Before" photos of the corridor and corresponding artists impressions of what the trail might look like "after" construction
- A folio of images of the corridor as it is now.
- Dot points pertaining to: What is a Rail Trail? What determines feasibility? Who uses rail trails and why? Survey of rail trail users.

Amongst the matters raised were the following:

- Prevention of unauthorised access by motor bikes.
- Trespass onto private property.

- The need for vegetation screening and additional fencing.
- Access for emergency vehicles, should the need arise.
- The cost of re-building the bridges.
- Clearing needed for the trail to proceed.
- Surfacing material to be used.
- Bio-security threats.
- Trail would be a unique experience in the wheatbelt where opportunities are limited. A “point of difference”.

3.5 Adjoining Landowner Discussions

During the assessment of the corridor, several conversations/meetings were conducted with adjoining landowners. The following points were made:

- Need for reinstating fences, to control stock and the deter trespassers.
- Need for machinery and stock crossing points.
- Need to ensure motor bikes and unauthorised motor vehicles cannot access the trail.
- Dogs and horses on the trail would be an issue.
- Screen planting would be desirable.
- Safety of students/boarders at Ag College is a major concern.
- There is the potential for fires from trail users.
- Clearing would result in major environmental damage if revegetation is not undertaken.
- Need to ensure fire and emergency vehicles can access the trail.
- Trail potentially results in biosecurity risks if appropriate measures are instituted.

Many of the matters raised have been incorporated into table that follows in Section 3.6.

3.6 Landowner Concerns and Solutions

Several specific issues and what might be called generic concerns were raised in conversations at the community consultation sessions and during on-site meetings and telephone conversations with adjoining landowners. It is likely that there are several other specific issues and concerns adjoining landholders have that were not raised.

Table 1 presents a range of problems generally raised and some generic solutions. The table is provided as guidance; it does not substitute for detailed discussions with adjoining landholders over problems and specific tailored solutions – this should be part of the pre-construction consultation if the project proceeds.

This is not to say that the concerns raised by landowners in this case are not worthy of attention. Many of these concerns are legitimate and warrant careful consideration. This is not then so much a case of people raising unfounded issues – rather, it is a case of people raising issues that need to be resolved.

Appendix 2 contains some photographic examples of rail trail solutions devised elsewhere in Australia and New Zealand for commonly raised issues.

The following table is informed by the consultants’ own experiences and draws upon the two recently produced NSW Government documents mentioned throughout this report).

Table 1: Landowner Concerns and Solutions

IMPACT / ISSUE / PROBLEM	SOLUTIONS SUCCESSFULLY USED ELSEWHERE / COMMENTS FROM EXPERIENCE ELSEWHERE
<i>Impacts on adjoining landowners' lifestyles</i>	
Crime - Trespassing, vandalism and theft. Landholders often express a range of concerns regarding the issue of trespassing on to farmland and site security especially where the railway corridor is remote from farm buildings and public roads. Can emergency vehicles, police and Council rangers access the corridor?	Comments <i>Crime</i> ○ Numerous studies have concluded rail trails do not generate crime. Research and anecdotal evidence suggest conversion of rail trails tends to reduce crime by cleaning up the landscape and attracting people who use the trail for legitimate reasons such as recreation and transport. ○ There have been no reports of trespassing, theft or vandalism on the Murray to the Mountains Rail Trail (Victoria) since the establishment of the trail. Similarly, the Collie Darkan Rail Trail (Western Australia) has had no incidents of crime. ○ The Clare Valley (South Australia) Riesling Trail has had 2 incidents along the trail in over 40 years of operation. One of these, a burglary, would have occurred regardless of whether the trail existed at the rear of the property. The other, an incident involving an unrestrained dog attacking stock in an adjoining paddock, is one that can be avoided by trail users following trail rules. ○ The Brisbane Valley Rail Trail in South East Queensland had 2 incidents with trail bike access in over 10 years, but these were easily dealt with by the local police. ○ The Rails to Trails Conservancy work in the USA. includes dozens of testimonials from law enforcement officers in several jurisdictions confirming that the expected/perceived crimes simply do not occur. Possible solutions <i>Crime prevention</i> ○ Design solutions to minimise theft include installation of security (and additional) fencing and planting. ○ Trail design can eliminate overgrown vegetation and tall shrubs that minimises hiding places and creates long sight lines. ○ Security lighting at trail heads and parking areas adds security. ○ Emergency vehicle access helps increase user security.

	- o Keeping trail corridors clean and well-maintained increases sense of community ownership and ‘passive surveillance’ reducing minor crime such as litter, graffiti and vandalism. - o Plantings of tree-lined corridors along parts deemed ‘vulnerable’ by adjoining landowners could also provide a way of reminding trail users to stay on the trail – these provide a form of visual fence. - o Many trails have a signposted Code of Conduct as a means of reinforcing what is expected of trail users and highlighting inappropriate behaviour. - o Prohibiting motor vehicle use (by regulation and design) reduces property crime. Locked management access gates are a proven method of restricting access on to a trail. The Kilkivan Kingaroy Rail Trail (Qld) reports no issues with motorbike use after a short time (there was some illegal use initially). - o Volunteer or professional trail patrols ranging from informal monthly clean-ups and maintenance crews to daily patrols. - o The trail construction would include the provision of appropriate signage and barriers. Signage (and appropriate barriers) would allow enforcement of trespassing rules as well as acting as a physical barrier.
Loss of privacy for adjoining landowners Often residences have been constructed in close proximity to the railway corridor. Landowners living near to or alongside the proposed rail trail anticipate that noise and reduction of privacy will occur.	Possible solutions - o Some effective design solutions are possible and have been used to good effect on other rail trail projects. Fencing and security screening are the obvious methods. - o Re-routing the trail off the formation away from the affected residence elsewhere in the rail corridor. - o Substantial additional vegetation planting to provide a visual barrier between the trail and the residence (while minimising ‘hiding’ places). - o Installation of screen fencing to obscure views of houses from the trail.
Land value devaluation	Comment o What empirical evidence exists comes from the USA (<i>American Trails website</i>). The evidence is that rail trails positively add value to properties along their route. Research and anecdotal evidence suggest conversion of rail trails tends to either have a positive impact or a neutral impact on land values. It is positive where land use is changing to more intensive uses (such as from

	rural production to rural living/rural residential). Single family residential property values along the Little Miami Scenic Trail (Ohio) were positively impacted by proximity to the trail (<i>Karadeniz 2008</i>). Properties along the Minuteman Bikeway and Nashua River Rail Trail (Massachusetts) sell for a higher proportion of the asking price and in about half the time that it took for houses in the general inventory (<i>Della Penna</i>). Properties near, but not immediately adjacent to the Burke Gilman Trail (Seattle) sold for an average premium of 6% while those immediately next to the trail sold for a minimal premium (around 0.5%). Neutral-to-positive expectations for property values were held by 87% of adjacent neighbours to the Luce Line Trail (Minnesota). In the same 1988 study, 56% of farm neighbours held that same view, as did 61% of suburban neighbours (<i>American Trails website</i>). ○ The consultants are not aware of any documented evidence to suggest property values decrease.
Stress and concerns about the impacts of trails on farmers lifestyles and incomes An element of uncertainty in both the short-term (until a decision is made) or the long-term (from rail trail operations).	Comments ○ Any change is difficult and causes stress for many people, especially where it is a change to the way people have operated their businesses and lifestyles for many years. ○ All public infrastructure projects create stress and concerns for those who will be negatively affected (or perceive they will be negatively affected). The experience in rail trail projects elsewhere is that the problems that adjoining landholders believe will occur do not occur. They are managed primarily by ongoing consultation and good design. ○ Sometimes landholders are concerned that the confidence to undertake and invest in on-farm improvements is completely eroded whilst the any rail trail project is “hanging over landholders’ heads”. Landholders are looking to make decisions on farming practices notably around reconfiguring paddocks which will involve capital investment primarily for fencing but also for other items of farm infrastructure. On other projects, landholders have argued that any decisions they make on fencing locations in particular may be redundant if the trail is built and the corridor fenced which would have the effect of possibly reconfiguring paddocks. Given the life of fencing at 20-40 years, this is a reasonable concern over capital investment.

	However, there is simply no solution to this uncertainty at this time. The landholders can fence land that is theirs to the edge of the railway corridor but cannot legally fence within the corridor until permission is granted by the corridor manager; to do so means taking the risk of fencing being removed or reconfigured if the trail is built as the land remains publicly owned.
Impacts on farming practices	
Threat of fire Landowners are often concerned about the possibility of increased fire risk along a rail trail with fires spreading unimpeded along the corridor and consider that additional fire protection will be required if the reserve is used for a rail trail. Landowners occasionally concerned about discarded cigarette butts from trail users.	Possible solutions ○ Development of an effective fire management plan in close consultation with DFES. ○ Trail closure during periods of fire bans – as occurs on other tracks in high fire areas. The Hume and Hovell Track (in southern NSW) is one example of the use of specific closures. ○ Smoking can be prohibited on the trail. Councils can declare the public area a smoke-free zone, just as it can with other public areas. (Note: trail users are usually people interested in healthy pursuits and are therefore predominantly non-smokers). ○ Development of the rail trail has a significant advantage in that it provides easy access for emergency vehicles and other vehicles (such as electricity maintenance vehicles) to locations that may otherwise be difficult to access. ○ Trail users are overwhelmingly interested in healthy outdoors pursuits are highly unlikely to be smokers. ○ Currently - with no active use - the railway corridor is a fire risk. Development of the rail trail will improve the situation as it cleans up the corridor as well as providing vehicle access.
Weeds There are weeds on the corridor at present and throughout the region – who will remove them and who will keep them under control is often an issue raised.	Possible solutions ○ Weed management will be the responsibility of whichever entity is responsible for the corridor should it be converted to a rail trail (previously Brookfield Rail and not ARC Infrastructure). ○ Existing weed infestations can be cleaned up during trail construction, thus requiring minimal ongoing weed removal/spraying. ○ Preparation of a regularly reviewed Trail Management Plan covering all maintenance issues prepared in advance of construction.

	- o Focus of maintenance – erosion, vegetation regrowth, weed control and signage damage. - o Division of maintenance into regular inspections and simple repairs and once/twice yearly programs undertaking larger jobs such as vegetation control. - o Signage to indicate wheels and shoes must be clean and free of dirt and vegetable matter before entering the trail. Wash down areas for wheels and footwear at both ends of the trail to encourage “come clean, go clean” can be constructed if noxious weed spread is a high risk
Interactions between nervous livestock and trail users with dogs Farmers whose properties adjoin the corridor are often concerned at unrestrained dogs being allowed along the proposed rail trail and causing difficulties for their livestock.	Comments - o It is well recognised that people walking dogs is a pastime with considerable physical and mental health benefits. On other rail trails, some sections of the trail (notably within the urban areas) permit this activity. Possible solutions - o On other trails, dogs are usually either banned altogether, or trail users are required by regulation to keep their dogs on a lead at all times. The Trail Manager may ultimately decide to allow dogs (on leads) within the ‘town’ areas of the trail. This is the recommendation put forward for this trail – that dogs be allowed on the trail from Narrogin Visitor Centre to Railway Dam (or beyond to Graham Rd) and from Lions Park in Williams out to near the CBH facility. - o If the rail trail or parts of the rail trail are declared ‘dog free’, Council’s rangers could issue infringement notices and the offender can be fined.
Interactions between nervous livestock and trail users on horseback Farmers whose properties adjoin the corridor are often concerned at horses being allowed along the proposed rail trail, potentially bringing in weeds via faecal matter and a range of bacterial diseases and causing difficulties for their livestock.	Comments - o Rail trails around Australia vary on whether they permit horses. Of the trails listed as open on the Rail Trails Australia website, some 75% do not allow horses (for a range of reasons). - o The debate about whether horses carry weeds in faecal matter has been around for a number of years and is particularly topical in discussions about whether horses are allowed into national parks. There appears to be no agreed consensus (though some national parks managers are permitting horses). Possible solutions - o This Study makes no recommendations as to whether horses should be allowed on the trail, although it is understood both Councils would not permit horses.

Interactions between trail users and stock – interference in farming practices. Some landholders were concerned about interference in farm practices by trail users who are not familiar with farming practices e.g. separation of lambs and mothers or “spooking” of stock by passing cyclists, not used to people. There is also the issue of visitors seeing “distressing” (but normal) farming scenes and being upset and reporting to authorities.	Comments ○ This has not been an issue in other rail trails running through farming country that the consultants are aware of. ○ On many rail trails, signs at trailheads alert users to the fact that the trail passes through farming areas. Possible solutions ○ Prevent contact between animals and people by using signage to indicate appropriate behaviour and warn of trespass and biosecurity obligations and risks. Signage to advise of appropriate behaviour when on the trail e.g. not making excessive noise that may frighten stock along the trail. ○ A suggestion coming from landholders on another rail trail project was for landholders to include their phone numbers as appropriate on relevant signs to allow trail users to report issues as they pass by. This may not suit all landholders and needs to be discussed as part of trail development and construction planning should the trail proceed.
General biosecurity There are concerns that the use of rail reserve by trail users will increase the risk of contamination of livestock. The key question was how will the biosecurity obligations be met to satisfy the statutory requirements of affected farms? Some landholders believe there will be a high risk of introduction / contamination of weeds and disease.	Comments ○ Advice obtained by the proponents of the Great Victorian Rail Trail (in central Victoria) from the Department of Primary Industries (Victoria) was that a trail should not jeopardise the landowner’s ability to sign the National Vendors Declaration. The rail trail would be considered in the same way as any public thoroughfare would be. Farmers have no control over who uses and what is done on adjoining roads so they have ‘no knowledge’ unless they are notified (the Declaration specifies that “to the best of a farmers knowledge and from information they have control over that their livestock comply with the conditions on the declaration”). Trail users are no different to road users in that people may trespass onto private land but most are unlikely to cause significant damage, unless there is some malicious intent. Again, the farmer has to have some knowledge of this before the declaration is declared false. Cars and particularly tractors moving at high speed would disperse more dirt from roads and tracks than collective effort of numerous bikes (in particular). ○ The NSW Government prepared guidelines for assessing rail trails (<i>Strategic Risk Assessment: Biosecurity Risks Associated with Rail Trails</i>) which

included an assessment of the risk of trail users introducing exotic animal diseases as an unlikely risk with catastrophic consequences, giving it a high risk rating. The documents suggest that risk treatment options reduce likelihood and result in a low residual risk rating. The document identifies that current national border control and quarantine protocols are in place. Suggested solutions include providing bins which fully contain rubbish (or instructing people not to leave rubbish and why), provide information on the general biosecurity duty to which the general public must adhere, and using signage to prevent contact between people and animals. Information on the trail should also include biosecurity risks and responsibilities including warnings about food scraps, human waste, soil, seeds, organisms and people who have been outside Australia in the last 7 days. The assessment also notes that trespass laws apply.

- The NSW Government document assesses the risk of trail users introducing non-endemic animal diseases as an unlikely risk with moderate consequences, giving it a medium risk rating. The documents suggest that risk treatment options reduce likelihood and result in a low residual risk rating. Solutions are similar to the risk of introducing exotic animal diseases and also includes signage to indicate wheels and shoes must be clean and free of dirt and vegetable matter before entering the trail. (Such facilities could be included at trailheads). Trailheads could also include wash down areas for bikes, prams, and footwear in high-risk areas.
- The NSW Government document assesses the risk of trail users spreading established diseases between farms as an unlikely risk with moderate consequences, giving it a medium risk rating. The documents suggest that risk treatment options reduce likelihood and result in a low residual risk rating. Suggested solutions are as above.
- The NSW Government document also recommends that the trail proponent include in their emergency response plan a provision to close the trail during a disease emergency.

Possible solutions

- According to the recently released *NSW Rail Trails Framework* document, essential criteria to be addressed in a Rail Trail proposal include issues relating

	to biosecurity. It is worth noting that there have been biosecurity assessments done for three NSW rail trails – the Tumbarumba Rosewood Rail Trail (opened in April 2020), the Northern Rivers Rail Trail (under construction) and the New England Rail Trail (funded but not constructed yet). It is expected that these assessments will form the template of future consideration. This is a logical set should the trail proceed (a report needs to be prepared prior to construction).
Fencing of the corridor - who pays and what might be needed. Farmers often believe that the rail trail project will result in them needing to pay for additional fencing. Farmers often believe fencing will cause problems with farming practices and not fencing will create havoc with livestock / trail user interactions & liability.	Comments ○ The original railway line was built as a fenced corridor. Since trains ceased operations, several kilometres of fencing have been removed. ○ The cost of fencing, where required, should be a project cost. Adjoining landowners may wish to receive remuneration should they wish to erect the fencing to their standards (rather than contractors). ○ Replacement of fencing over time (as it wears out or gets damaged) would need to be part of the original agreement with adjoining landowners. Landowners in other projects have stated that they would not want to replace a fence that fell down (over time) as they would not originally want the fence and would not need the fence if the rail trail did not proceed.
Splitting of farm paddocks Splitting properties and the resultant impact on farm practices (particularly getting stock to watering points).	Comments ○ There will be sections that ‘dissect’ properties or are used by the adjoining landholder. Possible solutions ○ There are several options for dealing with “paddock splitting”. They involve providing fenced and gated crossing points for stock and machinery at appropriate locations as determined by the landholder and trail manager. Any locations should be discussed in the next stage of planning should the trail proceed to that stage. This also allows individual landholders to ensure they can put their request forward based on their individual circumstances. ○ In discussing solutions (and viewing solutions elsewhere), landholders with this issue often raise the fact that their machinery is much wider than the typical examples shown from other trails and would need much wider gating systems.

	Access licences can be granted by the trail manager with use conditions set to minimise damage to the trail, to manage interactions with trail users, and to maintain farm practices and maintain/develop access. The locations for these should be noted in any pre-construction consultation with adjoining landowners should the trail proceed.
Construction impacts on livestock Timing of construction may have impacts on landholder's use of certain paddocks for livestock at certain times of the livestock management cycle.	Possible solution Should the trail proceed, construction timing should be worked out and negotiated between the Project Manager and any relevant landholders to minimise disruption to livestock and cropping management.
Impacts of trail users	
Management of litter and toilet waste	Comment - Some landowners whose properties adjoin a former railway corridor expect high levels of litter. - It has not been a problem elsewhere. The Lilydale Warburton Rail Trail (Victoria) is kept spotless, with little or no visible signs of litter. The Gippsland Plains Rail Trail was involved with Clean Up Australia Day, but their involvement was curtailed because they effectively had nothing to do. There was no litter to clean up. The Clare Valley Riesling Trail (in SA) is also litter-free. Possible solutions - Thoughtful placement of rubbish bins at trailheads on the trail. - Regular maintenance patrols by council staff or volunteers, or the trail manager. - While installation of composting toilets is one appropriate solution, these are costly and are generally recommended only where there are long stretches between towns.
Farm/user safety Adjoining landholders can be concerned that farms are unsafe workplaces and people are being invited into such unsafe workplaces.	Possible solutions Good design and appropriate information will discourage people from going off the trail onto farm property and thus placing themselves in dangerous work environments or in close proximity to unpredictable livestock.

Belief that trail will lead to unauthorised intrusion into adjoining paddocks.	○ Fencing is the key solution; appropriate warnings on trail literature (websites, trailhead panels, codes of conduct) is the right place to deliver these messages in written form and need to be included when such material is designed. ○ Particular attention to the trail design issues around sites where agricultural buildings are close to the rail trail (some of these solutions are discussed above in the section on crime prevention).
Trail Management issues	
Initial construction costs Belief that construction costs are not feasible, especially bridges.	Comment There are over 150 existing rail trails in Australia, most with reconstructed or refurbished bridges, indicating bridges can and are repurposed for use by cyclists and hikers.
Funding for construction A major concern for opponents to rail trails is “Who is going to pay for trail project?” How will it affect rates?	Comment ○ Many Federal and State Government funding programs are available for tourism/recreation projects such as trails. Numerous trails around Australia have been funded by major grants worth hundreds of thousands of dollars. ○ Major companies, such as mining companies, have contributed to trail projects. For example, BHP Billiton has contributed \$200,000 towards the Camperdown-Timboon Rail Trail in Victoria. ○ Volunteers and other low-cost resources, including low risk prison crews, can be brought into trail construction and maintenance projects. ○ Entire construction costs for trails are rarely borne by local government, therefore there is reduced impact on ratepayers for construction (even though ratepayers do benefit directly from trails, and indirectly by visitors spending in the community). ○ Windfarm projects may have a Community Benefit Fund which could contribute to trail construction.
Liability – who is liable for the safety of users both on-trail and when they stray off-trail. It was also raised in the context of farm dogs or protective livestock attacking trail users.	Comment ○ In recent years public liability has become a major issue right across the community. Trails are not immune from concerns related to liability, or from the resulting issues. Indeed, liability – who is liable and who will pay – is often raised as a potential ‘problem’ with rail trail projects. ○ The exclusion of dogs from farming areas (as suggested above) means that someone who takes their dog into these areas is in breach of the trail regulations and any subsequent liability action would take this into account.

	Possible solutions ○ Primary project partners must take responsibility and ensure that their role is clear and unambiguous. ○ Management body takes liability responsibility along the full length of the trail regardless of ownership. Farmers do not carry any additional liability. ○ Effective signposting at trailheads and access points indicating trail regulations and trail use rules and user responsibilities. ○ In respect of farmers' general insurance, this has not been an issue in other rail trails. Fire management plans address the possible fire risk increase, while reports of theft of property have been virtually non-existent (as noted above). ○ Courts are increasingly ruling that people are responsible for their own actions, marking a different emphasis to that which occurred in the late 1990s/early 2000s when managing authorities were held responsible for inappropriate behaviour.
Unauthorised trail users There are often concerns over whether motor bikes would use the trail. Access by motor bikes and unauthorised motor vehicles.	Comments ○ Unauthorised access to the trail by users of cars, motor bikes, etc, is often stated as one the major concerns of adjoining landowners (it is also a concern of potential trail users). Possible solutions ○ Prohibit motor vehicle and motor bike use through motor vehicle exclusion barriers and effective signage at each road crossing (see examples within report). ○ On the Lilydale Warburton Rail Trail, as with other rail trails in Victoria, a standard gate configuration has been designed for use at all road crossings and trailheads. The design allows unimpeded access by walkers, cyclists, people in wheelchairs, etc. The design is such that motorbikes cannot squeeze past the gate posts of the narrow maze. Access by authorised vehicles, such as management vehicles, adjoining landowners (where needed) and emergency vehicles is gained through an adjoining (locked) management gate. ○ Encourage reporting of vehicle/bike registration numbers of illegal users. Experience on the Murray to the Mountains Rail Trail was that motorbikes tended to use the same sections at the same time – enforcement was therefore relatively easy.

Ongoing maintenance costs Who is responsible, who will pay, what effect will it have on rates?	Comment ○ There are often concerns about the capacity of a Council to maintain the trail and how it is going to pay for the maintenance. Maintenance is an ongoing responsibility and necessary for a good trail and the costs do need to be met by an organisation (Council or other community groups) – whether it is in capital or human resources. ○ A rail trail should be regarded as simply another recreational or community asset provided by the Council for the benefit and enjoyment of its ratepayers. Possible solutions ○ Preparation of a regularly reviewed Trail Management Plan covering all maintenance issues (including fencing) prepared in advance of construction is critical. The plan will provide a clear definition of who is responsible for what. ○ Proper design and construction will minimise ongoing maintenance costs. ○ Focus of maintenance – erosion, vegetation regrowth, weed control and signage damage. ○ A clear definition of who is responsible for what. ○ Division of maintenance into regular inspections and simple repairs and once/twice yearly programs undertaking larger jobs such as signage repairs, culvert cleaning or vegetation control. ○ Hazard inspection program (to limit liability and to define maintenance activities).
Responsibility for policing trail Adjoining landowners are often concerned about undesirable people using the trail and causing a nuisance.	Comment ○ Rail trails do not attract undesirable people. Adjoining landowners need not be concerned about the typical trail users as they do not cause trouble. They are using the trail for a relaxing and enjoyable outing in an attractive environment, free of motor vehicles. Possible solutions ○ Volunteer or professional trail patrols ranging from informal monthly clean-ups and maintenance crews to daily patrols. ○ Preparation of a regularly reviewed Trail Management Plan contains a clear definition of who is responsible for what. ○ Police and/or Council ranger patrols (including on bikes); or by trail manager on regular patrols.

SECTION 4 – POTENTIAL ISSUES

In determining whether the proposed Narrogin Williams Rail Trail is worthwhile and viable an assessment was made of a number of potential issues and opportunities. None of the issues that follow are insurmountable, though some are difficult.

- **Stakeholder positions** – Councils and the community. Both the Shire of Narrogin and the Shire of Williams' Councils are keen to explore the merit of developing the trail between Williams and Narrogin and sought funding for this study. The Councils have stated that the rail trail project presents an opportunity to enhance recreational and tourism opportunities and celebrate both the natural beauty as well as cultural heritage.
- **Tenure and land ownership** - the former railway corridor is Crown land and therefore remains in public ownership. The corridor was developed as a fenced line. However, much of it is now grazed by stock as fences have been removed over the years by adjoining landowners. A change to the status quo will have considerable consequences for neighbouring farms along the corridor. However, the design of the trail (utilising specially designed gating systems) can mitigate these concerns.
- **Bridges** – there are seven bridges between Williams and Narrogin, in various states of useability. All cross areas of flowing and/or standing water and usually with a steep gully and a steep descent/ascent from the embankment to the water. In determining whether these bridges can be refurbished to accommodate the passage of cyclists and hikers, an assessment was made of the condition of each bridge and the alternatives which included: building bypasses of the bridges on higher ground (often alongside the Williams-Narrogin Rd), the construction of concrete floodways, fabrication of lower-level boardwalks and the installation of prefabricated bridges. It was noted that even after a period of relatively low rainfall, there are wide areas of standing water and reeds and a wide area no doubt subject to inundation during wetter winters. A rough calculation was also made of the respective costs of the various options for fording each river and on balance it was determined that refurbishing most bridges was either as cheap and/or the best option. Most bridges have steel I-beams and either concrete piers or timber piers that appear to be in comparatively good condition. Only one bridge needed complete replacement. One bridge (nearest to Williams) would be avoided by an alternative route into the Williams trailhead via the shared path along the river.
- **Regrowth vegetation** – During the time that trains were operating, the railway corridor would have been kept clear of vegetation (to prevent sparks from igniting the bush). Since the last trains ran along the line in the late 1980s there has been a considerable amount of regrowth within the railway corridor. Much of the regrowth vegetation is sheoaks but there is a variety of eucalypts in patches along the corridor. A trail corridor will have to be cleared through this regrowth in many areas, including along embankments where no other option is available as well as through cuttings, if no alternative is available. Regrowth vegetation will no doubt continue to flourish.
- **Road crossings** – road / trail crossings always present a special hazard which must be addressed carefully. A crossing should have enough space cleared and levelled on both

sides of the road to allow cyclists travelling together to gather in a group and cross en masse. One-at-a-time crossing greatly increases the overall time in the roadway and therefore increases the likelihood of encountering a vehicle. The crossing should ideally be at a straight, level area allowing both trail user and vehicle driver good visibility and the driver ample stopping distance (if possible). All trail crossings should be perpendicular to the road. All crossings will be 'at-grade', as is common with the overwhelming majority of road crossings on rail trails in Australia (as well as many other trails). By necessity the original railway route twisted its way across the landscape and crossed numerous roads, usually at grade. Should the rail trail proceed, there will be 18 road crossings between Narrogin and Williams. The most significant road is the crossing of the Williams-Kondinin Road (which carries approximately 1,000 vehicles per day in the vicinity of the proposed crossing point). This compares very favourably with counts on Albany Highway where the Bibbulmun Track and the Munda Biddi cross Albany Highway (at nearly 4,000 vehicles per day). There are other minor road crossings between Williams and Narrogin, none of which presents any significant issue. Although there are numerous road crossings, all have good sight lines and relatively level ground to cross at. Appropriate signage, common on every rail trail, is one of the best means of helping to ensure trail users cross all roads safely. The exact locations of at-grade crossings would need to be carefully chosen and designed. Generally, the road crossing treatment required includes:

- Installation of signage on the rail trail (both sides of the road crossing) advising (or warning) of the upcoming crossing of the road. The recommended treatment is the installation of (either or both) "Give Way" (or "Stop" signs if it is a major road) and "Road Ahead" signs on both sides of the crossing. If motorbikes are not considered a problem now, or in the future, a drop-down central bollard could be used to prevent unauthorised motor vehicle entry;
- "Trail Crossing Warning Signage" on the road (both sides of the trail crossing) alerting road users of the upcoming trail crossing;
- Installation of pipe culverts at roadside drains (where required); and
- Miscellaneous signage (including Rail Trail name and logo; distance signs; Emergency Marker signs; road name signs; "Unauthorised Vehicles Prohibited" signs; "Trail Bikes Prohibited" signs, etc.).



Disturbance to formation/embankment – the removal of the steel track from the railway in the early 1990s caused significant disturbance to the formation in numerous locations. This is particularly evident at minor road and track crossings of the railway where loading of the steel onto trucks would have taken place. These are areas where the formation has completely disappeared due to the movement of these heavy vehicles and the locations where the formation will need to be reinstated during trail construction.



Western Australian College of Agriculture Narrogin - the College has approximately 4 kilometres of the disused railway passing through its landholdings. It is vitally concerned about the safety and security of its students and of biosecurity issues pertaining to its stock and crops.



Fencing – fencing of the corridor is one of the most important, and expensive, components to the future success of any rail trail. As a rule, rail trails pass through a considerable amount of farmland, and it is critical that the entire rail trail corridor be fenced on both sides where it passes through farms. Fencing along a rail trail is required for several reasons:

- To prevent unauthorised access onto the rail trail;
- To prevent authorised trail users (cyclists, walkers) from attaining access onto adjoining properties, and to prevent unauthorised trail users (trail bikes, etc.) from illegally trespassing onto private property;
- To minimise disturbance of stock by trail users;
- To prevent encroachments by adjoining landholders;
- To delineate freehold (private property) from public land and to minimise encroachments and trespassing, unintended or otherwise;
- To prevent stock from straying (recognising that it is the landowner's responsibility to ensure stock does not stray); and
- To keep stock off the rail trail and away from trail users.

The Williams Narrogin section of this railway was originally fenced at a corridor width of 35 metres (in some locations) or 40 metres (in other locations). The two sidings (Geeralying and Dumberning) were fenced at a width of 100-110 metres. Since the closure of the railway over 35 years ago some side fences have been removed and other have deteriorated significantly. There are numerous reasons why the fencing will need reinstatement, as outlined above. Each segment of the proposed rail trail makes an allowance for the reinstatement and/or repairs to fencing. Discussion with adjoining landowners indicates that reinstatement of the fences on the original reserve boundary is the most desirable outcome, enabling grazing of the rail trail corridor if/when desired. Much of the disused railway corridor is located parallel with the Williams-Kondinin Rd (Narrogin Rd) and consequently only one fence (on the farm side) is required. Although the corridor is proposed to be fenced, the cost estimates allow for ample stock and machinery crossing points of the corridor to enable farmers and their stock to cross the (former and to-be-fenced) rail trail corridor (in some, but not all, locations) without the necessity of opening and closing gates. Not all of the stock crossings need to be open 24/7. If the trail proceeds, consultation with each adjoining landowner will be required to tailor specific solutions. The cost of fencing, where required, should be negotiated with each individual landowner during the one-on-one consultation process. One of the options to maintain the corridor (as opposed to maintaining the actual trail) is to allow adjoining or adjacent landholders grazing or cropping permits over those parts of the corridor not required for a trail. Adjoining landowners have shown a preference for the proposed new fences being erected on the original railway reserve boundary, rather than being brought in closer to the proposed trail which could be located within a narrow (7-10m wide corridor). Keeping the fences along the original boundary means that all owners and leaseholders know where the legal boundary is, without any confusion. It also means that, should adjoining landowners wish to graze their sheep within the trail corridor (i.e. the original railway reserve corridor) they will have a much

wider area for the sheep to graze which makes it more worthwhile. It also means that at those times when sheep are grazing, the sheep can easily move to the side of the corridor while trail users are passing and not feel threatened or trapped.

- **Quality of construction** – the initial discussions concerning this proposed rail trail considered the prospect of the trail being developed to a Grade 3/4 level (meaning less attention to quality and a more expeditious construction and affordable trail). A lesser grade of trail would mean bridges would not be refurbished, crossing of watercourses would be by means of a basic ford, signage would be minimised and clearing for the trail would be minimised to allow only a single-track (1.0 - 1.5 m wide trail). Consultation with adjoining landowners, and the consultants' own deliberations, now indicates that a higher quality (i.e. Grade 2/3 trail) should be developed. The feeling is that the better the quality of trail, the better the experience for most potential trail users. The better the quality, the better the chance of attracting more users and consequently the bigger the financial returns to the communities at either end.
- **Gating at road crossings** – the potential for unauthorised users (such as motorised trail bikes and motor vehicles) to access the rail trail corridor is always of utmost concern to adjoining landowners, particularly farmers. Consequently, most rail trails put in place secure gating systems at road crossings to prohibit or at least deter all but the most dedicated intruder. Gating systems include 'chicanes' that allow the passage of bicycles and walkers, with a locked management access gate (that can be opened for access by management vehicles, and emergency services vehicles such as fire fighters, ambulances and police cars).
- **Exit out of Narrogin** – the new location of the Visitor Centre in the old railway station building means that the trail should commence/end at this location where there is ample parking, and of course access to the Visitor Centre. Getting across the Great Southern Highway east of the VC will eventually dictate that new kerb ramps be put in place, to enable easy passage to and through Gnarojin Park. The route south of the Visitor Centre towards Railway Dam is troublesome as sections are very unattractive, and well used for the movement and parking of cars and heavy machinery, storage and dumping of rubbish. However, a route that utilises existing shared paths and gravel verges is possible, with the added benefit of passing the Vintage Machinery museum. The placement of numerous Trail Directional Markers has been recommended so trail users can easily navigate the trail until reaching the railway embankment as it passes to the north of Railway Dam.
- **Choice of alignment** – in many locations the actual railway embankment/formation is not clearly discernible due to years of neglect and the dumping of waste materials. As mentioned above, years of regrowth vegetation also masks the actual alignment of the former railway line. In some locations where there is a parallel track – quite likely the former maintenance track for the railway – it may be preferable to minimise clearing by using the track instead of clearing the regrowth vegetation. Some of these existing tracks are currently used as access to adjoining farms and other properties. These access tracks could/should be retained, and the track designated as a "shared" zone, by appropriate signage. Agreements with adjoining landowners may be required.

- **Authenticity of experience** – using as much of the former railway infrastructure (such as bridges, embankments and cuttings) is a highly desirable outcome to provide future trail users with an ‘authentic’ rail trail experience. That is what they would expect. Deviating the rail trail off the corridor onto adjoining public roads is not what they would expect. However, as described above, there will be situations where the trail could and should be diverted off the overgrown formation onto a parallel track, if it is contained within the actual railway reserve. In numerous situations where the embankment is very low, there is little difference between walking/cycling along the low embankment and walking/cycling along the parallel track.
- **Need for a mid-point trailhead** - the proposed rail trail, at approximately 34km, is an ideal range for cycling either as a one-way experience by many cyclists, or a return journey for fitter, more capable cyclists. However, 34km is a very long day’s walk and much too far for most people. Therefore, a trailhead at a point preferably mid-way along the corridor would provide more options for future users. The preferred location would be within Geeralying Siding (at Manaring Road) where the corridor is 100 metres wide and where shade trees already exist. The siding is 16km from Narrogin and approximately 18km from the proposed Williams trailhead. A midpoint trailhead would enable a convenient place for a car shuffle, or for trail users to be collected. The Geeralying Siding ground itself is very wide and large and immediately alongside Manaring Road. An allowance has been made in the cost table for the development of a trailhead in the siding.
- **Culverts** – lack of maintenance of the former railway corridor in the time since it was closed has resulted in most, if not all, culverts under the embankment becoming clogged with debris and mud. These will need to be cleared out during the construction program. An allowance has been made for this activity. Some timber culverts have collapsed, and these will need to be replaced with concrete pipe culverts during construction.
- **Lack of maintenance** – when the trains were operating, especially as a steam railway, the responsible government authority was reasonably diligent in maintaining the corridor. However, since closure maintenance has been virtually non-existent and there are numerous locations where weeds are growing, and rubbish has been dumped. The development of trail is the opportunity to spray weeds and clear the corridor of all illegally dumped waste.
- **Removal of remaining sleepers** – removal of the steel track from the railway occurred in the early 1990s. Sleepers were evidently removed at that time too, but not all. The development of the rail trail will by necessity require the removal of all remaining sleepers, as well as judicious removal of regrowth vegetation from the former railway formation (where it is to be used). This report includes specific detail on how best to remove the sleepers and overgrowing vegetation and leaving an aesthetically pleasing trail corridor.
- **Costs – both capital and maintenance** – are a major consideration in any public infrastructure project. These need to be offset against a range of benefits – both economic and non-economic. Broad cost estimates are a part of this project, but

reliable and detailed cost estimates would need to be obtained from construction contractors at the time of development of the trail.

Ongoing trail maintenance is a crucial component of an effective management program – yet it is often neglected until too late. Countless quality trails have literally disappeared because no one planned a maintenance program, and no one wanted to fund even essential ongoing repairs. It is therefore essential that funds be set aside in yearly budgets for maintenance of this trail - to ensure user safety and enjoyment, and to minimise liability risks for land managers (maintenance is discussed in more detail later in this report).

Resourcing a maintenance program is crucial, and funds will be required on an ongoing basis to enable this essential maintenance. It would be short sighted to go ahead and build the Narrogin Williams Rail Trail and then baulk at the demands of managing and maintaining it.

Evidence of actual trail maintenance costs for individual items along a rail trail, or any trail for that matter, are scarce. The biggest maintenance costs involved are obviously maintenance of the items that initially cost the most to install – surfacing, fencing and bridges (although it should be some years before maintenance is required).



Landholder concerns and issues - as is the case with virtually all rail trail projects, adjacent landowners are, understandably, apprehensive about trails close to their properties. These concerns were expressed during consultations with adjoining landowners. It is important that these concerns are seriously addressed before any trail conversion takes place. Issues that have been raised already during this project and others that may be raised in the future are included throughout this report.

Should the trail proceed (in any form), and immediately prior to construction, one-on-one consultation should take place with adjoining landholders to determine, in a cooperative manner, solutions to their issues. It is time-consuming but necessary. It is infinitely better to be proceeding with their support (or at least the absence of opposition) than it is to ride 'rough-shod' over these concerns.

Seeking local ideas and advice always helps forge a stronger relationship. Listing concerns and working together to find resolutions is a far more productive approach than creating confrontation.

It is the experience of the consultancy team that landholders will take the time to discuss the potential trail and the problems they envisage. When issues are discussed at the actual site where the perceived problem is, discussion of possible solutions with the landholders often reveals that the problem can be minimised or completely avoided.

Involving landholders in the process, over a period of time, will help avoid feelings of alienation or mistrust. Acknowledgment of the gravity of each issue, and a 'work together' approach is likely to be a good starting point. As with all neighbour issues, involvement over time goes a long way to building trust.

While rail trails are hugely popular and successful once they are open, during the development phase, trail proponents often must answer a wide range of concerns that residents may have about the impact of the proposed trail on their farming operations.

- **Flooding** - railway construction involved numerous bridges and dozens of pipe or timber culverts to carry the railway across rivers and creeks and water from one side of the railway embankment to the other after careful consideration of drainage in the event of heavy rainfall and flooding. The crossing of the Williams River is of particular concern. All existing bridges need refurbishment (or replacement in the case of one bridge) to carry trail users across flood prone land at these bridge locations. While these crossings may be dry for much of summer, that is probably not the time when the trail will host most visitors. The cooler months are when highest levels of usage can be expected, at the same time as these watercourses are likely to be under water.
- **Dogs and legal liability of landowners** - allowing dogs on a trail is beneficial as trails enable residents of towns to exercise themselves and their pets in a traffic free environment. However, the presence of dogs on any trail usually presents a problem to adjoining landowners. In the case of rail trails, which pass through farmland often containing stock, the issue is even more significant. Unrestrained dogs can pass through fences and disturb stock (sheep, cattle) and farm dogs at work. The recommended solution to having dogs on a rail trail is to only permit them in 'town' sections. The exclusion of dogs from farming areas means that someone who takes their dog into these areas is in breach of the trail regulations and any subsequent liability action would take this into account. For this reason, it is recommended that dogs be permitted on the trail as far as Railway Dam (or perhaps Graham Rd) in Narrogin and as far as CBH in Williams.
- **Aboriginal heritage** – A search of the Aboriginal Cultural Heritage Inquiry System (ACHIS) has revealed there are no registered aboriginal heritage sites within, alongside, or in close proximity to the former railway corridor. The closest registered site is Aboriginal Cultural Heritage Register Place 5826 (some 300 metres to the north of the corridor. ACH Register Place 5888 is even further distant). Earthworks and construction activity over 100 years ago (to develop the embankments and cuttings), and the clearing of vegetation within the entire corridor, would have eliminated evidence of any burial sites, artefact scatters or modified trees – should they have existed.
- **Horses on the trail** – a decision to not permit horses on the trail has been taken by both local governments. As with dogs, horses on a rail trail can and will pose a significant issue to adjoining landowners and their stock (and horses).

SECTION 5 – OPPORTUNITIES

Rail trails provide several notable opportunities for visitors, residents and the town and villages where they start/finish and through which they pass. There are a number of specific elements within the area encompassed by the proposed rail trail route that provide opportunities and reasons for why a trail should be built.

-  **WA State Government funding** - Earlier this year, the WA government committed \$17.5 million to completing the Wadandi Track (formerly known as the Busselton-Flinders Bay Rail Trail). The funding, broadly corresponding to the cost estimates prepared in a Trail Development Plan prepared in 2013, will increase the length of the rail trail from 54km to 110km. The completed rail trail is set to become one of Australia's most iconic rail trail experiences. It will be bookended by the picturesque coastal towns of Busselton and Augusta and will link several important inland settlements including Cowaramup, Margaret River, Witchcliffe, and Karridale. This major funding commitment, which was announced at a time when several other trail projects received significant grants, is an indication that the WA Government is prepared to pursue the development of significant recreational trail projects for the benefit of Western Australians. Furthermore, the WA Government considers underutilised transport and service corridors (including former railways) in rural areas as excellent candidates for "transport trails" due to their relatively gentle gradients, and ability to support recreational and tourism trips between towns and regions.
-  **Public Transport Authority** – the PTA is keen to divest its responsibilities for ongoing maintenance of assets along this disused railway corridor and would support any approach by the local governments should they decide to take the lease of the corridor for the purpose of developing a trail. The PTA is a co-author of the *Western Australian Cycling Network Hierarchy* which describes the benefits of "transport trails" – routes within underutilised transport and service corridors (Including former railways) in rural areas – due to their relatively gentle gradients, and support for tourism trips between towns and regions.
-  **Possible funding from green energy projects** in the region – there is considerable opportunity for both Councils to utilise significant financial contributions from Community Enhancement Funds set up in the process of approving windfarms and other 'green energy' projects proposed for the region.
-  **Appealing landscapes and infrastructure.** The proposed Narrogin Williams Rail Trail would pass through attractive rural farming scenery, as this was where rail lines historically ran. Views of gently undulating countryside, containing water bodies and trees are the most attractive and relaxing for many people (*St Leger 2004*). Views to distant hills are sometimes present (though these are "low-rise" in nature). Undulating topography is constant along the corridor. Views of sheep or other stock grazing in adjoining paddocks adds to the interest. Whilst much of the infrastructure along the corridor has been removed, some infrastructure along the railway corridor remains. All bridges remain (albeit needing refurbishment); distance pegs remain in most places. Embankments and cuttings - whilst not a common feature on the corridor - are present and add to the diversity of the landscape. All these elements of the original railway would add to the enjoyment of trail users, should the trail be developed.

- **Topography of the route.** One of the major appeals of rail trails is the gentle gradient, suitable for all types and levels of cyclists and all walkers (including parents with prams and people on mobility scooters). This is the market that would be attracted to a rail trail. The corridor itself is reasonably flat (having been constructed originally for steam locomotives mostly along river and creek valleys).
- **Aesthetics on the corridor** - overall, the corridor has all the attributes that potential rail trail users desire: attractive landscapes and distant views, history, railway embankments and cuttings, railway bridges across rivers, scenic farmland and a gently curving but generally flat formation. The railway corridor between Williams and Narrogin passed over several rivers and creeks, including the Williams River, Walkers Creek and Geeralying Brook – all offering attractive water views (particularly during winter). Even though some of the disused railway corridor runs alongside the Williams-Kondinin Road (from Williams to Narrogin), this does not diminish the attractiveness of the corridor as it is separated somewhat from the road (which is not particularly busy). The trail if built would meander its way across the countryside – passing interesting landscapes and features as well as being relatively remote from major settlements (except at either end).
- **Access to the trail** – the visibility of the proposed trailheads (Lions Park in Williams and the Narrogin Visitors Centre) will help encourage use. The proposed rail trail has excellent opportunities for potential users to access the trail route at the trailheads and via the numerous crossroads, as well as from Railway Dam in Narrogin. The proposed mid-point trailhead (at Geeralying Siding) further enhances access possibilities.
- **Connections between towns.** Taking trail users to the towns at either end will provide new business opportunities for service providers. Presently, there are limited opportunities for potential trail users to get accommodation in these towns, although food and drink and other services are readily available. Development of the rail trail may provide a range of new business opportunities (or allow existing businesses to expand). The trail will make an actual connection between the towns – one that reinforces historic connections.
- **Business development.** There is a range of business opportunities for private sector investors arising from the potential development of a rail trail. Providing accommodation, food and beverages, supported and guided tours and equipment, are some of the businesses that have arisen along other trails. Such services add significantly to the user's enjoyment if done properly. A 2015 user survey of the Otago Central Rail Trail (in New Zealand) reported that ratings for package operators have consistently improved over time and were rated 9.5 out of a possible 10 in 2015. There is no doubt that this contributed to visitors rating their overall rail trail experience at 9.0 out of a possible 10. The rail trail also potentially offers benefits beyond the two towns which it connects. Service and accommodation providers in nearby towns may also benefit from an influx of rail trail users, particularly in the early years of operation as new businesses closer to the trail take time to develop.
- **Attracting new visitors who spend money.** A trail such as the proposed Narrogin Williams Rail Trail will provide several opportunities. A trail will bring additional tourists and assist in keeping them longer in the area. A trail will create opportunities to build on existing industries and enterprises of the area. Australians are increasingly looking

for passive, non-organised recreation opportunities, often in natural or near-natural settings. Demand for this type of opportunity will only increase as the population ages. While walking remains the most popular of these activities (and is likely to remain so as the population ages), off-road cycling shows a growing and often unmet demand within the trails market. The advent of e-bikes will only accelerate the popularity of cycling on trails. In addition, bike sales increased dramatically through Covid-19 – meaning a lot of new users will be looking for potential bike riding opportunities. The proposed Narrogin Williams Rail Trail would provide experiences for a range of user groups in a series of markets that have been consistent over time – walking, bushwalking and cycling – or growing significantly – off road cycle touring. The rail trail would provide for both visitors and local people who participate in a range of activities.

- **Broadening the recreation offerings.** Provision of an additional off-road trail adds to the list of tourist offerings in the region and encourages visitors to stay a little longer to go for a pleasant walk or ride. A new nature-based attraction has the power to retain those visitors for longer, spending money and generating business opportunities. A rail trail is an attraction open 365 days each year.
- **Possible agglomeration of rail trails -** a rail trail hub. At a length of 34 kms, the rail trail is an ideal 2 - 3-hour bike ride for many users. Obviously, walkers will take much longer. Other existing rail trails in the area are the Collie-Darkan (to Dardadine Siding) Rail Trail and the Congelin Siding Rail Trail (in Dryandra Woodland National Park) which follows the old Pinjarra to Narrogin railway line that was constructed in 1925 and known as the Hotham Valley Branch (Dwarda line). Proposed rail trails in the Wheatbelt include the Kojonup-Katanning-Pingrup (157km) and Tambellup-Gnowangerup-Ongerup (94km) as well as the potential continuation of the Collie-Darkan Rail Trail from Dardadine Siding to Williams. While many are at early stages, some may come to fruition over time making the region a very attractive place for an extended stay with users sampling several rail trails. Far from being in competition with each other, such rail trails would complement each other encouraging visitors from further afield to come and stay longer. This is a common use pattern in Victoria where visitors do several rail trails in a region over an extended period (often adding additional on-road cycle touring routes).
- **Capitalising on local trail network -** the recent development of mountain biking trails in Narrogin, coupled with the new in-town Heritage Trail and the upgraded cycle/walk trails within Foxes Lair, provide a broad spectrum of trail related activities for a range of potential users, including family groups.
- **Wheatbelt Cycling Collective.** A committed community-based group is an important element in a rail trail's success. This group has been very active in helping to promote the development of the trails in and around Narrogin. This commitment can be tapped into to ensure the rail trail succeeds (should it proceed) in regard to ongoing maintenance and promotion. Numerous other 'Friends of' groups on other rail trails volunteer to undertake a wide range of routine maintenance tasks – saving the trail manager time and expense.
- **Non-monetary benefits.** Trails can improve community connectivity and provide increasing recreational options for local people thus contributing to both physical and mental health of communities through which they pass.

SECTION 6 - VISITOR MARKET AND NEEDS ANALYSIS

A trail such as the proposed Narrogin Williams Rail Trail will provide several opportunities generally associated with recreation trails. A trail will bring additional tourists and assist in keeping them longer in the area. A trail will create opportunities to build on existing industries and enterprises of the area.

6.1 Visitors

Australians are increasingly looking for passive, non-organised recreation opportunities, often in natural or near-natural settings. The proposed Narrogin Williams Rail Trail would provide experiences for a range of user groups in a series of markets that have been consistent over time – walking and bushwalking and cycling – or growing significantly – off road cycle touring. The trail would provide for both visitors and local people who participate in a range of activities. Several high-profile trails in Australia and New Zealand provide examples of user numbers that can be achieved on tracks and trails (a product within nature-based tourism). Users are attracted to developed trails that are both ‘known’ or advertised in some way and offer a range of facilities such as signage and interpretation, parking, toilets and water.

6.2 How Much Do Trail Users Spend?

Successful trails are already attracting large numbers of visitors and they are spending reasonable amounts of money both in the local economies and in the broader economy. The following figures provide a snapshot of expenditures from a range of trails to demonstrate user expenditures.

- Whilst there are no specific detailed categories or figures available for the Tumbarumba Rosewood Rail Trail (such as detailed below for other trails), the *Rail Trails for NSW Evaluation Summary (2022)* identified that spending in the Tumbarumba region was up by 20% over the two six month period either side of the Tumbarumba Rosewood Rail Trail opening and discretionary spending on leisure-based activities in Tumbarumba was up 55% for the same six month periods. It is important to remember that this expenditure by users was also in a time (June-December 2020) affected by Covid-19 measures.
- Recent data (*Service Innovation Alliance 2021*) shows that users of the Brisbane Valley Rail Trail are spending an average of \$118.88/day for day trippers and \$179.81/day for



Several accommodation establishments are clearly benefiting for locating close to the Riesling Trail, resulting in economic benefits to the businesses and a bigger range of accommodation options cyclists and walkers using the trail.

overnight visitors. Overnight visitors are staying an average of 2.75 nights, increasing their total spend to almost \$500/trip.

- The Mundaring Trails Network, 1 hour from the Perth CBD, injected some **\$12.62 million** into the local economy and a **further \$15.21 million** into the State economy annually. Local residents spent \$4.06/visit to the network and visitors (primarily day users) spent \$23.71/visit. The key is that the total number of trips on the trails studied was a staggering 2.454 million visits annually (*Jessop and Bruce 2001*).
- Users of South Australia's Riesling Trail (a 35 km rail trail in the Clare Valley) who come primarily to use the trail are estimated to spend **\$1.08 million/year** (\$215/person/visit with daily expenditure of around \$100). This does not count the other 50% of trail users who use the trail as a secondary purpose for their visit (*Market Equity 2004*).
- The economic impacts of the Bibbulmun Track (WA's long-distance walking track) have been studied over two periods (in 2003 and 2007/08). In 2003, the track was shown to have generated **\$21 million** of expenditure **annually** by track users, well in excess of its one-off construction costs of \$5 million (*Colmar Brunton 2004*). More recent figures show an increase in this amount (due to an increase in both users and how much time they spend on the track). The estimated expenditure in 2008 is around **\$39 million annually** (*Colmar Brunton 2009*). The 2007/08 study shows that the average day walker (some 70% of all users) is spending \$50-\$60/day, while those walking the track for 2-3 days are spending around \$200/visit. Those using the trail for 6 weeks or more, while small in number, are spending \$1,400/visit.
- The Murray to the Mountains Rail Trail in North East Victoria is one of the better-known rail trails in Australia. Research work undertaken over Easter 2006 (*Beeton 2006*) found that average daily expenditure was **\$258/user/day**. The bulk of this expenditure was on food and beverage (57% of daily expenditure which equates to \$147/user/day). Beeton applied accepted economic multipliers to these figures and calculated that the direct contribution to the local economy per user per day was in excess of \$480. Follow-up work by Beeton (2009) made similar findings.
- Users of New Zealand's Otago Central Rail Trail are spending **\$NZ 177/day** with the average length of stay in the region of 3.8 days. There is a range of expenditures – users doing the whole trail spend \$NZ 166/day while those doing part of the trail spend \$NZ 247/day. The trail created 81 direct jobs and a total of 102 jobs. Accommodation derives 41-48% of the benefit, followed by



The Otago Central Rail Trail on the South Island of New Zealand is an outstanding success, stimulating the establishment of 15 - 20 tour operators that provide logistical support. The rail trail has also stimulated private developments including chalet accommodation at Wedderburn, developed by the owners of an adjoining farming property.

food and consumables. The trail is contributing some \$3.55 million directly to New Zealand Gross Domestic Product (GDP) and \$5.2 million in total (*Otago Central Rail Trail User Survey 2014/2015*).

- Users of New Zealand's Hauraki Rail Trail are spending around \$5 million/year using the trail. Visitors are spending an average of \$172 per trip, and 50 full time positions had been created because of the trail.
(<https://www.stuff.co.nz/travel/destinations/nz/94123407/hauraki-rail-trail-contributes-millions-to-local-economy>)
- At the broader New Zealand level, 1.065 million users of the Great Rides of New Zealand network spent an average of \$NZ 892.20/trip (for a total expenditure of \$NZ 951 million) in 2021 (*Angus and Associates 2022*).

There are a range of business opportunities for private sector investors arising from the potential development of a rail trail. Providing accommodation, food and beverages, supported and guided tours, and equipment, are some of the businesses that have arisen along other trails.

It is important to understand how trail users spend their money. Trail users spend money before coming to a trail and in towns and villages along the way. The expenditure data shown below represents an amalgam of existing research data on visitor expenditure related to rail trail.

Reviewing the expenditure data from these 7 studies allows an understanding of average expenditure patterns of trail users for overnight trail users (the 2022 Angus and Associates study is not included as the data was not presented in a way that could be easily converted). Table 2 shows average amount spent by trail users and the broad sectors in which they spend their money (average expenditure per sector is drawn from most of the studies listed above – not all provided detailed data. The data was collected at different times and noted in different currencies. The figures below represent averages converted to 2023 Australian dollars).

Table 2: Trail user expenditure by category for overnight visitors (rail trail and cycle trails)

(Overnight users include those staying 1 night or more in the region to use a specific trail)

Sector	Average expenditure/day
Accommodation	\$63.62
Food and beverage	\$92.58
Transport	\$27.82
Retail	\$36.23
Other (including cycle maintenance)	\$26.14
TOTAL	\$246.39

Sources: Service Alliance (2021); Beeton (2003); Beeton (2006); Beeton (2009); Market Equity (2004); NZ Ministry of Business, Innovation and Employment (2013); Central Otago District Council (2011).

Table 3 shows average amount spent by trail users on day trips and the broad sectors in which they spend their money. The data was collected at different times and noted in different

currencies. Average expenditure per sector is drawn from most of the studies listed above – not all provided detailed data. The figures below represent averages converted to 2021 Australian dollars.

Table 3: Trail user expenditure by category for day-trippers (day tripper expenditure was only available for some of the studies)

Sector	Average expenditure/day
Accommodation	\$0
Food and beverage	\$64.18
Transport	\$31.73
Retail	\$40.45
Other (including cycle maintenance)	\$33.69
TOTAL	\$170.05

Sources: Service Alliance (2021); Beeton (2003); Beeton (2006); Beeton (2009); Central Otago District Council (2011); Colmar Brunton (2009); Hughes et al (2015); Market Equity (2004); Manning et al (2000); NZ Ministry of Business, Innovation and Employment (2013)

SECTION 7 – ESTIMATES OF PROBABLE COSTS

7.1 Basis of Cost Estimates

The investigations undertaken during the fieldwork associated with this project and the consultation carried out enable a reasonable indication of the work required to bring about the development of the proposed Narrogin Williams Rail Trail project.

This report is essentially a Feasibility Study, with sufficient attention given to determining the construction/development activity needed to bring the trail to fruition.

The costs of construction of the proposed rail trail are an estimate of probable costs only. Accurate costs can only be determined, firstly, by the compilation of more detailed works lists accomplished through a detailed trail development plan for the proposed rail trail and, secondly, via a tendering process.

The costs for development of the trail (bridges, trail construction, etc) are based on conditions likely to be encountered during construction. As accurate measurements have not been made, it is not possible to be precise in quantifying costs. It is only after a detailed trail development plan is prepared (including a full traverse of the corridor) that more definite quantities and costs can be provided.

For the purposes of determining costs for this Feasibility Study, the per unit construction rates have been included in the tables, along with an estimate of the total length or quantity. The following relevant notes apply.

It is likely that the Councils' works crews could accomplish construction at a better rate, given their resourcefulness, their workforce is local and is without the need for mobilisation or demobilisation costs. The cost and availability of local accommodation for contractors may result in a higher cost.

The estimates of probable costs are based on recent relevant construction costs from other trail projects. Real-life costs will depend on several factors, including the state of the economy, the extent of 'advertising' of construction tenders (or the competitiveness/efficiencies of the Councils' crews), the availability and competitiveness of contractors, the rise and fall in materials costs, the choice of materials used in construction and final design details.

Tenders submitted by construction contractors may vary significantly from the estimated costs in the table contained within this report.

Estimated costs are as of August 2024. An additional 3.5% should be added to each individual total per year compounded. Recent press articles on general construction issues suggests the current construction industry price escalator is between 5% to 7% per annum. It may be appropriate to consider this figure when applying for construction funding should the project proceed and dependent on the timetable.

 **Clearing.** Clearing costs (prior to earthworks) vary:

- Very minor clearing is \$1,000/km;
- Minor clearing is \$3,000/km; and
- Moderate clearing (most notably the removal of small trees in the formation) is \$5,000/km.

- **Trail construction.** Construction includes removal of old sleepers where they still exist, grading of existing (gravel) ballast to remove sleeper indentations, light rolling, levelling, trimming, shaping and compacting and forming of a slightly crowned gravel surface to create a trail at a width of 2.0m: \$50/lineal metre (for 2.0m trail width).
- **Stock and machinery crossings:**
 - Minor – trail open 24/7; gates to be closed to move stock and machinery across trail (4 x 6000mm gates, plus additional fencing and strainers, plus installation) (\$4,000)
 - Major: trail and crossing open 24/7; includes management access gates, stock grids and side gates that can be closed when required. (\$20,000)

Note: drawings illustrating options for stock/machinery crossings are shown in Appendix 3.

- **Signage:**
 - Installation of “Give Way” or “Stop” signs at road crossings: (includes fixing signs to sleepers, digging of post holes, drilling and fixing bridge spikes or large nails to foot of post and rapid set concrete footing) -
 - “Give Way” signs for placement on second hand railway sleepers on trailside – 300mm x 300mm triangle (\$40)
 - “Stop” signs for placement on second hand railway sleepers on trailside – 225mm x 300mm triangle (\$35)
 - Use of Jarrah railway sleepers (used) – 200mm x 50mm x 2.4m (\$40)

- **Fencing:** \$25/metre installed. \$15/metre for fencing repair.

- **Gating systems:**
 - Chicane gate and management access gate (primarily at road crossings) – (\$5,000/set).
 - Lockable bollard (set in concrete footing and apron) (\$1,000)

- **Bridges:**
 - Refurbishing existing bridges – includes removal of remaining sleepers and steel track; installation of new decking; installation of handrails; reinstatement of concrete abutments; installation of fill and rock batters etc - \$3,000/lineal metre
 - Prefabricated bridge - \$6,000/lineal metre
 - A note on bridges: each water course crossing (i.e. the 6 locations where there is an existing bridge) was assessed for the potential to develop a low-cost, low-level crossing of the creek/river/floodway. While it is technically possible to design and construct low level crossings, the merit of doing so is questionable. Firstly, there are no significant savings to be made with developing low level crossings as each would involve the following: cutting a descent and an ascent into the railway embankment for up to one hundred metres either side of the watercourse to take trail users from the rail trail level down to (and up from) the possible new crossing point. In some cases, there will be a need for the installation of pipe culverts in the new trail, due to there being obvious drainage

ditches and swales that would become inundated. Most of the creeks/rivers do not run in a narrow, defined channel. The stormwater in times of heavy rainfall (and flood) would be spread out over a wide floodplain in the vicinity of the bridge (and hence the width of the bridges). A low-level boardwalk, for example, would need to be in most cases as long as the original railway bridge (with a consequent hefty price tag, negating the desire for a cheaper watercourse crossing). Secondly, the development of low-level bypasses will make the rail trail unusable for many potential users when the creeks and rivers are in flood, and for many weeks after heavy rainfall events. Thirdly, the development of low-level bypasses of the original bridges diminishes significantly the authentic rail trail experience that rail trail users seek.

There are ways in which this total expense can be reduced.

For example, the cost estimates that follow make an allowance for the use of surveyors to accurately define the railway reserve boundaries so that any new fences can be erected exactly on the original alignment. This is a hefty and possibly unnecessary cost item as some adjoining landowners, with the knowledge that new fences are being installed to replace the previously removed fences, may be perfectly content to have the new fences installed 'approximately' on the alignment of the original fence. This will be determined by the construction project manager when negotiating locations of stock and machinery crossings, and new fences, prior to development of the trail.

Fencing costs can also be reduced by allowing adjoining landowners to erect the fences themselves, something that they are adept at doing. Many rail trail projects have provided fencing materials to the adjoining landowners, and the adjoining landowners then erect the fences to their own specifications and standards.

The cost estimates make an allowance for the installation of a reasonably complex gating system at road crossings, involving the installation of a chicane (that only allows the passage of cyclists and walkers while preventing access by motor bikes) and a management access gate. These are often considered necessary as the potential for motor cyclists to access the trail is considered a real possibility. However, the experience of other rail trails is that the incidence of motor bikes on a rail trail is very minor. Because of this experience, trail managers are removing the chicanes and management access gates in favour of a much simpler car prevention device, being a lockable/removable bollard in the centre of the trail near road crossing. These are obviously much cheaper and could be installed at the outset by the Councils if the issue of motor bikes on the trail is considered negligible.

A significant cost is the development of the proposed trailhead at the mid-point of the trail, at Geeralying Siding. Costs include the installation of a composting toilet, a picnic shelter and other embellishments such as a gravelled parking area. These items, though important, could be developed later as/when the popularity of the trail increases, and the need arises.

7.2 WORKS TABLES: NARROGIN VISITOR CENTRE TO RAILWAY DAM

Table 4: Narrogin Visitor Centre to Railway Dam (1,560 metres)**(Refer to plans in Appendix 4)****Note: trail route utilises existing trails and paths through Gnarojin Park and town streets until reaching Railway Dam**

Ref #	Works Item	\$
	TRAILHEAD DEVELOPMENT	
1	Trailhead: Narrogin Visitor Centre (at railway station building). • Install trailhead sign (double-sided brown chevron) on Great Southern Highway (\$1,600). • Prepare and install trailhead map panel (\$5,500). • Install 2 trail directional markers to cross Great Southern Highway into path/trail network of Gnarojin Park (\$600) • Allowance for 5 trail directional markers through Gnarojin Park to Herald St/Forrest St roundabout. (5 @ \$300) • Install bike parking rails (\$3000).	12,200
	ROAD CROSSINGS	
2	Road crossing: Great Southern Highway • Construct 4 kerb ramps across Great Southern Highway and connecting path (between trailhead at Visitor Centre and paths/trails of Gnarojin Park) (\$6000) • Install "Trail Crossing" signage Great Southern Highway, either side of crossing (\$900). • Install "Stop" signs on trail on both sides of road (\$400).	\$7,300
3	Road crossing: Federal Street (trail to cross slightly diagonally to avoid major works to existing culverts on each side of road): • Install "Road Ahead" sign on trail on both sides of road (\$400). • Install "Give Way" signs on trail on both sides of road (\$400). • Install "Trail Crossing" signage on Federal Street, either side of crossing (\$900).	1,700
	MISCELLANEOUS ITEMS	
4	Install series of trail directional markers along existing paths and gravel verges of Forrest Street, Fairway Street and Federal Street to crossing point of Federal Street (8 @ \$300).	2,400

5	Minor clearing required at bend in Fairway Street.	200
6	Install “Cyclists On Road” signage along gravel road/track that heads westward from Federal Street towards Archibald Park (avoiding leased/cleared section of railway corridor). (\$500).	500
7	Divert trail from gravel road/track onto railway formation as soon as practical. Construct 130m new trail on original railway formation between leased area and opposite track to Railway Dam. (\$6,500) Install trail directional marker. (\$300). Construction includes removal of regrowth vegetation, removal of old sleepers where they still exist, grading of ballast to remove sleeper indentations, and forming of a slightly crowned gravel surface to create a trail on minimum width 2.0m (see trail construction process set out elsewhere in this report).	6,800
8	Install trail directional marker at junction of track to Railway Dam.	300
9	Moderate clearing (130 metres @ \$5,000/metre) (\$650)	650
10	Allowance for weed spraying before/during construction.	200
11	Allowance for marking trees to be cleared, pruned or left untouched.	100
12	Allowance for marking centreline of trail with flagging tape prior to clearing and construction.	100
13	Allowance for traffic management (2 major road crossings: Great Southern Hwy and Federal St).	6,000
14	Allowance for cable locators at road crossings (2 road crossings).	2,000
15	Construct connecting trail from rail trail to trail around Railway Dam (\$1,000).	1,000
16	Allowance for offset revegetation.	1,300
	<i>Sub-total</i>	<i>\$42,750</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	1,070
	Contingency amount (10%).	4,270
	TOTAL (NOT INCLUDING GST)	\$48,090

7.3 WORKS TABLES: RAILWAY DAM TO TARWONGA RD

Table 5: Railway Dam to Tarwonga Road (Dumberning Siding) (8,650 metres)
(Refer to plans in Appendix 4)

Ref #	Works Item	\$
	TRAIL CONSTRUCTION	
1	Construct new trail between (track to) Railway Dam and Tarwonga Road (8,650m). Construction includes removal of regrowth vegetation, removal of old sleepers where they still exist, grading of ballast to remove sleeper indentations, and forming of a slightly crowned gravel surface to create a trail on minimum width 2.0m (see trail construction process set out elsewhere in this report).	432,500
	CLEARING	
2	Very light clearing (3,080 metres @ \$1,000/km) (\$3,080) Light clearing (2,930 metres @ \$3,000/km) (\$8,790) Moderate clearing (2,590 metres @ \$5,000/metre) (\$12,950)	24,820
	FENCING	
	Allowance for 4,480 metres new fencing on one or both sides of former railway corridor.	112,000
3	Allowance for repairs to 10% (870 metres) to existing boundary fencing on one of both sides of former railway corridor.	13,050
	STOCK AND MACHINERY CROSSING POINTS	
4	Allowance for 12 livestock/machinery crossing points (between Railway Dam and Tarwonga Rd) – as detailed below: Basic (“minor”) crossing to include 4 x 6m gates, with angled entry fencing from side boundary fencing, as per design included in this report. An allowance has been included below for the occasional “major” stock crossing that is open 24/7, with hardened surface on trail and side (bicycle friendly) stock grids, with management access gates. Trail manager to negotiate precise location and type of stock/machinery crossing with each adjoining landowner prior to trail construction commencing.	-
5	Between Railway Dam and Graham Rd – allowance for 2 minor crossings (2 @ \$4,000).	8,000

6	Between Graham Rd and Narrakine Rd South – allowance for 1 major crossing (1 @ \$20,000).	20,000
7	Between Narrakine Rd South and Wanerie Rd – allowance for 3 minor crossings (3 @ \$4,000).	12,000
8	Between Wanerie Rd and Cooraminning Rd – allowance for 1 major crossing (1 @ \$20,000).	20,000
9	Between Cooraminning Rd and Tarwonga Rd – allowance for 2 major crossings and 3 minor crossings crossing (3 @ \$4,000 and 2 @ \$20,000).	52,000
CHICANES AND ACCESS CONTROL		
10	Install chicane and management access gate at Graham Rd.	2,500
11	Install chicane and management access gates at Narrakine Rd South (x2).	5,000
12	Install chicane and management access gates at Wanerie Rd South (x2).	5,000
13	Install chicane and management access gates at Cooraminning Rd South (x2).	5,000
14	Install chicane and management access gate at Tarwonga Rd.	2,500
BRIDGES		
15	Bridge 7 – location (within WA College of Agriculture – Narrogin) – existing 25m bridge. Re-decking, with handrails, recommended. Plus repairs to abutments.	85,000
ROAD CROSSING SIGNAGE		
16	Track crossings: Install “Give Way” signs on trail on both sides of track (\$400).	400
17	Road crossing: Graham Rd: Install “Give Way” signs on trail on both sides of road (\$400).	400
18	Road crossing: Narrakine Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
19	Road crossing: Wanerie Rd	400

	Install “Give Way” signs on trail on both sides of road (\$400).	
20	Road crossing: Cooraminning Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
	TRAILHEAD DEVELOPMENT	
21	Trailhead (minor): Dumberning Siding (on Tarwonga Road) Prepare and install interpretive information about the siding (\$3,500).	3,500
	MISCELLANEOUS ITEMS	
22	Allowance for cleaning and clearing of culverts under formation.	5,000
23	Allowance for replacement and/or reinstatement of culverts under formation.	5,000
24	Allowance for revegetation and screen planting.	2,000
25	Allowance for renovating/repainting distance peg (where they still exist).	200
26	Allowance for additional landowner requests (e.g. additional fencing and vegetation screening).	3,000
27	Allowance for surveying of property boundaries/fencing alignment as relevant (\$3,000/km).	27,000
28	Allowance for weed spraying before/during construction.	3,000
29	Allowance for preparation and installation of interpretive signage (in addition to those specifically identified above at locations to be determined by trail manager and local historians) (2 signs).	7,000
30	Allowance for Trail Directional Markers (incorporating emergency markers) to be placed along trail every 1 km (9 @ \$300).	2,700
31	Allowance for installation of trailside furniture (e.g. seats) in addition to those specifically identified above at locations to be determined by trail manager (1 seat).	600
32	Allowance for steep embankment signs and delineators as determined by Project Manager at time of construction.	1,000

33	Allowance for marking trees to be cleared, pruned or left untouched.	500
34	Allowance for marking centreline of trail with flagging tape prior to clearing and construction.	1,000
35	Allowance for purchase and installation of: • Regulatory signage (Shared Path; “No Trail Bikes”; “Authorised Users Only”); • Road name signs; • Trail name signs; • “No Trespassing” signs; • Local attractions sign; and • Miscellaneous signs (Keep Out etc.).	600
36	Allowance for traffic management (3 road crossings).	6,000
37	Allowance for cable locators at road crossings (3 road crossings).	3,000
38	Allowance for boot/bike tyre cleaning stations.	4,000
39	Allowance for offset revegetation.	10,000
	<i>Sub-total</i>	<i>\$886,470</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	22,160
	Contingency amount (10%).	88,650
	<i>TOTAL (NOT INCLUDING GST)</i>	<i>\$997,280</i>

7.4 WORKS TABLES: TARWONGA RD TO MANARING RD

Table 6: Tarwonga Road to Manaring Road (Geeralying Siding) (6,200 metres)**(Refer to plans in Appendix 4)**

Ref #	Works Item	\$
1	TRAILHEAD DEVELOPMENT	
	Trailhead: Geeralying Siding (on Manaring Road) • Prepare and install trailhead map panel with interpretive information about the siding (\$5,500). • Install trailhead sign (single-sided brown chevron) on Manaring Rd (\$800). • Install trailhead sign (double-sided brown chevron) on Williams-Kondinin Rd (\$1,600). • Install 2 trail directional markers (\$600) • Construct (clear, grade and gravel) gravel carpark 30m x 5m) (\$7,500). • Construct (clear, grade and gravel) gravel access track 100m x 3m) (\$15,000). • Install composting toilet (\$80,000). • Supply and install 4 x 8m proprietary shelter including concrete footings (\$25,000)	136,000
	TRAIL CONSTRUCTION	
2	Construct new trail between Tarwonga Rd and Manaring Rd (6,200m). Construction includes removal of regrowth vegetation, removal of old sleepers where they still exist, grading of ballast to remove sleeper indentations, and forming of a slightly crowned gravel surface to create a trail on minimum width 2.0m (see trail construction process set out elsewhere in this report).	310,000
	CLEARING	
3	Very light clearing (3,130 metres @ \$1,000/km) (\$3,130) Light clearing (1,690 metres @ \$3,000/km) (\$5,070) Moderate clearing (1,090 metres @ \$5,000/metre) (\$5,450)	13,650
	FENCING	
4	Allowance for 4,580 metres new fencing on one or both sides of former railway corridor.	114,500
5	Allowance for repairs to 10% (620 metres) to existing boundary fencing on one of both sides of former railway corridor.	9,300

	STOCK AND MACHINERY CROSSING POINTS	
6	Between Tarwonga Rd and Kunderning Rd– allowance for 2 major crossings and 3 minor crossings (3 @ \$4,000 and 2 @ \$20,000).	52,000
7	Between Kunderning Rd and Manaring Rd – allowance for 3 major crossings and 2 minor crossings (2 @ \$4,000 and 3 @ \$20,000).	68,000
	CHICANES AND ACCESS CONTROL	
8	Install chicane and management access gate at Tarwonga Rd.	2,500
9	Install chicane and management access gates at Kunderning Rd (x2).	5,000
10	Install chicane and management access gate at Manaring Rd.	2,500
	BRIDGES	
11	Bridge 6 location (within WA College of Agriculture – Narrogin) – existing 40m bridge is totally wrecked/burnt and cannot be refurbished. Replacement with a prefabricated bridge or the installation of box culverts is recommended.	240,000
	ROAD CROSSING SIGNAGE	
12	Road crossing: Tarwonga Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
13	Road crossing: Kunderning Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
14	Road crossing: Manaring Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
	MISCELLANEOUS ITEMS	
15	Allowance for cleaning and clearing of culverts under formation.	5,000
16	Allowance for replacement and/or reinstatement of culverts under formation.	5,000
17	Allowance for additional landowner requests (e.g. additional fencing and vegetation screening).	2,000
18	Allowance for surveying of property boundaries/fencing alignment as relevant (\$3,000/km).	18,000

19	Allowance for weed spraying before/during construction	3,000
20	Allowance for preparation and installation of interpretive signage (in addition to those specifically identified above at locations to be determined by trail manager and local historians) (2 signs).	7,000
21	Allowance for Trail Directional Markers (incorporating emergency markers) to be placed along trail every 1 km (6 @ \$300).	1,800
22	Allowance for installation of trailside furniture (e.g. seats) in addition to those specifically identified above at locations to be determined by trail manager (1 seat).	600
23	Allowance for steep embankment signs and delineators as determined by Project Manager at time of construction.	1,000
24	Allowance for marking trees to be cleared, pruned or left untouched.	500
25	Allowance for marking centreline of trail with flagging tape prior to clearing and construction.	500
26	Allowance for purchase and installation of: - Regulatory signage (Shared Path; "No Trail Bikes"; "Authorised Users Only"); - Road name signs; - Trail name signs; "No Trespassing" signs; - Local attractions sign; and - Miscellaneous signs (Keep Out etc.).	600
27	Allowance for traffic management (3 road crossings).	6,000
28	Allowance for cable locators at road crossings (3 road crossings).	3,000
29	Allowance for boot/bike tyre cleaning stations.	4,000
30	Allowance for offset revegetation.	10,000
	<i>Sub-total</i>	<i>\$1,022,650</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	25,570
	Contingency amount (10%).	102,270
	<i>TOTAL (NOT INCLUDING GST)</i>	<i>\$1,150,490</i>

7.5 WORKS TABLES: MANARING RD TO WILLIAMS NARROGIN RD

Table 7: Manaring Road (Geeralying Siding) to Williams Narrogin Road (9,900 metres)
(Refer to plans in Appendix 4)

Ref #	Works Item	\$
1	TRAIL CONSTRUCTION	
2	Construct new trail between Manaring Rd and crossing of Williams Narrogin Rd (9,900m). Construction includes removal of regrowth vegetation, removal of old sleepers where they still exist, grading of ballast to remove sleeper indentations, and forming of a slightly crowned gravel surface to create a trail on minimum width 2.0m (see trail construction process set out elsewhere in this report).	495,000
	CLEARING	
3	Very light clearing (750 metres @ \$1,000/km) (\$750) Light clearing (1,300 metres @ \$3,000/km) (\$3,900) Moderate clearing (5,860 metres @ \$5,000/metre) (\$29,300) (Approximately 2,000 metres use of existing tracks)	29,000
	FENCING	
4	Allowance for repairs to 10% (1,000 metres) to existing boundary fencing on one side of former railway corridor.	15,000
	STOCK AND MACHINERY CROSSING POINTS	
	Nil	
	CHICANES AND ACCESS CONTROL	
5	Install chicane and management access gates west of trailhead at Geeralying Siding.	2,500
	BRIDGES	
6	Bridge 5 location – existing 50m bridge (over Williams River). Re-decking, with handrails, recommended. Plus abutment installation.	170,000
	ROAD CROSSING SIGNAGE	
7	Road crossing: Geeralying Rd	400

	Install “Give Way” signs on trail on both sides of road (\$400).	
8	Road crossing: Hancock Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
9	Road crossing: Glenfield Rd Install “Give Way” signs on trail on both sides of road (\$400).	400
MISCELLANEOUS ITEMS		
10	Allowance for cleaning and clearing of culverts under formation.	5,000
11	Allowance for replacement and/or reinstatement of culverts under formation.	5,000
12	Allowance for additional landowner requests (e.g. additional fencing and vegetation screening).	3,000
13	Allowance for surveying of property boundaries/fencing alignment as relevant (\$3,000/km).	30,000
14	Allowance for repairs of proportion (10%) of existing boundary fence where new fence is not being built (2,420m)	
15	Allowance for weed spraying before/during construction.	3,000
16	Allowance for preparation and installation of interpretive signage (in addition to those specifically identified above at locations to be determined by trail manager and local historians) (1 sign).	3,500
17	Allowance for Trail Directional Markers (incorporating emergency markers) to be placed along trail every 1 km (10 @ \$300).	3,000
18	Allowance for installation of trailside furniture (e.g. seats) in addition to those specifically identified above at locations to be determined by trail manager (1 seat).	600
19	Allowance for steep embankment signs and delineators as determined by Project Manager at time of construction.	1,000
20	Allowance for marking trees to be cleared, pruned or left untouched.	500

21	Allowance for marking centreline of trail with flagging tape prior to clearing and construction.	1,000
22	Allowance for purchase and installation of: • Regulatory signage (Shared Path; “No Trail Bikes”; “Authorised Users Only”); • Road name signs; • Trail name signs; • “No Trespassing” signs; • Local attractions sign; and • Miscellaneous signs (Keep Out etc.).	600
23	Allowance for traffic management (3 road crossings).	6,000
24	Allowance for cable locators at road crossings (2 road crossings).	3,000
25	Allowance for boot/bike tyre cleaning stations.	4,000
26	Allowance for offset revegetation.	10,000
	<i>Sub-total</i>	<i>\$791,900</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	19,800
	Contingency amount (10%).	79,190
	<i>TOTAL (NOT INCLUDING GST)</i>	<i>\$890,890</i>

7.6 WORKS TABLES: WILLIAMS NARROGIN RD TO CBH WILLIAMS

Table 8: Williams Narrogin Road to CBH Williams (6,650 metres)**(Refer to plans in Appendix 4)**

Ref #	Works Item	\$
1	TRAIL CONSTRUCTION	
2	Construct new trail between crossing of Williams Narrogin Rd and CBH Williams (6,650m). Construction includes removal of regrowth vegetation, removal of old sleepers where they still exist, grading of ballast to remove sleeper indentations, and forming of a slightly crowned gravel surface to create a trail on minimum width 2.0m (see trail construction process set out elsewhere in this report).	332,500
	CLEARING	
3	Light clearing (590 metres @ \$3,000/km) (\$1,770) Moderate clearing (5,000 metres @ \$5,000/metre) (\$25,000)	26,770
	FENCING	
4	Allowance for repairs to 10% (660 metres) to existing boundary fencing on one side of former railway corridor.	9,900
	STOCK AND MACHINERY CROSSING POINTS	
	Nil	0
	CHICANES AND ACCESS CONTROL	
	Nil	0
	BRIDGES	
5	Bridge 4 location – existing 25m bridge (over Fitts Creek). Re-decking, with handrails, recommended. Plus abutment installation.	95,000
6	Bridge 3 location – existing 50m bridge (over Walkers Creek). Re-decking, with handrails, recommended. Plus abutment installation.	170,000
7	Bridge 2 location – existing 15m bridge. Re-decking, with handrails, recommended. Plus abutment connections/fill.	60,000
	ROAD CROSSING SIGNAGE	
8	Road crossing: Williams-Kondinin Rd	1,300

	• Install “Trail Crossing” signs on Williams-Kondinin Rd either of trail crossing (\$900) • Install “Stop” sign on trail on south side of road (\$200). • Install “Road Ahead” sign on trail on north side of road (\$200).	
9	Road crossing: Gull St • Install “Give Way” signs on trail on both sides of road (\$400).	400
10	Road crossing: Richmond St • Install “Give Way” signs on trail on both sides of road (\$400).	400
11	Road crossing: Clayton Rd • Install “Give Way” signs on trail on both sides of road (\$400).	400
12	Road crossing: Forrest St • Install “Give Way” signs on trail on both sides of road (\$400).	400
13	Road crossing: Richmond St • Install “Give Way” signs on trail on both sides of road (\$400).	400
	MISCELLANEOUS ITEMS	
14	Allowance for cleaning and clearing of culverts under formation.	5,000
15	Allowance for replacement and/or reinstatement of culverts under formation.	5,000
16	Allowance for additional landowner requests (e.g. crossover treatment (if approved), additional fencing and vegetation screening).	3,000
17	Allowance for surveying of property boundaries/fencing alignment as relevant (\$3,000/km).	21,000
18	Allowance for repairs of proportion (10%) of existing boundary fence where new fence is not being built (660m)	1,000
19	Allowance for weed spraying before/during construction.	3,000
20	Allowance for preparation and installation of interpretive signage (in addition to those specifically identified above at	7,000

	locations to be determined by trail manager and local historians) (2 signs).	
21	Allowance for Trail Directional Markers (incorporating emergency markers) to be placed along trail every 1 km (7 @ \$300).	2,100
22	Allowance for installation of trailside furniture (e.g. seats) in addition to those specifically identified above at locations to be determined by trail manager (1 seat).	600
23	Allowance for steep embankment signs and delineators as determined by Project Manager at time of construction.	500
24	Allowance for marking trees to be cleared, pruned or left untouched.	500
25	Allowance for marking centreline of trail with flagging tape prior to clearing and construction.	1,000
26	Allowance for purchase and installation of: • Regulatory signage (Shared Path; “No Trail Bikes”; “Authorised Users Only”); • Road name signs; • Trail name signs; • “No Trespassing” signs; • Local attractions sign; and • Miscellaneous signs (Keep Out etc.).	600
27	Allowance for traffic management (6 road crossings).	15,000
28	Allowance for cable locators at road crossings (6 road crossings).	12,000
29	Allowance for boot/bike tyre cleaning station.	2,000
30	Allowance for offset revegetation.	10,000
	<i>Sub-total</i>	<i>\$786,770</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	19,670
	Contingency amount (10%).	78,680
	<i>TOTAL (NOT INCLUDING GST)</i>	<i>\$885,120</i>

7.7 WORKS TABLES: CBH WILLIAMS TO WILLIAMS TRAILHEAD

Table 9: CBH Williams to Williams Trailhead (Lions Park) (1,800 metres)**(Refer to plans in Appendix 4)**

Ref #	Works Item	\$
1	TRAILHEAD DEVELOPMENT	
2	Trailhead: Lions Park Williams. • Prepare and install trailhead map panel (\$5,500). • Install trailhead sign (double-sided brown chevron) on Albany Highway (\$1,600). • Install 2 trail directional markers (\$2,000)	9,100
	TRAIL CONSTRUCTION	
3	No new trail needed. Trail to follow already constructed shared paths along Richmond St, Brooking St and along the Williams River to the crossing of Albany Highway opposite Lions Park.	0
	CLEARING	
	Nil	0
	FENCING	
	Nil	0
	STOCK AND MACHINERY CROSSING POINTS	
	Nil	0
	BRIDGES	
	Bridge 1 – (Not being used))	0
	ROAD CROSSING SIGNAGE	
4	Road crossing: Richmond St • Install “Give Way” signs on trail on both sides of road (\$400). • Install “Trail Crossing” signs on Richmond St either of trail crossing (\$900).	1,300
5	Road crossing: Brooking St	1,300

	• Install “Give Way” signs on trail on both sides of road (\$400). • Install “Trail Crossing” signs on Brooking St either of trail crossing (\$900).	
6	Road crossing: Albany Hwy • Install “Trail Crossing” signs on Albany Hwy either of trail crossing (\$900) • Install “Stop” signs on trail on both sides of road (\$400).	1,300
	MISCELLANEOUS ITEMS	
7	Allowance for Trail Directional Markers (incorporating emergency markers) to be placed along trail every 0.4 km or at road crossings (5 @ \$300).	1,500
8	Allowance for installation of trailside furniture (e.g. seats) in addition to those specifically identified above at locations to be determined by trail manager (1 seat).	600
	<i>Sub-total</i>	<i>\$15,100</i>
	Approvals, permits, applications, designs, specifications, assessments (2.5%).	380
	Contingency amount (10%).	\$1,510
	<i>TOTAL (NOT INCLUDING GST)</i>	<i>\$16,990</i>

SECTION 8 – THE BUSINESS CASE

8.1 Introduction

It is always difficult to predict the economic impact and user numbers of a new trail. Recently developed rail trails provide a good indication of the visitor numbers that can be achieved as rail trails open (the three listed below are close to major markets and in well-visited regions). These numbers also indicate that trail user numbers can be affected by any number of events.

- The Tumbarumba Rosewood Rail Trail in NSW opened in April 2020 – at the very start of the Covid-19 pandemic. User numbers grew steadily since that time – the numbers as of June 2024 were 65,481 (numbers who passed through the track counter at Tumbarumba). The first year drew the biggest user numbers of over 19,000 – limitations on international and domestic travel meant that tourists were looking for experiences close to home. In addition, this was the first rail trail in NSW on a State Government rail corridor – there would be some novelty value in that appeal. In the past 3 years numbers have been steady (with a slight decline each year).
- The first section of the Northern Rivers Rail Trail in NSW (a 24 km section from Murwillumbah to Crabbes Creek) opened in March 2023. In the first 16 months (March 2023 – July 2024), the trail was used by over 165,000 people. Over 70,000 used the trail in the first 4 months, and over 60,000 in the next 6 months (to December 2023). Numbers have reduced slightly in the last 7 months but the use of the trail is far above the forecast numbers of 27,000/year.
- The second section of the trail (a 14km section from Casino to Bentley at the other end of the 132 km railway corridor) opened in March 2024 and has already attracted over 43,000 users. The user numbers doubled in June 2024 as the first 3 months had seen unseasonably high rainfall which deterred users.

These trails have all opened in a time when social media is a very strong component of marketing. This medium provides very quick marketing via virtual “word of mouth” as well as use by trail managers. By contrast, in previous times, trail usage rates have been “slow burns” taking time to reach a large number of users. Visitor numbers on the Bibbulmun Track grew from 10,000 when the new alignment was first opened in 1997 to over 167,000 in 2008 (*Colmar Brunton 2009*) to over 300,000 in 2015 (*Hughes et al 2015*). This was on a trail that had existed in its entirety for many years but was substantially altered and reopened in 1997 (although new sections of it had been opened prior to its grand opening). Visitors included those on ‘local trips’, day trips and overnight or longer stays (including those who travelled from end to end).

A dramatic increase in visitor numbers such as experienced by the three rail trails cited and the Bibbulmun Track can be attributed to very good marketing of the product (as well as the quality and appeal of the product). The economic impact of any proposed trail is primarily dependent on the extent to which the trail is marketed and promoted.

A trail will bring additional tourists and keep them longer in the area. Other possible benefits from developing the trail include:

-  Improvements to community connectivity;

- Increasing recreational options for local people; and
- Creating opportunities to build on existing industries and enterprises of the area.

A trail such as the proposed Narrogin Williams Rail Trail will have attraction to visitors. However, it will also add to the stock of existing trails for local people – people who live in towns and villages within easy reach of the trail. Some of these people will use the trail for exercise – these ‘back gate’ users may not be significant in terms of expenditure, but they are significant in terms of numbers as they would use the trail many times each year.

The following analysis looks at the trail from a general level. It is difficult to forecast precisely what happens if the trail is built to a lower standard and then embellished over time. The only rail trail in Australia offering such comparisons is the Kingaroy Kilkivan Rail Trail in Queensland. The trail from Kingaroy to Murgon (approximately half the trail - some 44kms) is built to a relatively high standard (with a sealed surface and restored or replaced bridges) while the other half from Murgon to Kilkivan is built to a significantly lower standard – an unsealed surface and a large number of undeveloped creek and waterway crossings. On its website, Gympie Regional Council (responsible for half the rail trail) describes the trail as having sealed and unsealed sections. The unsealed path is from Kilkivan to Murgon and is best for bushwalkers, mountain bike riders and horse riders. This is a true trail experience for the more adventurous. Users will cross roads, waterways and stock routes. The path from Murgon to Kingaroy has a sealed surface and is for walkers and cyclists only. There are a few places to stop along the way for a coffee or lunch.

Unfortunately, no user number data is available to compare the impacts of the two “finishes”. When the trail first opened, there were a series of negative comments on social media comparing the two trail sections; what impact this had on user numbers is unknown. It is known that counters on the higher quality section from Kingaroy to Murgon recorded an average of between 1,200 users/month and 1,600 users/month (at two different locations along the rail trail) in 2018.

Other rail trails across Australia have opened as a lower quality trail and then have been progressively upgraded – again, no comparative data is available on the effect on user numbers.

8.2 Visitor Numbers

Unfortunately, shire-specific data on existing visitor numbers to the Shires of Narrogin and Williams is not available. Available data focusses on the “Australia’s Golden Outback” tourism region which includes these areas. Visitation data drawn from the *Narrogin Tourism Strategy 2019* and *Australia’s Golden Outback Overnight Visitors Factsheet 2023* covers the years 2012, 2017 and 2023. The data reveals some interesting statistics for the Region:

- Total overnight visitation grew from 755,000 in 2012 to 1.419 million in 2023.
- The vast majority of that tourism is domestic (between 94% and 96%).
- Of the domestic overnight visitors, the 2012 and 2017 data showed that over 83% were from within Western Australia (no similar figure is available for the 2023 data).

The *Narrogin Tourism Strategy* references visitor survey work done in 2019 (i.e. pre-Covid) at Dryandra Woodland National Park as an indicator for visitors to the Shire of Narrogin. Whilst not directly relevant, it provides interesting information:

- The number of vehicles visiting the reserve (as opposed to people) rose from 32,436 in 2007/08 to 91,362 in 2017/18 (it is reasonable that average car occupancy is 2 persons/car so a visitation number of 182,724 in 2019 is a reasonable assumption).
- 55% of visitors came from WA while 30% came from interstate.
- 36% stayed for 1 day and 48% stayed for 2-6 days.

This data establishes the reserve as a significant visitor attraction within the region close to Narrogin.

The other key “proxy” data indicating a potential market is included within the *Shire of Williams Community Strategic Plan 2022-2032* which notes that Williams is located on the Albany Highway which carries between 3,800 and 4,600 vehicles/day.

8.3 Local Users

Tourism numbers are important. However, it is important not to overlook the contribution of local residents to the success of a trail. Every regional trail is a local trail. Therefore, it is important not to overlook the contribution of local residents to the success of a trail. In 2001, the Mundaring Shire trail network was used by over 200,000 people (*Jessop and Bruce 2001*), having grown from a low base when the network was first fully opened. Only 10% of these users were locals (residents of Mundaring Shire) with many other users drawn from the Perth metropolitan area. The total annual visits (people generally use trails more than once a year) were a staggering 2.454 million visits annually, with local residents accounting for 63% of these visits. The average number of trips per year per local resident was 75 (compared to the 5-20 trips used in the following forecasts).

8.4 Predicting Visiting Trail User Numbers

There is no doubt from available evidence that recreation trails attract visitors who may come to a region specifically to do a trail. For example, in 2021, almost 50% of users on the Great Rides of New Zealand (a network of 22 ride/walk trails) came to the region in which the trail was located to walk or ride the trail – the other 50% used the trail as a secondary activity to their trip to the particular region (noting these 22 trails are spread over a number of regions in New Zealand) (*Angus and Associates 2022*).

Key markets for rail trails generally cover four major visitor groups:

- Day trippers;
- Turning day trippers into overnight visitors i.e. visitors extending their day trips to overnight trips to use a rail trail – an additional attraction in a town or region;
- Existing overnight visitors extending their stay by 1 day (or more) to use a rail trail; and
- Encouraging new visitors to the region specifically/primarily to use a rail trail.

8.4.1 Visiting Trail Users – Predicting User Numbers

What is a reasonable forecast for trail user numbers given some existing visitors will stay longer to experience the trail, and some will come to the region as new visitors simply to use the trail? In predicting potential user numbers, consideration needs to be given to the proximity and nature of major markets (as well as existing visitor numbers and the visitor numbers achieved on other trails, including rail trails).

8.4.2 Projected User Scenarios - Day Trip Usage

Any trail has the potential to add to the number of day trippers – usually a significant market for a rail trail (where such a day trip market already exists). Day trip usage of rail trails is often a critical factor depending on a trail's proximity to major markets. Recent data for the Lilydale Warburton Rail Trail (sourced from Yarra Ranges Council trail counters and published in *Warburton Mountain Bike Destination: Revised Economic Impact Assessment 2018*) estimated that the trail is used by between 80,000 and 120,00 people/year. Previous research (2004) estimated day trippers are around 95% of trail users.

The Mundaring Shire trail network is just under 1 hour from the Perth CBD. In the Mundaring case, 180,000 visitors (from outside the Shire) make over 900,000 visits/year (an average of 5 visits/person). The majority of these visitors come from Greater Perth (a population of 1.5 million at that time) and are day-trippers. Some 12% of Perth residents visit the trail network.

Unfortunately, available data on day trips to the proposed rail trail's region (the Shires of Narrogin and Williams) is not available. In addition, given the distances from major potential markets (Perth, Albany, Mandurah are all between 140 and 250 kms from a potential trail), it is unlikely that people in those markets venture as far as Williams or Narrogin for a day trip. Data from the *WA Mountain Bike Strategy 2022-2032* indicates that 50% of mountain bike users travel between 30 and 60 minutes (an easy half-day to day trip) to access their regular mountain bike trails with distance from home being the second most popular reason for selecting a trail to ride; the location of the Narrogin Williams Rail Trail is substantially more than this from major markets. The day trip market for this rail trail is therefore considered to be negligible (whilst conceding that some day trippers may come from adjoining shires).

8.4.3 Projected User Scenarios - Converting Day Trips to Overnight Trips

Trail development may also turn day trippers into overnight trippers with consequent rise in economic benefits. The trail provides an additional activity for visitors – an overnight stay will give visitors time to walk or ride the trail (or part of the trail) in addition to their other activities. Overnight visitors to trails are spending an average of \$246.39/person/day (as indicated above).

However, noting the above comments on the likely limited existing day trip market, this market is also considered to be negligible.

8.4.4 Projected User Scenarios - Encouraging Existing Overnight Visitors to Stay Longer

An additional recreational facility (i.e. this proposed rail trail) will encourage visitors to extend their stay to allow an extra day to use the trail. This is likely to be the key market for this rail trail – which would also include visitors passing through the region on their way to somewhere else (noting the daily numbers of vehicles on the Albany Highway). Those travelling in caravans may be a critical element of this particular market. The most recent data (at the start of Covid-19) shows that there are over 741,000 caravans and campervans registered in January 2020 (*IBDO 2020*) and 25,000 new vans built per year (*Caravan Industry Association of Australia 2020*). This is a large number of 'grey nomads' many of whom may be interested in utilising rail trails given the number who travel around with bikes attached to the back of their vans/vehicles. Existing caravan parks in the region will benefit from their patronage if they stay an extra night to use the rail trail (noting that there is at least one proposal in the region to address limited accommodation options).

Overnight stays in the region to use the trail would have a significant impact on economic benefits, as people who stay overnight spend considerably more than those who come for a day only. With such an outcome, the economic benefits estimated above would only be a small part of the overall economic benefit to the region.

If **3,000** visitors stay an extra day (during the year) to use the trail, this would inject an additional **\$739,170/year** into the economy based on overnight visitor expenditure of \$246.39/day. Additional expenditure as a result of their overnight stay – primarily but not only accommodation – can be attributed to the trail. There is no directly relevant data to check this forecast against. However, a figure of 3,000 users represents just over 1.6% of the (assumed) number of visitors (in 2019) to the Dryandra Woodland National Park – visitors who it is reasonable to assume are already positively disposed to outdoor recreation activities.

8.4.5 Projected User Scenarios - Attracting New Overnight Visitors

The proposed Narrogin Williams Rail Trail will be one of a limited number of rail trails in the region (along with the Collie Darkan Rail Trail and the Congelin Rail Trail in Dryandra Woodland National Park). Further afield is the Wadandi Track and the Sidings Rail Trail. Given the relative paucity of rail trails in the region, the Narrogin Williams Rail Trail is likely to attract a limited number of visitors who would come from a range of places which already yield the region's visitors solely or specifically to undertake the trail. (While the distance of the trail is an attraction in its own right as it is easily rideable, the landscape is relatively scenic rather than being spectacular). Adaptive cyclists would make up a significant number of these potential users. Adaptive cyclists were identified in the *Brisbane Valley Rail Trail Strategic Plan (2021)* as cyclists who will cycle various distances but who focus on specific cycling experiences and local points of interest. Adaptive cyclists are prepared to travel to specific destinations seeking specific experiences.

All their expenditure (over 2 days as the assumption is that they will be overnight visitors) can be attributed to the trail; if there was no trail they would not come.

If **500** visitors came primarily to use the trail, this would inject an additional **\$246,390 /year** into the economy (500 visitors spending \$246.39/day over 2 days).

In summary, possible visitor numbers are shown in Table 10.

Table 10: Narrogin Williams Rail Trail - Possible Visitor Numbers and Associated Expenditure: A Summary

Category	Predicted visitor numbers/year	Predicted expenditure/year
New day trippers	negligible	\$0
Day trippers converting to overnight stays	negligible	\$0
Overnight stays being extended by a day to use the trail	3,000	\$739,170
Attracting new overnight visitors	500	\$246,390
Total visitor numbers	3,500	\$985,560

How do these figures compare to what is happening on other trails in Australia? Research figures are limited and tend to focus on iconic trails – the Bibbulmun Track (300,000/yr) and the Munda Biddi Trail (21,000/yr) in Western Australia, and the Great Ocean Walk (100,000/yr) and the Wilsons Promontory Walk (60,000/yr) in Victoria.

Other less iconic trails also provide available research (much of the data has not been reviewed since it was first published):

- The Tumbarumba Rosewood Rail Trail has attracted over 65,000 visitors in its first four years of opening (April 2020 – June 2024), despite travel restrictions imposed by Covid-19 during much of the time it has been open.
- The recently opened Murwillumbah-Crabbes Creek section of the Northern Rivers Rail Trail in northern NSW attracted 146,000 in its first 14 months of operation (March 2023 – May 2024). This trail is within a day trip of the major markets of the Gold Coast and Brisbane.
- The western end of the Northern Rivers Rail Trail (a 14 km section from Casino to Bentley) - while much further from the key markets - attracted over 43,000 visitors in its first 4 months of operation (March-June 2024). The trail has 3 counters on it; while the recorded number of over 43,000 does not necessarily translate to over 43,000 users (as many would pass more than one counter), it suggests significant user numbers.
- In the first 6 months of 2019, 17,000 people used the most popular section of the Brisbane Valley Rail Trail, Australia's longest rail trail (*Gatton, Lockyer and Brisbane Valley Star* 29/7/19).
- The Murray to the Mountain Rail Trail (Victoria) attracts almost 60,000 annual visitor days in 2010 (*SGS Economics and Planning* 2011).
- The Otago Central Rail Trail (NZ) offers a 3-day cycle or 5 day walk experience covering 150 kms. In 2011, over 14,000 users traverse the entire length each year, with the most popular section attracting over 20,000 users. In 2015, almost 15,000 users rode the trail from end to end. Cyclists undertaking the complete journey often do so in 3 days, while walkers take 5 days. A number of tour operators offer a "guided" service for cyclists in particular, allowing users to spend all day riding between accommodation options carrying only what they need for a day and their gear is transported from accommodation place to accommodation place (*Central Otago District Council* 2011 and 2015).
- Counters on the Kilkivan Kingaroy Rail Trail have recorded an average of between 1,200 users/month and 1,600 users/month (at two different locations along the rail trail) in 2018 (2019 data was beset with some difficulties). This is a significant number over a year (noting that many will be users who have gone through both counters).
- Data from July 2022 for South Australia's Riesling Trail (a 34 km rail trail in the Clare Valley) show use numbers of around 3,200/month (*Rail Trail Connections Spring* 2022) – a figure consistent for over 10 years. This trail is 2 hrs from Adelaide in the renowned tourist area of the Clare Valley (with very limited local population).

- On the O’Keefe Rail Trail (a 50km trail east of Bendigo in Victoria), bike rider trips have doubled since 2016 (12,700 to 26,735). Walking usage in 2023 (20,540) was its highest in three years of data collection (a total for 2023 of 47,275).
(<https://bicyclenetwork.com.au/newsroom/2024/07/29/new-plan-for-okeefe-rail-trail>)

There may be additional people who use the trail as part of their visit to the region. While they add to the total number of trail users, their expenditure cannot be counted in any economic analysis of the trail’s benefit as the presence of the trail is not the primary attraction for these visitors. As noted above, almost 50% of users on the Great Rides of New Zealand (a network of 22 ride/walk trails) came to the region in which the trail was located to walk or ride the trail – the other 50% used the trail as a secondary activity to their trip to the particular region (noting these 22 trails are spread over a number of regions in New Zealand (*Angus and Associates 2022*)). The economic contribution of the latter 50% is not counted as an economic benefit of the trail.

The predicted user numbers represent a likely outcome once the proposed Narrogin Williams Rail Trail is established. As noted above, marketing and promotion of the trail will be a key element in realising these numbers – users just don’t magically appear once a trail is built. Such marketing and promotion require the commitment of resources – human and financial.

8.5 Predicting Local Trail Users

As noted above, every regional trail is a local trail. It is difficult to know how far people will travel to take advantage of a local recreation facility. For the purposes of these forecasts, 20 minutes is considered a local trip whereas trips over 20 minutes are considered day visitors. Individual settlement data for the two shires is difficult to find. At the 2021 Census, the Shire of Williams had 1,040 people with 400 of those residing in the township of Williams. The Shire of Narrogin was home to 4,779 people with 3,745 living in the urban area. If it is assumed that these “town residents” are within 20 minutes of the trail, this means 4,145 people are potential local users (based on 2021 Census data). There are likely to be more but the population of very small settlements is not easily discovered.

8.5.1 Local Trail Users – Predicting User Numbers

Three possible scenarios can be used in calculating likely local user numbers. These are:

- A low/low scenario - 5% of the combined population within 20 minutes of the trail making 5 visits/year to the trail.
- A medium/medium scenario - 10% of the combined population making 10 visits/year to the trail.
- A high/high scenario - 20% of the combined population making 20 visits/year to the trail.

The next step is to estimate total trip numbers. In the Mundaring study, the average number of trips per year per local resident was 75. Table 11 provides three visitation scenarios taking a far more conservative approach compared to the actual visitation rate coming from the Mundaring study.

Table 11: Narrogin Rail Trail Potential Annual Visits by residents*(Population within close proximity to the trail – 4,145)*

Category	Low trail usage: 5% of residents	Medium trail usage: 10% of residents	High trail usage: 20% of residents
Low (5 visits/yr)	1,035	2,075	4,145
Medium (10 visits/yr)	2,075	4,145	8,290
High (20 visits/yr)	4,145	8,300	16,580

Local users also spend money while using trails. Expenditure per trip by local residents is always lower than for visitors, as locals are closer to home and more likely to either take all that they need or come home to eat and drink following a trail visit. The expenditure figures from the Mundaring study (\$1.44/person/trip in the Shire – mainly food and drink) are a legitimate base to work from (and have been converted to 2023 dollars - \$2.59/person/trip).

Using this figure in combination with visitation scenarios generated in Table 11 gives a range of expenditure estimates. Table 12 shows a simplified set of three scenarios: low usage / low number of trips, medium usage / medium number of trips, and high usage / high number of trips.

Table 12: Potential Total annual expenditure in the vicinity of the trail by residents*(low, medium and high refer to the use rates developed in Table 11 above)*

Use Scenario	# of person visits	Total spent (\$)
Low/low	1,035	\$2,680
Medium/medium	4,145	\$10,735
High/high	16,580	\$42,940

What is the likely scenario for local trail users? The Mundaring figures show 63% of the local population making an average of 75 trips/year.

Given these figures, it would seem the medium/medium scenario of **4,145 person visits/year** (i.e. 10% of the 'local' population using the trail for 10 visits per year) is a reasonable, if very conservative, scenario to adopt (conservative when compared with the Mundaring data). Such visitor numbers would inject **\$10,735/year** into the local economy. Due to the relatively small local populations, direct economic benefits flowing from local trail use will be relatively low.

8.5.2 Local Trail Users – How Long Will They Spend on a Trail

The evidence is that most trail users spend up to 4 hours on a trail (walking or cycling). However, local people using the trail as part of an exercise regime are likely to have different time use patterns. The most recent national *Exercise, Recreation and Sport Survey (Australian Government, Australian Sports Commission: Participation in Exercise, Recreation and Sport Annual Report 2010)* shows that those who regularly exercise do so for between 2 and 5

hours/week and the median number of exercise “events” was 1.6 times/week. It is reasonable to assume (for the purposes of calculating potential hours of exercise on the trail) that each use will be for 1 hour.

Using this assumption and combining it with the forecast user numbers, it is likely that there will be 4,145 additional hours of additional physical activity in the local communities who can access the Narrogin Williams Rail Trail.

8.6 Projected User Scenarios - Summary

With good marketing (including marketing of other trails of Narrogin such as the Heritage Trail and Foxes Lair), the rail trail will attract local users and visitors. Under a relatively conservative scenario, the following outcomes are achievable.

- Local use – 4,145 local users/year is a reasonable expectation. This will result in an economic injection of \$10,735/year;
- If 3,000 visitors stay an extra day to use the trail (or part of the trail), an additional \$739,170/year would be injected into the regional economy.
- If 500 new visitors come to the region solely (or primarily) to do the trail, an additional \$246,390/year would be injected into the regional economy.

The total injection of dollars into the local economies from local, day trip and overnight visitors may be of the order of **\$996,295/ year** (under a range of conservative scenarios) from **7,645** users.

It should be emphasised that user and visitor numbers will not necessarily be realised in the first years of operation if the trail proceeds. It also should be noted that these numbers may grow as the overall visitor and resident population numbers grow.

8.7 Other Opportunities

A market that has been emerging for some time involves “packaging up” a number of trails. This is a growing area of trails marketing, where regions are looking to have either a longer trail (a trail that can be traversed in 2-3 days such as the Otago Central Rail Trail in New Zealand) or a cluster of shorter trails that make an overnight or longer visit to a region very attractive (North Eastern Victoria is doing this very well focussing on the Murray to the Mountains Rail Trail but including a range of other cycling opportunities).

Good marketing of such a package would mean that overnight stays in the region would increase accordingly. This has a significant impact on economic benefits, as people who stay overnight spend considerably more than those who come for a day only. It is unlikely that someone would drive from Perth primarily to undertake a 34 km trail journey. However, packaging a rail trail weekend consisting of the Narrogin to Williams Rail Trail and the Collie Darkan Rail Trail (61 kms – with a start some 80kms from Williams) may increase user numbers on both trails (no user numbers are available for the existing Collie Darkan Rail Trail). The *Concentric Circles: Guidance for Trails Tourism Close to Perth* report (May 2024) included some trail developments for the Shire of Narrogin and noted that, while such development would remain as a local trail designation, if considered as a component of nearby Dryandra Adventure Ride potential, and in collaboration with local mountain bike trail development in nearby Pingelly (north), Narrogin would have high value as an added-value proposition for cycle

tourism and increase dispersal and potential extended stays according to the Wedge model of trail destination travel (developed within the report). Any such developments would make a rail trail an attractive part of a trails package.

Should a rail trail between Narrogin and Williams proceed, completing the connection to Dardadine siding would create a very significant rail trail from Narrogin to Collie (some 130kms) which would be an attraction in its own right and likely to attract a significant number of users from Perth in particular.

The recent development of the Narrogin Heritage Trail and the mountain biking trails and walk trails within Foxes Lair provide additional attractors. Yilliminning Rock too could also be promoted as an additional attractive local destination.

As noted in the discussion on the day trip market above, many of those users interested in such packages are likely to be adaptive cyclists – those who cycle various distances (i.e. they are not overly concerned with distance of a ride) but focus on specific cycling experiences, local points of interest; prepared to travel to specific destinations seeking specific experiences. This is a significant potential rail trail market.

8.8 Business Benefits

The completion of a trail would not simply provide an injection of funds to stabilise and grow existing and new businesses. The psychological impact on businesses can also be very important. Work done for the Riesling Trail included some qualitative research using focus groups consisting of business operators (*Market Equity 2004*). The key responses included:

- A belief amongst business providers that the trail contributes to economic activity in the region.
- The trail is seen to attract a variety of visitor types to the region, with wine as well as non-wine interests.
- The trail is seen as highly important to businesses in the area. Businesses were passionate about the trail and believed it contributed to their businesses as well as helping to position the area as an authentic leisure holiday destination. The exact impact in measurable terms could not be clearly ascertained, as it is so intrinsically linked to businesses in the region, but there was a definite opinion that the Clare Valley would not be the same without the trail and that it had contributed to business formation as well as business growth.

In a 2021 New Zealand survey (*Angus and Associates 2022*), 66% of existing businesses (i.e. those that existed before a trail which was on the network of 22 Great Rides opened) had expanded/added new services solely or partly because of the trail.

Trail development offers a range of new business opportunities and the opportunity for existing businesses to extend their offerings. The experience of the Tumbarumba and Rosewood communities reinforces this (as discussed in the *Rail Trails for NSW Evaluation Summary*).

It should also be noted that the trail construction process itself will provide an economic input to the region.

8.9 Non-economic Benefits

There are a range of non-economic benefits accruing to local and wider communities from trail construction and use. The Department of Local Government, Sport and Cultural Industries' *More People More Active Outdoors* (2019) identified five key pillars supporting the benefits of outdoor recreation (cited in *WA Mountain Bike Strategy 2022-2032*). These were:

- Personal development, challenge and enjoyment;
- Improved health and wellbeing;
- Outdoor learning;
- Connection to nature; and
- Economic development.

8.9.1 Health Related Economic Benefits to the Wider Economy

- Data from the USA indicates that every \$1 of funds spent on recreational trails yield direct medical benefits of \$2.94 (*Wang et al 2005*).
- The 2021 evaluation of the Great Rides of New Zealand showed an associated \$11.1 million in health benefits (from user numbers in excess of 1.065 million people) (*Angus and Associates 2022*).
- The trail will encourage people to exercise – the economic benefit to society of getting an inactive person to walk or cycle is between \$5,000 and \$7,000/year. The economic benefit to society of getting an active person to walk or cycle is between \$850 and \$2,550/year (*Institute of Transport Economics 2002*). Increasing recreational options for local communities will aid overall community wellbeing.
- Participation in trail activities can improve physical and mental health, assisting with disease prevention particularly cardiovascular, musculoskeletal, respiratory, nervous and endocrine systems as well as reducing obesity, hypertension, depression and anxiety. The obesity epidemic alone is now estimated to cost Australia \$1.3 billion/year (*Australian Bicycle Council*). One heart attack is estimated to cost in the vicinity of \$400,000 in direct and indirect costs.

8.9.2 Quantifiable Benefits to Individual Residents

There are numerous benefits that accrue to residents of the region from a trail development over and above those that accrue to the regional economy (and therefore a select number of people) and to the wider economy (health benefits in particular).

- Medical research has shown that 1 hour of moderate exercise can add more than 1 extra hour of high-quality life to an individual.
- Cycling and walking as recreation activities can be cheaper than alternative forms of exercise such as gym classes. Yearly memberships to gyms are around \$600 in many instances – the cost of a good hybrid bike, which has a life of more than one year.

8.9.3 Non-quantifiable Benefits to the Community and to Individuals

There are a number of unquantifiable benefits to individuals and the community. These are listed here so that a complete picture of benefits can be considered when weighed up against project costs. It is difficult to cost them for a range of reasons.

8.9.3.1 Health and Wellbeing

Rail trails are an accessible form of recreation. Trail-based recreation is generally free, self-directed and available to all people, all day, every day. Good quality, accessible trails encourage physical activity and improved health. Increasing recreational options for local communities will aid overall community wellbeing.

Physical activity has also been shown to improve mental health and help relieve stress. The economic cost of mental illness is high in Australia - estimated to be approximately \$20 billion per year.

People can use trails in a variety of ways, depending on their abilities and preferences. Physical health benefits are discussed above. Social health benefits include:

- Trail activities facilitate participation and social interaction between a diversity of community members, age groups, individuals and families e.g. community walking groups, voluntary trail maintenance and conservation work;
- Market Equity (2004), in its report on trails in South Australia, found that using trails to get a sense of well-being (95% of survey respondents) and using trails as a means to unwind and relax (91% of respondents) were the two main drivers getting people out on recreation trails. The psychological health benefits of trails remain under-estimated;
- The 2021 evaluation of the Great Rides of New Zealand showed that 56% of users felt that their wellbeing or mental health had improved, 47% said their physical health had improved and 44% said they had developed closer relationships with the people they were with (*Angus and Associates 2022*);
- Trails can offer a wide range of opportunities to a diverse group of people. Depending upon design, trails can accommodate the elderly, people with disabilities or satisfy those seeking challenging adventures and a sense of achievement;
- Participation in trail activities has a relatively low cost to participants;
- Trails can introduce participants to other recreational and participation offerings in the community; and
- Trails help to connect people and places and to develop community pride.

"Green scripts" are emerging a new frontier in preventative medicine

(<https://www.canberratimes.com.au/story/6192225/canberra-doctors-could-prescribe-patients-time-outside/>).

The ACT Government worked with the medical profession to determine the outcomes of a doctor "ordering" a patient to spend time outdoors with an ACT park ranger. So-called "green scripts" could be a new way to treat heart disease, high blood pressure, obesity and mental health issues. A representative of the ACT Government is quoted as saying that green scripts had been a hit in New Zealand. He also noted that, in the United States, the Golden Gate National Parks Conservancy in San Francisco had been running its similar "Park Rx" program for 10 years. The UK Government announced a similar scheme in August 2022 The Bicycle Network reported that a health trial in the UK is exploring how doctors' prescriptions for patients to bike ride their way to improved mental and physical health could change lives and communities.

The initiative was put in place as a way of improving public health through "social prescriptions" for walking and bike riding. This vision was outlined in its [2020 Gear Change report](#), which laid out plans to promote riding and walking across the country with "our bike

lanes becoming huge, 24-hour gyms, free and open to everyone". Initially, the focus will be on areas with poor health and low physical activity. Among the key objectives is to incentivise GPs to prescribe bike riding, noting that "taking up cycling is among the most effective health interventions a person can make". (<https://bicyclenetwork.com.au/newsroom/2023/07/11/uk-introduces-bike-riding-prescriptions-for-good-health>).

15 rail trails across Australia are currently being used as venues for ParkRuns (*Rail Trail Connections Spring 2022*). ParkRuns are free, weekly, community events all around the world. Saturday morning events are 5 kilometres and take place in parks and open spaces. On Sunday mornings, there are 2 kilometre junior ParkRuns for children aged four to 14.

8.9.3.2 Liveability

Quality recreational facilities, such as trail networks, can help create attractive places to live and visit – important in small regional communities looking to grow (or at least stabilise). Almost half of the representatives of business groups who responded to the New Zealand survey mentioned above (*Angus and Associates 2022*) believed that the development and promotion of a trail in their area attracted new people to live in that area. The same report showed that 62% of respondents from these business groups felt that the trail had attracted people to do business with and/or invest in the area of the trail.

Walking and cycling are relatively cheap modes of transport. Trails also provide a low impact means of travelling through the landscapes and play an important role in connecting people with nature.

Local users of the trail will enjoy social interaction within the community and with greater social interaction, the social capital of the area may be boosted. There are a number of benefits of enhanced social capital. It improves the capacity for people to trust others (*ABS 2012 cited in SGS 2013*). This strengthens the social cohesion in a community as it provides the opportunity for socially isolated individuals to integrate into the community. Greater social capital also facilitates networking, thus creating more efficient economic networks.

Trail projects help build partnerships among private companies, landowners, and local government. Each trail contains elements of local character and regional influence, and reflects the hard work, enthusiasm, and commitment of individuals, organisations and elected officials. In addition, when residents are encouraged to become involved in a trail project, they feel more connected to the community (*Warren 1998 cited in SGS 2013*).

8.9.3.3 Education

Trails present a unique opportunity for education. People of all ages can learn more about nature, culture or history along trails. Of particular importance, trails provide firsthand experience that educate users about the importance of the natural environment and respect for nature by leading users into a natural classroom.

An added advantage of a rail trail is that it provides an opportunity for city to connect to country, in a way "bush" trails do not. A shared use trail provides the opportunity for education about and interaction with farming, food and fibre producing along the trail.

Enhanced, active education along trails is achieved through the use of comprehensive trail guides and signage to encourage awareness of the natural, cultural and historical attributes of the trail.

Trails have the power to connect users to their heritage by preserving historic places and by providing access to them. They can give people a sense of place and an understanding of the enormity of past events.

8.9.3.4 Environmental and Cultural Benefits

Trails provide a number of environmental and cultural benefits. These include:

- Opportunities for the community to experience natural and cultural environments;
- Protection of the adjacent environments by localising impacts and facilitating management of visitation effects;
- Educational and interpretive opportunities and increased environmental and cultural awareness and appreciation;
- Increased community ownership which helps to preserve natural and cultural values;
- Corridor revegetation opportunities; and
- Opportunities for community participation in conservation and revegetation work.



*Above left and right: volunteers plant trees along the Tumbarumba Rosewood Rail Trail corridor in southern NSW.
(Source: Tumbarumba to Rosewood Rail Trail Facebook page)*

SECTION 9 - FEASIBILITY STATEMENT

9.1 The Statement

A rail trail on the disused rail corridor between Narrogin and Williams is technically feasible. The issues raised can be overcome with good design and the corridor remains in public ownership.

In order to establish whether the proposed rail trail is a feasible proposition, this Feasibility Study sought to answer several questions:

Is there a viable trail route? Yes. As is the case for the vast majority of disused railways in Australia, the entire corridor is still in public ownership. Although the line was developed as a fenced railway, and several adjoining landowners have had unrestricted access to the public land within the corridor since the railway closed, the land remains in public ownership.

There will inevitably be disruptions to long established farming practices should the trail be constructed. However, as is the case with many other successful rail trails developed in similar broadacre farming areas in Australia and overseas, there is a range of practical and viable solutions to each and every issue that adjoining landowners raise. The fact that some farms straddle the railway corridor should therefore not be considered as a reason for not proceeding with the development of a trail.

Although the bridges over Williams River and the other watercourses have been partially dismantled, and an at-grade crossing of the Williams-Kondinin Road (and other minor roads) will be necessary, these minor discontinuities can easily be overcome through design solutions.

Are there alternative uses for the corridor that will provide more value to the community? Are these alternative uses viable? Unlike some other railway corridor re-use proposals, there has been no proposal to run a tourist train (or any other sort of train) along the disused railway corridor. This is principally because the steel track and sleepers have long been removed and the bridges have been partly dismantled (or in one case destroyed by fire). The other alternative use is continuing to crop and graze the corridor as currently occurs in parts and leave the rest of the corridor as is.

Will the trail provide a quality user experience (terrain/landscape/history)? Yes. The proposed Narrogin Williams Rail Trail would pass through attractive rural farming scenery, as this was where rail lines historically ran. Views to distant hills are sometimes present (though these are “low-rise” in nature). Undulating topography is constant along the corridor. Views of sheep grazing in adjoining paddocks adds to the interest. Some infrastructure along the railway corridor remains. Most bridges remain (albeit in various states of repair); distance pegs remain in most places. Embankments and cuttings - whilst not a common feature on the corridor - are present and add to the diversity of the landscape. All these elements of the original railway would add to the enjoyment of trail users. The trail would pass immediately north of Railway Dam and Archibald Park and increasing access to the areas will add to the user’s experience.

Is there a market for the proposed trail? Yes. Existing rail trails in other states, notably Victoria and elsewhere in Western Australia, are extremely well used and very popular recreational assets of the communities in which they are situated. The success of the Tumbarumba Rosewood Rail Trail in NSW, a recent development, is testimony to the demands

for such facilities. The Wadandi Track (formerly known as the Busselton to Flinders Bay Rail Trail) has recently been awarded \$17.5 million for its completion, due to its popularity and a surge in interest in outdoors activities.

This Feasibility Study has examined the potential for users to travel to the region from Perth in particular specifically for the rail trail and as an added component to their leisure time activities. Given the potential trail's proximity to Perth (a journey of approximately two hours from the heart of Perth), it will be a significant day trip attraction. The existence of a growing network of new and upgraded trails in and around Narrogin could make Narrogin a trail destination.

Will the rail trail create any unmanageable or unmitigated impacts on adjoining landholders' farming practices and lifestyles? **A conditional no.** It is true that a rail trail is a different use to the historic use of the corridor (for trains) and adjoining landholders may have expectations of how the corridor will be used in the future. A rail trail probably was not one of their expectations and they have concerns. However, the corridor remains publicly owned land and the issues and concerns raised by adjoining landholders have been satisfactorily addressed in the other rail trails round Australia (of which there are well over 100). Evidence shows no long-term negative impacts on farming practices and lifestyles. In consultation, adjoining landholders raised several usual concerns but there was very little outright opposition to the proposal. It is believed that these issues can be satisfactorily addressed, managed or mitigated if the trail proceeds. It is important to recognise landholder concerns and, if the trail proceeds, to work closely with them to address individual concerns and arrive at mutually agreed solutions.

Are the local governments and key stakeholders supportive of the concept? **The answer is unclear.** Both Councils have committed to helping fund this Study which indicates a commitment to exploring this project thoroughly. However, there have been no formal commitments beyond that process. This is a critical issue. Beyond taking on the lease of the corridor from the Public Transport Authority, both Councils will need to be convinced that development of the rail trail has considerable merit. The costs of construction, and the costs of ongoing maintenance and the impacts on neighbouring landowners will be key factors in any future decisions made by each Council. This will be tempered by the recommendations of this study, the estimates of financial (and other) benefits that the rail trail will bring to the two towns and a host of other factors.

Is there a supportive community? **Yes.** The general tone from the two community consultation sessions was that the project is worthwhile for a range of reasons. Of the adjoining landholders who attended, three were opposed, and had genuine queries about potential issues and how they might be addressed if the trail were to proceed. A rail trail, just like all other infrastructure projects, will not receive 100% support. If the project is to proceed, the two Councils will need to continue to raise the community's awareness of the benefits of the project and the range of solutions available to mitigate any of their concerns and issues.

Would the trail be value for money? **Yes.** Trails repeatedly demonstrate that there are numerous benefits to be gained through their construction: economic benefits to the towns where they start and finish – a boost to businesses associated with the trail; social and physical health benefits; and a range of environmental and cultural benefits. Use scenarios and possible numbers of users means that, for an investment of \$4.0 million (plus GST), there will be an

opportunity for users to traverse a 34km rail trail in the region providing undulating landscapes and good views with towns at either end. In summary, it can be reliably anticipated that development of the proposed rail trail will result in increased annual visitor numbers who will inject nearly \$1 million/year into the region's economy. Local use rates of 4,000 people/year are forecast. There will also be several non-quantifiable benefits also arising to members of the communities around the trail as well as further afield.

Is there a commitment to maintenance ("friends of ..." group or support network)? This has not been explored in any detail but the Wheatbelt Cycling Collective has indicated strong support for the trail –its members have already been involved in other trail projects in Narrogin. This Feasibility Study identifies likely maintenance costs. The experience of other rail trails indicates that individuals and community groups (such as Landcare groups, school groups, service clubs, etc) will help to maintain sections of the trail, or areas through which the trail would pass.

Will the trail provide a unique experience? **Yes.** The project delivers a rail trail which is of appeal to a broad range of users – a 34 km rail trail is an ideal distance for a bike ride and with the development of a mid-point trailhead would enable a good two day walk. The development of signposted sections at either end (Narrogin Railway Station to Railway Dam in Narrogin, and Lions Park in Williams to near the CBH bins) broaden the opportunities for local users to take shorter journeys on a regular basis. The trail provides users with the opportunity to use some of the former railway bridges and enjoy the experience offered by these.

Is there a demonstrated benefit to trail users and, especially, the host communities? **Yes.** This question has been answered partially in answers to other questions posed. The demonstrated benefits come in the form of economic and non-economic benefits that will accrue to both users and host communities (with the creation of a range of economic opportunities arising from the development of the rail trail).

9.2 The Recommendation

Following consideration of the major issues pertaining to the development of a trail on the disused railway corridor Narrogin and Williams and taking into account the views of key stakeholders, groups and individuals consulted (and background information obtained during the course of the project), this Study recommends that the proposed rail trail proceed, *subject to a number of conditions being met*.

The conditions upon which the rail trail should proceed are:

1. This Feasibility Study report be forwarded to the Public Transport Authority for review and comment and, assuming a positive response, the two Councils (the Shire of Narrogin and the Shire of Williams) proceed with negotiations with the Public Transport Authority regarding taking on the lease of their respective sections of the former railway corridor.
2. Advertise the availability of this draft feasibility study to the wider community via each Councils' website, and via direct contact with community groups, and seek comment and thus gain a greater understanding of the likely usage numbers and popularity of the proposed rail trail.

3. Prior to construction, a comprehensive programme of one-on-one discussions on-site with all affected adjoining landowners be undertaken to ascertain their individual concerns and to work out together solutions to each issue raised;
4. The Shire of Narrogin and the Shire of Williams seek funding from external sources, including Community Benefit Funds being established by the proposed Narrogin Wind Farm and other green energy projects, for the construction of the proposed rail trail;
5. A Committee of Management, comprising (at least) representatives of each local government, residents of each town, local Landcare groups, local business proprietors and adjoining landowners, be formed to guide the ongoing planning, design and construction, management and maintenance of the proposed Narrogin Williams Rail Trail and the former railway corridor;
6. The preparation of a Corridor Management Plan before construction, including a comprehensive maintenance programme (detailing the ongoing maintenance) for the trail and corridor;
7. The preparation of a Bush Fire Risk Management Plan for the corridor;
8. Grazing and various other existing uses of the corridor to be considered on their merits, and suitable solutions found to enable the activity to continue where reasonably achievable;
9. The relevant local governments should assume liability for trail users within their respective jurisdictions and take all necessary actions to mitigate potential claims from landowners, neighbours, and users;
10. A commitment to ongoing maintenance of the trail being given by each Council, a Committee of Management and volunteers; and
11. The local governments should consider either assigning these duties to an existing officer or appointing a part-time trail manager or managers to ensure landowners have a direct point of contact for any issue resolution.

9.3 Factors Supporting the Decision

In formulating a decision about whether the proposed Rail Trail is feasible or not, due consideration has been given to a range of factors.

- The entire railway corridor between Narrogin and Williams remains in public ownership with few constraints to the development of a trail along its entire length.
- The rail trail provides, at 34 kms one way, a good one-day bike ride and a good two day walk.
- The proposed rail trail is relatively close to the existing Collie-Darkan (Dardadine Siding) Rail Trail (in the Shire of West Arthur) meaning that rail trail aficionados could potentially visit the area to experience both rail trails (should the Narrogin Williams Rail Trail be developed). Even more importantly, the potential future development of the missing link along this disused railway corridor between Dardadine Siding and Williams (in the Shire of Williams) would be a more compelling reason for trail users to visit the area. That would result in a rail trail of over 130 kilometres – several days riding and a true multi-day walk.

- Furthermore, the development of two rail trails in the Great Southern as proposed in the Great Southern Regional Trails Master Plan by (GSCORE) would also stimulate visitation to the Wheatbelt by cyclists and walkers. There are two lengthy rail trails proposed in the Regional Trails Master Plan, the 157km Kojonup-Katanning-Pingrup Rail Trail and the 94km Tambellup-Gnowangerup-Ongerup Rail Trail (known collectively as the Grain Train Rail Trail).
- The Narrogin Williams Rail Trail represents a reasonable expenditure of capital and more importantly maintenance funds.
- The Narrogin Williams Rail Trail add another attraction in the region and will potentially bring additional visitors and keep visitors longer in the area.
- The proposed rail trail does not have a particularly complicated route through and getting out of Narrogin or Williams (unlike some existing rail trails in Australia and overseas). Existing verges and/or paths can be utilised if necessary.
- Even though the proposed rail trail is not supported by everyone in the community, in particular several adjoining landowners, there are those who strongly support it. As with all infrastructure projects, the silent majority in the community, and those who might visit Williams and Narrogin to use the trail, are rarely heard from.
- The indigenous history of the region, the surrounding farming properties and various other land uses, the natural qualities of the region, the history of construction of the railway and a host of other interesting subjects results in good potential for interpretation along the rail trail – adding to and enriching the experience of trail users.
- As a rail trail, the corridor is reasonably flat (as it was built with low grades for steam locomotives) and will therefore accommodate the full range of cyclists, as well as walkers, joggers, runners, wheelchair and gopher users etc.
- As has happened on other rail trails in other locations around Australia, the rail trail will provide local people with a new opportunity for walking, cycling, fun runs, triathlons, half marathons (or full marathons), wheelchair use and educational opportunities for school children.

9.4 A Note on Marketing

As mentioned throughout this report, the development of a standalone 34km rail trail (some 2 hour's drive from Perth) is insufficient to create a huge influx of potential users.

What is required therefore is a marketing campaign to make potential users aware of the many other trails and tourist attractions of the region. The package of trails that could/should be promoted include: the Narrogin Williams Rail Trail (if/when developed), the Collie Darkan Rail Trail (to Dardadine Siding), the existing Narrogin Heritage Trail, the walk trails within Foxes Lair and Railway Dam, the newly established mountain biking trails of Narrogin, the trails within Dryandra Woodland National Park, Yilliminning Rock and a re-vamped Williams Heritage Trail. Furthermore, the development of the Williams to Darkan Rail Trail (missing section between Dardadine Siding and Williams) and the development of the proposed trail from Williams Nature Reserve to Williams Lions Park will create additional attractions.

SECTION 10 -TRAIL MAINTENANCE

Ongoing trail maintenance is a crucial component of an effective management program – yet it is often neglected until too late. Countless quality trails have literally disappeared because no one planned a maintenance programme, and no one wanted to fund even essential ongoing repairs. It is therefore essential that funds be set aside in yearly budgets for maintenance of this trail (if it proceeds) - to ensure user safety and enjoyment, and to minimise liability risks for land managers.

It would be short sighted to go ahead and build the rail trail and then baulk at the demands of managing and maintaining it. Consequently, a commitment to maintenance is needed as part of the assessment of feasibility. If the trail manager is not committed to maintaining the trail once built, the trail should not proceed.

10.1 A Trail Maintenance Plan

Ongoing maintenance costs can be minimised by building a trail well in the first place. A well-constructed trail surface will last considerably longer than a poorly built trail. Signs, gates, posts and bollards installed in substantial footings stand less risk of being stolen or damaged. Well designed, built well and thoughtfully placed management access gates and trail user gates will keep motor vehicles and motorised trail bikes off the trail with a consequent lesser need for surface repairs. Trail furniture (such as seats, trail directional marker posts and interpretation) should be installed (during the construction/upgrading process) in substantial footings sufficient to withstand high winds and theft. These should require minimal ongoing maintenance.

Building good trails in the first place is the very best way of minimising future problems and costs. As a second line of defence, a clear and concise Management Plan with a regular maintenance program written into it will aid significantly in managing ongoing resource demands.

The goals of a Trail Maintenance Plan are to:

- Ensure that trail users continue to experience safe and enjoyable conditions;
- Guard against the deterioration of trail infrastructure, thereby maintaining the investment made on behalf of the community;
- Minimise the trail manager's exposure to potential public liability claims arising from incidents which may occur along the trail; and
- Set in place a management process to cover most foreseeable risks.
- Most minor repairs (bridges, fences and gates) are largely labour intensive rather than capital expensive. Calamitous events such as fire or flood will naturally generate significant rebuilding activity and consequent costs. These events are generally unmanageable and should simply be accepted as part of the longer-term reality of trail management.
- Resourcing a maintenance program is crucial, and funds will be required on an ongoing basis to enable this essential maintenance. This matter should be addressed in the preparation of the maintenance plan.

10.2 Trail Maintenance Activities

The discussion that follows provides general guidance for the development of maintenance plans should the rail trail proceed. It is not a substitute for specific maintenance plans for a trail. An inventory of works and locations needs to be prepared for maintenance purposes – this cannot be prepared until construction is completed. The trail manager will need to create a specific checklist once the trail is completed.

Maintenance on the rail trail should be divided between regular inspections and simple repairs, a one (or two) person job, and quarterly programs undertaking larger jobs such as significant signage repairs or weed / vegetation control. A range of basic machinery, tools and equipment will be required for this work. At the core of any trail maintenance program is an inspection program. The relevant Australian Standards sets out the basis for frequency of trail inspections. It only covers walking tracks and provides for inspections every 30 days (or less) for Class 1 trails, every 90 days for Class 2 trails, and annually for Class 3-6 trails. This sets the minimum standard for inspections and is a guide only. What the Australian Standards do not include but should include is an inspection of any trail after significant weather events such as storms, fire, floods, and high winds in addition to the regular inspection program. The trail should have its own maintenance plan that may, for particular reasons, have more frequent inspections. Particular needs should be recognised in an individual trail maintenance plan.

Clear records of each activity/inspection will be kept by the body with responsibility for maintenance. Pro-formas serve to maximise user safety and minimise liability risks. It will also provide a valuable record of works undertaken and make for efficient use of maintenance resources over time.

In general, Maintenance Plans are based around regular inspections, at which time simple maintenance activities should take place concurrently (Table 13 provides a broad outline of activities). More time-consuming maintenance activities should take place every six months, while detailed Hazard Inspections should occur annually. Further, the capacity to respond immediately to random incoming reports of hazards or major infrastructure failures should be built into the Plans.



Volunteers organised by the Committee of Management at a busy bee to undertake maintenance work along the rail trail near Port Fairy in western Victoria.

The presence of trees along some sections of the trail means that time will be spent removing damaged and fallen trees and branches in the aftermath of a storm.

One of the most frequent maintenance tasks will be attending to fallen branches and limbs, repairing trail surfaces, replacing stolen or damaged signs (including road signs), clearing culverts and under bridges and ensuring gates and fences are functioning as intended.

Table 13: Maintenance Schedule

<i>Activity</i>	<i>Activity Description</i>	<i>Site</i>	<i>Frequency</i>
Undertake full inspection of the trail.	<i>At Trailheads</i> The trailhead should be carefully checked to ensure that all signage is present, and that all signs are clearly visible and legible. An inventory needs to be prepared to assist in regular maintenance. Surface of access tracks and parking areas need to be checked and potholes eliminated. Inspect and check trailhead facilities and infrastructure: ○ Parking areas and access tracks (check surfaces) ○ Trailhead (map) panel ○ interpretive panel ○ Seating/shelter/picnic tables ○ Trailhead signage (on road) ○ Trail directional marker posts <i>At Road Crossings</i> Particular attention needs to be given to signs at road crossings or junctions. Each crossing should be carefully checked to ensure that all signage is present, and that all signs are clearly visible. Particular attention must be given to ensuring that “Trail Crossing ahead” signs (on roadside at approach to trail crossing) are not obscured by overhanging vegetation. Replace damaged and/or missing signs. Check management access gates and trail user chicanes for structural stability and function. <i>Fencing</i> Check and make repairs to side fencing. To be done by arrangement with adjoining landowners.	Entire trail	Every third month

Check signage and clean, replace or repair as required esp. road crossing signage and directional markers. All signage should be checked for vandalism and cleaned if necessary. If damage is too great, replacement is essential. An inventory of locations of all signs needs to be prepared to assist in regular maintenance.	Check, repair or replace all trail signage, including interpretive signage, trail distance and directional markers (logo/arrow plates). Replace missing and/or damaged signs.	All locations	Every third month - at each trail inspection.
Slashing of trail environs.		Various locations	Timing dependent on seasonal growth patterns. Allowance for up to 6 times per year.
Check trail surface and arrange repair as required.		Entire trail	Every third month. Arrange repairs immediately if acute, or schedule maintenance for six monthly work sessions if not.
Maintenance of trail surface.	Check condition of trail surface for damage and arrange repairs if necessary; trim off regrowth vegetation.	Entire trail	Every six months.

Sweep or rake debris from trail surfaces, especially at road crossing points.		Various locations	Every six months.
Maintenance of culverts and other drainage measures.	Check and clear drains and culverts. Drains need to be checked and cleared once or twice/year and after heavy rainfall events. Regular maintenance especially after heavy rainfall is essential. Most maintenance will involve clearing of material from silted up or blocked drains. Drain blockages should be cleared as urgent priority. Silt traps at culvert discharges or entry points should be cleared regularly. Cess drains in cuttings should be checked to ensure they function effectively.	Entire trail	Every six months.
Cut back regrowth, intruding and overhanging vegetation.	Check overhanging or intruding vegetation. Cut back where required. Clear fallen trees and branches. Undergrowth vegetation grows quickly, and over time will continue to intrude into the trail 'corridor'. Such intruding vegetation needs to be cut back to provide clear and safe passage for trail users. "Blow-downs" - trees or limbs that have fallen across the trail – need to be cleared as/when required. Sight lines must be kept clear either side of road crossings, to ensure that users can clearly see a safe distance either way at road crossings.	Entire trail	Every six months, unless obviously requiring attention at regular inspections.
Check structural stability of interpretive signage, and interpretive shelters.	Interpretive panels should be checked for vandalism and cleaned if necessary. If damage is too great, replacement is essential. An inventory of locations needs to be prepared to assist in regular maintenance.	Entire trail	Every six months.
Check structural stability of seating, distance posts.	Furniture alongside trails, if installed, needs to be checked regularly for damage to ensure safety and comfort of trail users.	Entire trail	Every six months.

Inspect and replace when needed.			
Undertake Hazard Inspection and prepare Hazard Inspection Report.	This should be done annually. Inclusion of a formal Hazard Inspection process, crucial in addressing risk, is necessary in the ongoing maintenance plan. Not only will this define maintenance required and/or management decisions to be addressed, but it is also vital in ensuring safe conditions and therefore in dealing with any liability claim which may arise in the future. Courts are strongly swayed by evidence of a clear and functional program, and a regular series of reports, with follow-up actions, will go a long way to mitigating responsibility for injuries. Further, clearly defined 'User Responsibility' statements in brochures, maps, policy documents, plans and public places will assist this process.	Entire trail	Annually.
Check structural integrity of bridges. Inspect and maintain bridges. Check for obstructions and clearing under bridges.	Visual inspection is appropriate though detailed inspection should follow storm and flood events. After floods, bridge should be inspected, and damaged components replaced as soon as possible. Handrails and surface decking on bridge should be inspected for damage at regular intervals.	Various locations	Annually.

It should be noted that this schedule does not allow for repair works above and beyond 'normal' minor activities. For example, if a section is subject to heavy rain, and erosion control fails, additional repair works will need to be undertaken.

10.3 Maintenance Costs

10.3.1 General Notes

Resourcing a maintenance program is crucial, and funds will be required on an ongoing basis to enable this essential maintenance. It would be short sighted to go ahead and build the Narrogin Williams Rail Trail and then baulk at the demands of managing and maintaining it.

Estimating the cost of maintaining a trail is difficult due to the unpredictability of events such as floods, fires, high winds and stormwater runoff, as well as the tenure and management arrangements for the trail. Deliberate and wilful damage and vandalism can also contribute significantly to the need for ongoing maintenance and replacement of infrastructure.

Volunteers can be organised (through a coordinated program) to carry out much of the work at a limited cost to the trail manager.

Evidence of actual trail maintenance costs for individual items along a rail trail, or any trail for that matter, is scarce. The Rail to Trails Conservancy in the USA (*Rail-Trail Maintenance and Operation – Ensuring the Future of Your Trails – A Survey of 100 Rail-Trails, July 2005*) provides two general answers for why it is difficult to estimate maintenance costs. First, the trail may be part of a larger budget for a single park or even an entire parks and recreation department. Specific costs for the trail are not separated out. Second, small trail groups, though run by competent and extremely dedicated volunteers, tend to be ‘seat-of-the-pants’ operations. Maintenance is done “as needed,” funds are raised “as needed,” and the people are volunteering because they love the trail, not because they love doing administrative tasks like budgeting.

Maintenance responsibility does appear to significantly affect cost. Approximately 60% of the surveyed trails reporting costs were maintained primarily by a government agency, implying paid staff and/or contractors. The other 40% of trails were primarily maintained by a non-profit or volunteer organisation. Adjusting for exchange rates and inflation since 2005, annual costs for government-run trails were just over \$2,465/km. This is not much more than the overall average of \$1,855/km, but it nearly triples the average for volunteer-run trails of \$868/km.

In Victoria, the Murrindindi Shire Council manages and maintains approximately 85% of the (134km) Great Victorian Rail Trail. It spends around \$2,000/km on maintenance activities each year which the trail manager believes is insufficient. Anecdotal information indicates that initial construction issues necessitate an increased level of maintenance of the trail surface (and drainage through cuttings). A higher level of (initial) construction quality (i.e. better trail surfacing) would mean less ongoing maintenance.

The Kilkivan Kingaroy Rail Trail in South East Queensland opened in September 2017. In October 2019, representatives of the South Burnett Regional Council (responsible for approximately half the trail) advised that maintenance costs were in the order of \$500/km/year.

A 2016 study of the Great Rides of New Zealand (*The Great Rides of the New Zealand Cycle Trails 2016*) examined the 22 “great bike rides” of New Zealand and reported an average maintenance cost of \$1,285 per kilometre (adjusted for exchange rates and inflation). This figure is based on the actual reports of 9 of the 22 trails. It is difficult to know precisely what items have been included in these figures as the 9 individual trail reports are not available.

Verbal advice to the New England Rail Trail Inc. (a NSW rail trail advocacy group) from Indigo Shire Council (in Victoria) was that maintenance for the Murray to the Mountains Rail Trail costs in the order of \$915/km/year.

There are significant variations across the available research costs and it is not clear from available data what has been included and what has not been included in consideration of costs. There are two issues when considering the quoted costs and what has been included and not included.

- The “age” of the trail. The Kilkivan Kingaroy Rail Trail (KKRT) was only 2 years old at the time the data was sourced. Early life maintenance costs tend to be very limited. The \$500/km/year cited for the KKRT reflects actual expenditure on maintenance to date. Very little maintenance beyond slashing and minor repairs would have been

needed. Figures for the other trails reflect trails that are a little more mature and may need more minor maintenance done. However, the figure for the Murray to the Mountains Rail Trail is quite low (\$915/km/year) but the trail is very mature. Whilst there is appeal in setting aside the minimal amount for maintenance in the first 5 years, a more appropriate approach would be to set aside higher amounts from trail inception. The likely maintenance costs in the first few years of a trail's life will focus on sign damage and inspections. These "day to day" costs can and should be funded by the trail manager (using their own resources including volunteers).

- The more critical element is the treatment of replacement of major assets over time. It is highly likely that the available figures from the research do not provide for how replacement of major capital items is considered. The biggest "maintenance costs" are maintenance and replacement of the items that initially cost the most to install – surfacing, fencing and bridges. Maintenance on these three critical elements is less likely to be needed in the first 5-10 years if the trail is built well in the first place. Allowance for repair and replacement of these items should be treated differently. In addition to maintenance, there will be a requirement for asset renewal – particularly of surfaces, bridges, and fences. The timing of this renewal will generally be between 10 and 50 years – an Asset Management Plan is the appropriate method for dealing with these items. Good asset management practice suggests money be put aside every year for renewal of these major items, even though much of it will not be spent initially. Funding for these items could be sourced from external funding programs as compared with ongoing minor repairs for which major external funding is hard to find. **Little maintenance will be required on newly built trail surfaces, fencing and bridge structures, and other elements of the rail trail for several years after construction.** There will be very limited need for surface repairs in the first 5 years. Bridges are even less likely to need repair for the first 10 years of a trail's life. Re-constructed and refurbished bridges will require little or no maintenance for many years. However, after perhaps a decade of use they will require more and more maintenance of decking timbers (if used) and more scrutiny of fixings (depending on what materials are used for decking). Pre-fabricated bridges require less maintenance over time. The same comments apply to fencing (though its active life is probably shorter than bridges). Properly constructed fencing will yield a life of between 30 and 40 years, particularly if new fencing includes electric fencing outliers which prevent livestock leaning into the fence. There should be very limited need for fencing repairs in the first 15 years. It may be appropriate to share ongoing repair costs with adjoining landholders once the initial investment is made. This is a matter for the trail manager to consider.

It is difficult estimating the costs involved in maintaining a trail until every last bridge and other infrastructure items have been installed. As stated earlier, ongoing maintenance can be minimised by building a trail well in the first place.

The use of volunteers to undertake many of the routine repairs and cleaning tasks can substantially reduce the costs.

10.3.2 Estimate of Maintenance Costs

Table 14 provides an estimate of the amounts that may be required on an annual basis for maintaining the proposed Narrogin Williams Rail Trail for regular “day to day” maintenance.

Table 14: Estimate of “Day to Day” Maintenance Costs

<i>Task</i>	<i>Frequency/note</i>	<i>Possible costs</i>
Inspect and check trailhead facilities and infrastructure (only at Geeralying): - parking area (check surfaces) - picnic table - trailhead signage (on road) - trailhead (map) panel - trail directional marker posts	1 trailhead at average repairs of \$1,000 per site/year.	\$1,000
Check vegetation growth and overhead vegetation and cut back where required. Clearing of fallen trees and branches.	Allowance of 5 person days per year (@ \$500/day).	\$2,500
Firebreak maintenance along corridor to reduce weeds and fire load/risk. (See Note 1).	Allowance for incidental slashing where required.	\$5,000
Inspection of bridges (all timber components, decking, handrails, etc.). Check for obstructions and clearing under bridges.	Allowance of 10 hours for inspections and minor repairs.	\$2,000
Check and clear culverts.	Allowance of 20 hours for checking and cleaning.	\$1,600
Check road crossings. Replace damaged and/or missing signs and undertake other tasks: - Give Way and Road Ahead signs - Trail Crossing warning signs - Road name signs - Regulatory signs - Check sight distances and clear vegetation if necessary	18 crossings at average repairs of \$300 per crossing/year.	\$5,400
Allowance for replacement of trail directional marker logo/arrow plates and trail kilometre posts.	3 replacements/year.	\$1,800

Allowance for repairs to trailside furniture and occasional replacements (when required).	Inspection and minor repairs every 6 months. 1 replacement per year.	\$1,000
Check miscellaneous signs along trail (e.g. trail name, distance signs, "No Trespassing", bridge load signs, etc).	4 replacements/year.	\$2,400
Check gates, other barriers and fences at road crossings. Make repairs where necessary.	Allowance of \$3,000 per year for repairs.	\$3,000
Trail surface repair and maintenance allowance		\$3,000
Check interpretation along trail for damage and structural stability.	Allowance for repair of 1 panel per year.	\$1,000
Inspection of rail trail (2 times/year). (See Note 2).	Allowance for 2 inspection trips per year.	\$1,500
Preparation of annual Hazard Inspection Report.	1 person days @ \$1,000/day.	\$1,000
\$32,200 excl GST (per annum)		

This equates to a rate of approximately \$1,838 per kilometre per annum.

Note 1: The necessity to maintain the entire trail/corridor will be much reduced if adjoining landowners graze stock within that part of the corridor deemed 'surplus to requirements'.

Note 2: Reporting of routine maintenance requirements by trail users will obviate need for many scheduled inspections. Appointment of a Trail Manager, with responsibility for regular inspections of entire trail, will substantially reduce need for unscheduled and expensive maintenance.

Asset renewal provisions should be provided for separately and cover replacement of surfacing, fencing and bridges and other water crossings. These provisions would have separate timeframes for replacement with fencing and surfacing requiring renewal in a shorter time than bridges and other water crossings.

A number of observations are relevant to Table 7:

- The likely maintenance costs in the first few years of a trail's life will focus on sign damage and inspections.
- Costings are at full commercial rates (but of course this would be far less if volunteers are involved). US evidence suggests significant savings using volunteer maintenance (trails maintained by volunteers cost one-third of those maintained by Government entities).
- The maintenance estimate provided in the report is an estimate only based upon certain design parameters and construction standards. For example, it is recommended that timber bridges be restored using timber decking and timber handrails because it more fully provides the rail trail experience. However, bridges

could be re-purposed using other material such as expanded steel mesh or fibreglass reinforced plastic for the decking which would have a different maintenance regime and costing. It is impossible to estimate maintenance costs to the most accurate possible level until construction is finished and every construction item is catalogued (noting that events like wildfires and major floods are events that maintenance budgets never account for).

10.3.3 Reducing Maintenance Costs

Using volunteers is the key element in reducing the maintenance costs. Volunteers could undertake much of the ongoing maintenance of the trail if a volunteer maintenance programme is arranged. It should be ensured that whoever is charged with ongoing responsibility for managing the trails has genuine and specific trail knowledge. It is not sufficient to be a skilled gardener, conservationist or environmental scientist. If training is required to bring staff knowledge levels up to a high standard, this should be seen as a priority to be undertaken early in the construction process. Trail skills are better learned over a longer time, with hands-on practice, than in short briefing sessions.

- The Munda Biddi Trail Foundation assists with planning, developing, marketing and maintaining the trail. It enlists paid memberships, enrolls and manages volunteers, holds trail and community events, and provides information and resources to enhance the quality of the trail experience. **Over 85% of that trail is maintained by volunteers.**
- Activities of the Friends of the Lilydale to Warburton Rail Trail include revegetation, weed eradication, protection of remnant species, and building and restoration work.
- Parklands Albury Wodonga a community-based, not for profit organisation focused on undertaking the conservation of "bush parks" in and around Albury-Wodonga from an ecological perspective, whilst allowing sympathetic recreational access. One of the Group's projects is managing and maintaining the High Country Rail Trail.



Trail managers and "Friends of ..." groups often arrange 'Adopt-a-Trail' programs to ensure the rail trail is well maintained – by volunteers. In the USA it is common for each section (or kilometre) of a trail to be assigned to, or 'adopted' by, a volunteer.

The Bibbulmun Track's success can be put down in large part to the efforts of the Bibbulmun Track Foundation. It is probably the most successful 'Friends of' Group in Australia, with a paid-up membership in excess of 2,200 (in a number of categories).

The Bibbulmun Track Volunteer Program relies on the bushwalking community, and Bibbulmun Track walkers in particular, to commit their time to assist in the maintenance and delivery of the Foundation's Programs and services (the Bibbulmun Track is 1,000 kms walking track from Perth to Albany). **It is estimated that around 80% of the Bibbulmun Track is maintained by volunteers in this program.** An enormous amount of money is saved as the volunteers carry out many of the inspections and minor repair work.

Volunteers:

-  Undertake a range of light maintenance tasks including pruning, clearing debris from the Track, replacing missing trail markers, installing water bars, removing litter and monitoring the campsite.
-  Attends to their section at least 4 times per year (i.e. once every 3 months). In areas closer to Perth, or on sections that require a higher level of maintenance, more frequent visits are preferred.
-  Submits a report to the Volunteer Coordinator after each maintenance visit. These reports are vital in assisting the Bibbulmun Track Foundation and DPAW in dealing with immediate problems and in planning for the future of the Track.

Sources for ongoing maintenance funding may include commercial operator levies, commissions from billboard advertising, memberships of a Friends group and sales of merchandise. Funds could be used for trail operation and maintenance.

Many of these options are in place on other trails and fund a range of activities by the trail manager and the relevant trail support group (or Friends of the Trail). Importantly, the NSW Government's *NSW Rail Trails Framework* paper recognises the need to allow commercial activity and sets out a process for corridor transfer and management that ensures minimal constraints on commercial opportunities along the Rail Trail. Proceeds from the sale of steel track should the trail proceed could also be directed to a maintenance fund.

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APPENDIX 1

ARTIST'S IMPRESSIONS



Regrowth vegetation is a common sight along the disused railway corridor.



Light to moderate clearing will be required to enable the trail to be developed.



Most, but not all, of the old railway sleepers have been removed from the disused railway.



New railway corridor fences can be brought in closer to the proposed rail trail.



The partly dismantled railway bridge over the Williams River floodplain.



The refurbished bridge includes new decking and handrails, suitable for cycling and walking.



A low embankment on the disused railway formation, west of Railway Dam near Narrogin.



Light clearing, the removal of the old sleepers and some surface modifications would enable cycling.

APPENDIX 2

PHOTOGRAPHIC EXAMPLES FROM OTHER RAIL TRAILS

Some Examples of Successful Solutions from Other Rail Trails



Self-closing trail user access gate and locked management access gate at a road crossing on the Brisbane Valley Rail Trail.



Re-constructed railway bridges, complete with decking and handrails, on the Lilydale Warburton Rail Trail in Victoria. Bridges were re-built by the Country Fire Authority, which used the contract fee to acquire a new fire tender.



Cattle crossing gates, as used on the Port Fairy Warrnambool Rail Trail in Victoria, enable adjoining farmers, and their cattle/sheep, to cross the trail whenever necessary – thereby not hindering farming practices. Gates are closed across the trail and side gates on side boundaries opened to allow stock to cross when required. This spectacle - when it occurs - is of considerable interest to trail users.



The gating system at road crossings used on the Lilydale Warburton Rail Trail in Victoria makes it difficult for unauthorised users (such as motor bikes and 4WD vehicles) to gain access to the rail trail.



Additional tree planting (such as on the Lilydale Warburton Rail Trail) can provide a necessary screening where residences are located close to the rail trail. On this rail trail, the fences of the original railway corridor have been relocated closer to the trail to enable the adjoining landowner to utilise the superfluous area of the corridor.



Various studies have indicated that local communities and businesses benefit from the development of a rail trail. Local cafes, bakeries, delis and accommodations are highly sought after by rail trail users.



If the fencing of the railway corridor is brought in to that needed for the rail trail, adjoining farmers can make use of the remainder of the corridor. Fencing of the Lilydale Warburton Rail Trail has been relocated, bringing trail users in close proximity to farm animals without any problem.



User Codes of Conduct, and signposted regulations and rules, can prevent most undesirable and unwanted activities from occurring as well as instructing users where they can legitimately carry on their activities (such as walking dogs within stipulated areas).



Regular maintenance of the trail surface, vegetation of the corridor, bridges, culverts, weeds, gates and fences are all matters that should be the subject of a Corridor Management Plan and ongoing maintenance schedule. The Friends of the Lilydale Warburton Rail Trail undertake routine maintenance.



Considerable trail surface and bridge re-constructions have occurred on the O'Keeffe Rail Trail (in Victoria) all assisted by grants from various state and Federal Governments.



Various techniques are available to make road crossings safe for trail users, including this simple technique used on the O'Keeffe Rail Trail (in Victoria). On other rail trails, road crossings have been made safer by the installation of underpasses, bridges and/or traffic lights.



A detailed trail development plan would compile a detailed list of works required along the entire corridor, including regulatory signage, distance and directional signage and interpretive signage (such as these signs on the Riesling Trail in the Clare Valley in South Australia).



Appropriately placed signage advising/reminding trail users not to trespass has worked successfully on the Riesling Trail – an area where high value vineyards are immediately alongside the rail trail. Interestingly, on other sections of this rail trail, fences have not been erected (despite vineyards being located immediately alongside the trail).



Well located interpretive panels alongside the rail trail providing information on the history of exploration of the region, settlement history, agricultural pursuits, indigenous history and natural history can add significantly to the experience of trail users – whether they be visitors to an area or local people using the trail. The Riesling Trail has numerous interpretive panels along its 34km length.



Brice Hill Lodge, immediately alongside the Riesling Trail, sees a benefit in advertising its upcoming sale to trail users – an indication that proximity to a rail trail is regarded by many as an added advantage and adding to the value of the property (as studies have indicated).



Wineries immediately alongside the Riesling Trail in South Australia see no need to erect fences between the vineyards and the rail trail, as evidence from that (and other rail trails) shows that trespass and theft and other commonly perceived problems do not eventuate.



The Murray to the Mountains Rail Trail in Victoria, a sealed rail trail, enables users to appreciate the beautiful landscapes of this part of Victoria. The sealed surface enables use by all types of bicycles and other small-wheeled vehicles (such as wheelchairs, prams, gophers, skateboards, etc), as well as walkers.



The Murray to the Mountains Rail Trail has a Code of Conduct sign board at regular intervals along the trail ensuring that all trail users are aware of their rights and responsibilities. An improved signage system could be derived using pictograms, although the use of 'wordy' signs is probably a legal requirement.



The Railway Reserves Heritage Trail in Mundaring (a rail trail established in the 1970's) accommodates all three non-motorised trail user groups (cyclists, walkers and horse riders). Local businesses benefit greatly from this very popular and incident free rail trail.



The Rail Trail in Margaret River, Western Australia, also advertises the proximity of local accommodations, cafes, wineries and other points of interest to rail trail users.



The Shiraz Trail in the McLaren Vale in South Australia has operated for many years and runs alongside numerous residences – with negligible reports of trespass, theft, vandalism and other crimes. Neighbours feel no need to install fences.



Individuals, community groups, schools and local businesses have adopted every mile of the Row River Rail Trail in Oregon, USA – as is typically found along many rail trails in the USA.



It is apparent that rail trail use and farming use can co-exist on the rail trail between Collie and Darkan. Sheep graze this paddock, which is in fact part of the railway corridor. Self-closing gates can be used in such situations to ensure that gates are not inadvertently left open and stock do not escape.



Grids are commonly used on rail trails at fence lines and property boundaries to prevent stock from escaping, but still allowing the passage of cyclists and walkers. This example is from the Otago Central Rail Trail in New Zealand. Similar examples can be found on the High Country Rail Trail in Northern Victoria.



Landholders have expressed a desire to move stock (and machinery) across the rail corridor if the trail is built. Several possible solutions exist.

On the Port Fairy Warrnambool Rail Trail (Victoria), cross-gates are open to the trail user (above) and are only closed to the trail when stock are moved across in a mob.



The underpasses on the Tumbarumba Rosewood Rail Trail were designed by the Rail Trail Committee and work in certain locations (in significant cuttings) – they are an expensive option but have proved very popular with landholders on the trail.

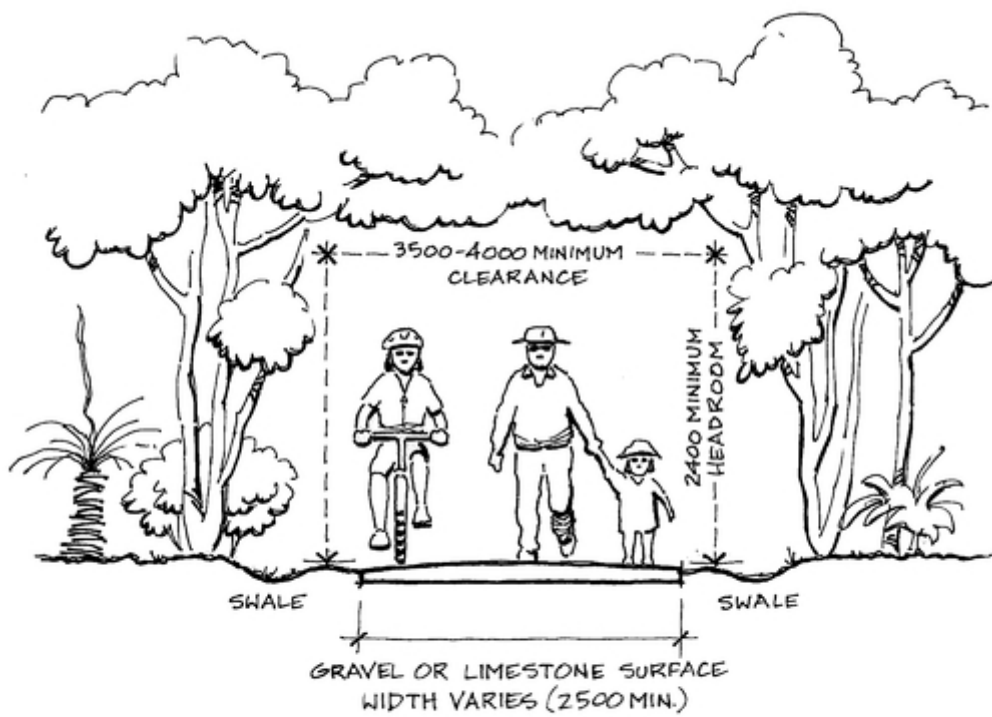


An option for managing the corridor beyond the trail is to fence a narrower trail corridor and allow adjoining landholders to graze the “excess” corridor. In both examples above, the original railway corridor boundary fence has also been retained (on the left hand side) on the Amy Gillett Rail Trail (left) and on the right side on the Port Fairy Rail Trail (below left).

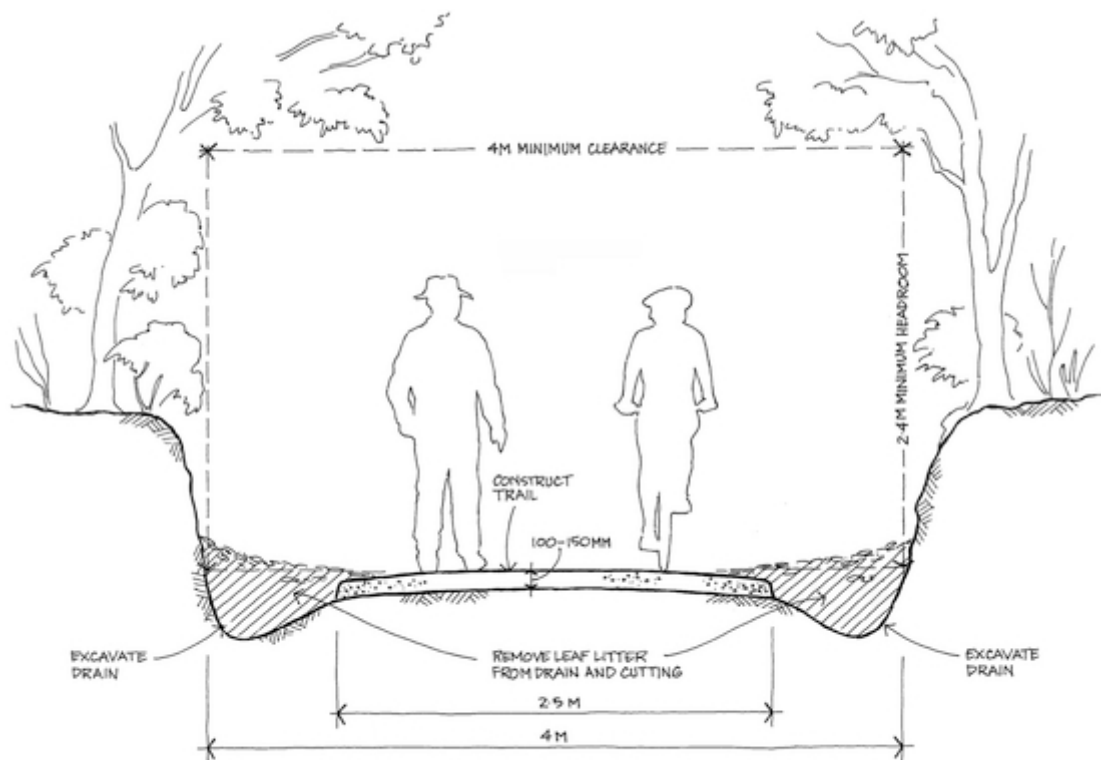


APPENDIX 3

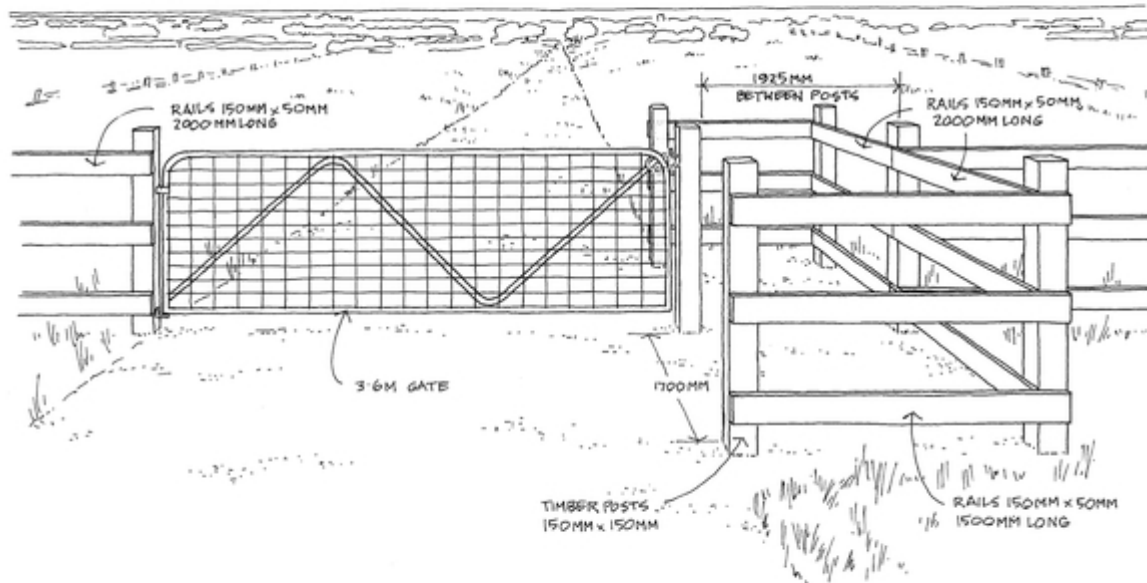
CONSTRUCTION DRAWINGS AND CROSS SECTIONS



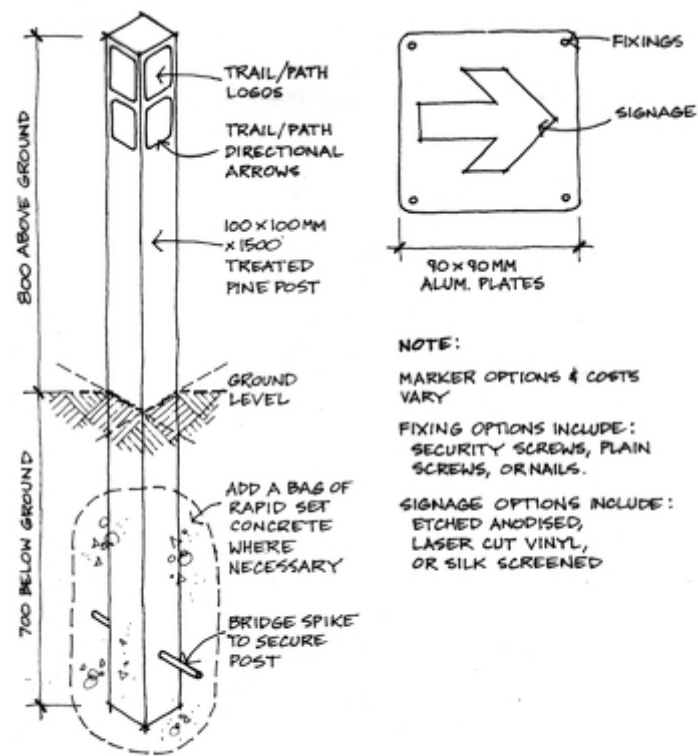
SHARED USE TRAIL - GENERAL CHARACTERISTICS



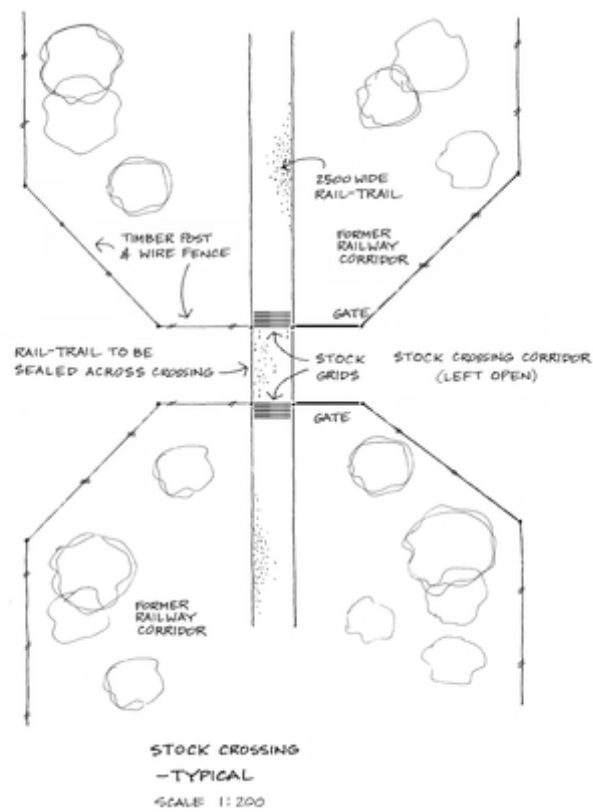
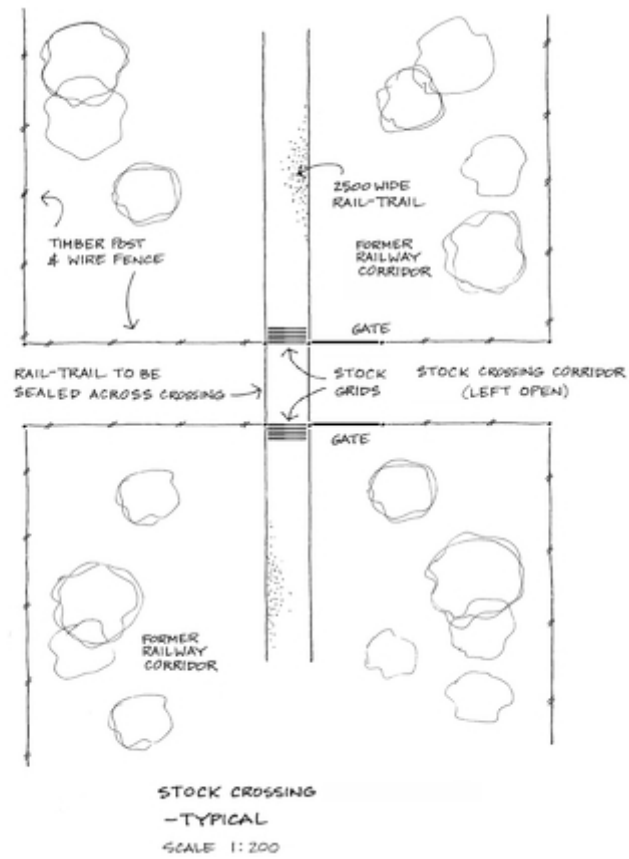
RAIL TRAIL - GENERAL CHARACTERISTICS - EXCAVATE DRAIN

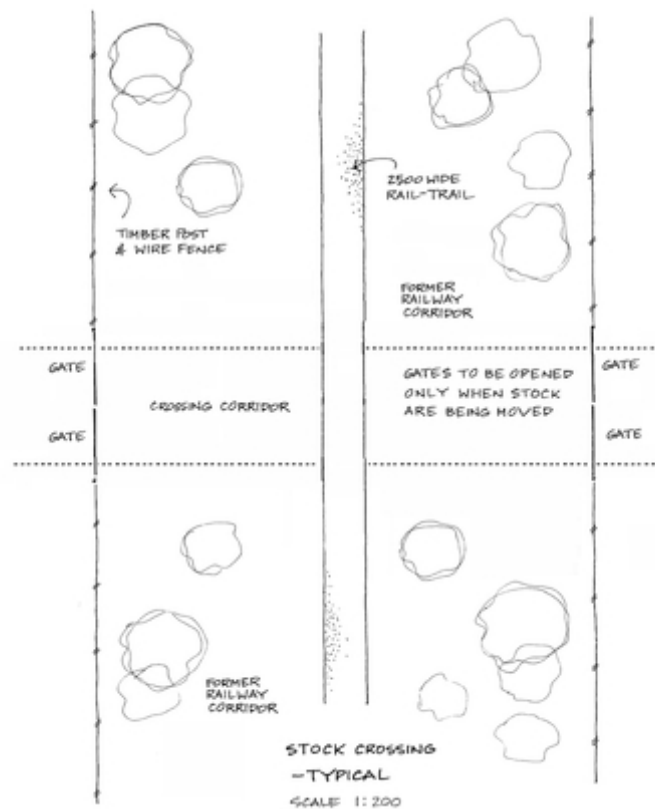
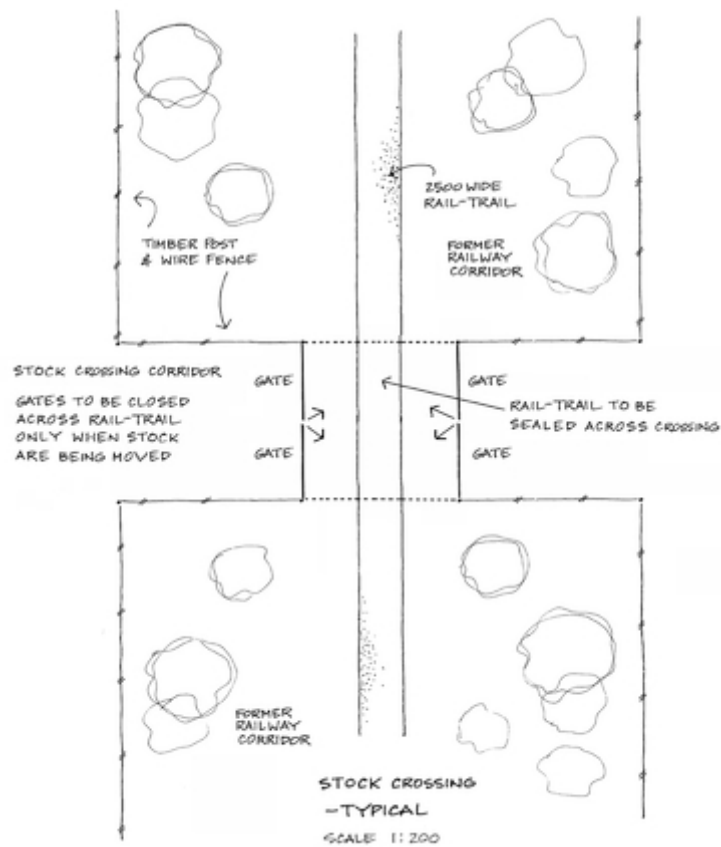


TYPICAL MANAGEMENT ACCESS GATE AND CHICANE



TRAIL/PATHWAY DIRECTIONAL SIGNAGE



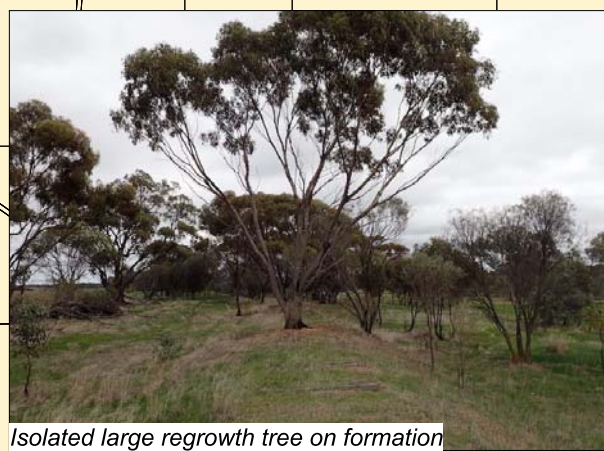


APPENDIX 4

PLANS OF THE PROPOSED RAIL TRAIL



An example of minor clearing required



Isolated large regrowth tree on formation



New fencing will be required in some locations



Bridge 7 - approximately 25 metres



Existing trails through Gnarojin Park



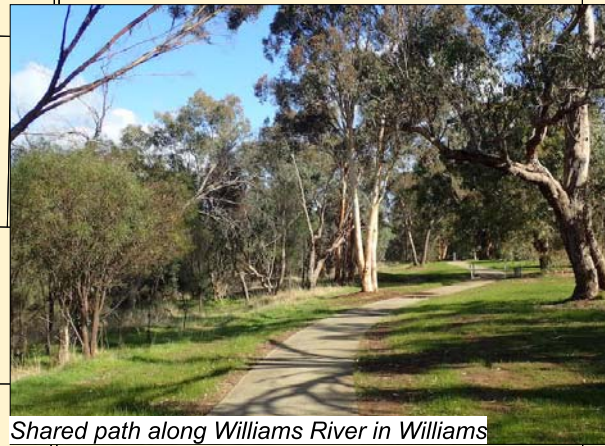
One of several minor roads to be crossed



Overgrown cutting east of Cooramining Rd







Shared path along Williams River in Williams



Bridge 3 - approximately 50 metres



Bridge 4 - approximately 25 metres



Regrowth along disused railway formation



Bridge 2 - approximately 15 metres



Existing, parallel tracks could be used