Murrumbidgee valley Rail Trail Feasibility Study

Riverina Regional Development Board

and

Gundagai Shire Council

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Murrumbidgee Valley Rail Trail Feasibility Study

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EXECUTIVE SUMMARY

Background to this Feasibility Study

This feasibility study, commissioned by the Riverina Regional Development Board, in partnership with the Gundagai Shire Council, seeks to establish whether developing a multi-use recreation trail along the disused railway corridor between Coolac and Tumblong, though Gundagai, is a worthwhile proposition. Its primary purpose is to provide information to the trail proponents and the community regarding the disused railway corridor – thereby enabling the community to make an informed decision.

This report has been prepared by Transplan Pty Ltd and Mike Halliburton Associates, trail planning specialists with significant experience and expertise in assessing the merits, or otherwise, of trail projects.

In preparing this feasibility study, the consultants have become aware of the concern of those opposed to the project that this feasibility study will merely be a carbon copy of the earlier feasibility study prepared several years ago for the Riverina Highlands Rail Trails (Wagga Wagga to Tumbarumba and Batlow to Tumut). It is inevitable that there will be similarities in this report to the earlier report. The brief was almost identical; the issues raised by those opposed to the trail are almost identical; the solutions to stated concerns are identical. There are however some dissimilarities. The geographic location is not the same; the distance to potential markets is different; the community is different; the set of local attractions is different; the Council is different.

The former railway passes through attractive landscapes. Conversion to a rail-trail will provide an excellent local recreational resource, as well as a drawcard for visitors.

A role of this feasibility study therefore is to present factual information to the general community and adjoining landowners, and to the Gundagai Shire Council, on the merits of developing a trail within the publicly owned corridor.

Based on the findings and recommendations set out in this feasibility study, the community will be able to make a decision on whether to pursue the preparation of a more detailed trail development plan – and the development of a multi-use recreational trail.

Throughout this project it has been assumed that it would be just a matter of time before the NSW government made various disused railway corridors throughout NSW available for development of rail trails as State Governments elsewhere have done. Trail proponents in the Riverina region have been of that belief. It now appears as if this may not be the case. The broader review of processes currently underway may recommend a different process where a feasibility study (such as this one) is not the first detailed formal consideration of any such proposal. Consequently, it is critical to

understand that, until such time as the issue of legislative and administrative processes to allow conversion of a rail corridor to a rail trail is resolved at the State level, there is limited possibility of the Murrumbidgee Valley Rail Trail proceeding. Further expenditure of resources would not be appropriate unless this issue is addressed and resolved. Advice on a possible implementation program (set out later in this report) is provided on the understanding that the over-arching issue of conversion will be resolved.

The purpose of this feasibility study was to arrive at a stage where, if the NSW Government decides to vest the railway corridor with a Committee of Management (or similar), the community is ready to implement the plan – should it decide to proceed with the rail trail. It should be noted that plan implementation in this case requires significant detailed consultation with adjoining landholders as part of the trail development process prior to construction. It does not imply moving from this feasibility statement to construction.

A feasibility study of this nature does not allow extensive consultation with adjoining landowners to identify the nature and extent of individual concerns, nor does it permit a full traverse of the railway corridor to ascertain the condition of each and every bridge, the condition and extent of boundary fences and every issue confronting adjoining landowners. These tasks are the domain of a trail development plan should the community decide to proceed with the trail. Nonetheless, it has been possible to gauge landowner concerns, and to capture a sense of the work required to develop a trail for the full length of the railway corridor.

From the various discussions with adjoining landowners (particularly those who have expressed initial opposition to the proposed rail trail), it is evident that individual solutions to particular farm management practices can be devised – and thereby reducing their concern about the project.

From this, and other rail trail projects with which this consultancy partnership has been associated, it is evident that the biggest issue adjoining landowners have is the threat posed by something they have little knowledge of – indeed, a fear of the unknown and a fear of change.

Coupled with the 'absence of information' is the unfortunate occurrence of misleading and inaccurate information being propagated throughout the community by those who are opposed to the project – even by people not living in the district.

A major focus of this study therefore is to provide factual information to the Gundagai community – particularly those who know little about rail trails, and their potential impact on adjoining properties.

There are dozens of operating rail trails in Australia and well over one thousand more in the USA, England and elsewhere. The experience gained in these other rail trails provides valuable information from which the Gundagai community can learn.

The overwhelming evidence from all these other existing rail trails is that the problems commonly stated by those opposed to a rail trail project rarely occur.

This feasibility study provides a comprehensive table in which the commonly stated issues are listed together with a suggested strategy or solution to overcome the stated issue. Photographs are also included to illustrate many of the techniques

already being successfully used elsewhere to overcome issues and circumvent problems.

Testimonials from people actually living and farming alongside operating rail trails are also included, to allay fears of those living alongside the railway corridor between Coolac and Tumblong. These and other testimonials consistently indicate that the problems adjoining landowners initially fear simply do not eventuate.

Some of the biggest issues and concerns expressed throughout this project by those opposed to the trail relate to the initial construction costs and the impact of ongoing maintenance to ratepayers of the Gundagai Shire. As indicated throughout this feasibility study, the majority of the costs of the development of the trail will come from other sources – other than the Gundagai Shire Council. Various Commonwealth and State Government funding programs are available for this type of tourism and recreation project.

With regard to ongoing maintenance, it is important to note the likely contribution of the Mannus prison to the Riverina Highlands Rail Trails (should those trails proceed). Mannus has agreed to a 5-year maintenance program for those trails. The use of low-risk prison crews on day-release has worked extremely successful on trail projects in other states. Volunteers commonly take on numerous maintenance tasks on trails across Australia. Built well, rail-trails require minimal maintenance. The type of user attracted to rail-trails will mean that rubbish, fire, vandalism and trespass will not be issues – as explained in greater detail in this report.

History of the Corridor

The Cootamundra to Gundagai branch line was opened in 1886, with an extension to Tumut opening in 1903 following the completion of the railway bridge across the Murrumbidgee River flood plain. The railway ceased operations in 1984, following damaging floods. For much of the last 20 - 25 years little use has been made of the corridor – other than adjoining farmers allowing their stock to graze the publicly owned corridor, or for storage of farm machinery and/or produce. It is understood that several farmers with land adjoining the railway reserve have taken out leases over portions of the railway reserve.

Some important reminders of the former railway remain. A classic railway station still exists in Gundagai; numerous bridges, timber culverts and assorted railway paraphernalia can still be seen (such as mile pegs and signals). Railway siding platforms, though overgrown, can still be found. Cuttings and embankments are a common feature.

The Coolac to Tumblong corridor is approximately 32 kilometres and has 10 timber bridges ranging in size from 3 metres to over 920 metres (viaduct and steel bridge).

Since the closure of the operating railway over 20 years ago, little maintenance has been carried on within the railway reserve. In most locations the steel railway track and old rotting sleepers remain. Most of the bridges remain intact, including the steel bridge across the Murrumbidgee River and the magnificent timber viaduct across the river floodplain. Some lengths of the steel railway track have been removed.

Fencing of the corridor however appears to be in remarkably good condition, though some of the fencing has been removed over the years. It is evident that this railway

was built as a 'fenced' railway (as opposed to other railways in NSW which were constructed as 'unfenced' corridors).

Since railway operations ceased the corridor has faced an uncertain future. The short term leasing of sections of the corridor to adjoining farmers, and others, has resulted in the ongoing maintenance of the corridor being 'shared' between many people. There is still some talk (and hope) that the railway line will be re-opened sometime in the future to service the Visy factory near Tumut.

While it might physically be possible to construct a trail along a disused railway formation, it is not necessarily a given that doing so is in the best interests of the community – due to the expense, the expected use of the proposed trail and a host of other factors. This feasibility study examines a wide range of factors that determine whether a trail within the railway corridor is indeed feasible.

What is a Rail-Trail?

Rail-trails have become very popular with nearly 50 rail trails already existing in Australia and more on the 'drawing boards'. Rail-trails are different from each other, but a number of characteristics often mark the good ones. These features are drawn from a number of published sources and the consultant's 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 are existing or easily developed tourism businesses in or near townships along the rail-trail - places to eat, drink, explore and stay.
- Good rail-trails have some heritage infrastructure in place such as historic stations, bridges, tunnels, goods sheds, sidings, platforms, switches, signals, and mile posts. Rail-trails elsewhere have utilised their railway history as part of their attraction.

The Lilydale to Warburton Trail in the Yarra Valley of Victoria caters for all users – for much of the journey, trail users can view the spectacular Yarra Ranges.

- 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 suspicious of rail-trails; they often become converts once a trail is built.
- A uniqueness of experience is often important – be it landscape, adjoining land uses, a special attraction (such as the viaduct and bridge across the Murrumbidgee River and floodplain).

- 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, or pass through major towns.
- The best rail-trails are located in highly scenic surrounds, with spectacular views of the surrounding landscapes. The best rail-trails traverse places of cultural and natural history and conservation and provide opportunities to view wildlife and remnant vegetation.
- 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.
- Railway corridors can provide a great insight into the history of the region – both European settlement, and Aboriginal use. Good interpretation will distinguish an excellent trail.
- In a similar vein, trails that emphasise local conditions – flora, fauna, history, construction techniques, etc. - are very popular.
- Well-signed and mapped trails - both on the trail and easily available elsewhere - are more successful than those that are not.
- Informed locals make a user's experience more pleasurable.
- The best rail-trails offer a challenge, and they offer peace and solitude.
- A well-maintained trail and a strong community support network adds 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.

In addition, all rail-trails have a number of positive features which mark them out as uniquely rail-trails (as opposed to other recreational trails). This is important when considering whether to re-route the trail along the nearby roads rather than keep the trail entirely within the original railway reserve.

Reconstruction and re-decking of the old bridges along the railway is likely to be one of the most expensive of the construction items.

- Rail-trails are trails for people of all abilities and all types of bicycles. Good trails provide equity and opportunity for people of many levels of fitness and equipment.
- All rail-trails are motor vehicle free i.e. safe for all types of trail users. Minimising major road 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, 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.

Indeed, it is the comparative flatness and good sights 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 seem to suggest.

Determining Feasibility

Since the closure of railway operations, some deterioration of the assets of the corridor has occurred. Some bridge decking and structural components have been removed or have rotted, parts of the corridor have become overgrown with weeds and grasses, some sections of the steel track have been removed, and little remains of the infrastructure within some of the station and siding areas.

Despite nearly a century of active railway usage of the corridor, nearby residents and farmers have now become accustomed to the fact that there has been little or no public usage of the railway since passenger and goods services ceased 25 years ago.

Understandably, many farmers living and working alongside the Coolac to Tumblong railway corridor are greatly concerned about the prospect of a recreation trail and the possible disruption to long established farming practices, the possible invasion of their privacy, trespass and the need (and costs) for additional fencing and/or gates. They have other fears as well, such as fires that might be started as a result of a discarded cigarette butt, or trail users having unrestrained dogs which might attack stock. These are all legitimate concerns, particularly from people who have never encountered a rail-trail first hand.

Given the tremendous success of trails on other disused railways elsewhere in Australia (especially in Victoria, Tasmania, Western Australia and South Australia) and overseas, this Feasibility Study will make use of published material, and the consultants' vast personal experience, to help determine whether the development of a 'rail-trail' along the Coolac to Tumblong railway corridor is feasible.

An objective of this 'feasibility' study was to attempt to balance all factors and arrive at recommendations that would produce the greatest positive benefits for the broadest cross-section of the community.

It is not necessarily/only the cost of construction that determines the feasibility of a rail-trail.

In preparing this feasibility study, the following factors were considered:

- Is there a market for the proposed trail?
- Is there a supportive local government?
- Is there a supportive/strong advocate (trail proponent)?
- Is there a supportive community?

- What is the user experience (terrain/landscape/history)?
- Would the trail be value for money?
- Is there a commitment to maintenance ("friends of …" group or support network)?
- Will the trail provide a unique experience?

The main tasks of this study were to:

- Provide an overview history of rail trail developments in Australia and give an outline of the basic concepts and features of existing rail trail developments;
- Provide a description of the corridor and the works required;
- Undertake an evaluation of the project including the expected benefits and costs associated with the proposed rail trail development;
- Provide examples of successful techniques used in other rail trails to circumvent the problems typically raised by concerned landowners / neighbours;
- Identify and discuss the main issues concerning the proposed development; and
- Provide recommendations concerning the implementation process and possible funding sources.

The Issues

In this feasibility study the 'community' was defined to be not only the 'local community' (ie. people living and working alongside the Coolac to Tumblong railway corridor), but also all those people living in the wider local government area and the region - and the whole of the population of NSW, too. Those living alongside the corridor have a direct and often very personal interest in the future of the corridor, but it must be remembered that it is still 'public land' and is in fact 'owned' by everyone in NSW.

The railway corridor bisects numerous rural properties between Coolac and Tumblong. Adjoining farmers have real concerns about the prospect of a trail being developed on the old railway formation.

It is clear that some people living alongside this railway corridor are concerned about the prospect of change to a situation that they have grown accustomed to. The proposal for a recreation trail along the railway corridor has aroused quite understandable concerns – concerns that mirror those raised in numerous similar 'rail-trail' conversion situations right around the world.

These concerns include:

- Initial construction costs of developing the trail
- Ongoing maintenance (of the trail; fences and other infrastructure)
- Trespass
- Fire risk; and safety of users in the event of a fire or other emergency
- Weed control
- Possible need for new fencing and gates in the fencing
- Impacts on farming practices (such as accessing watering points)
- Dogs bothering stock
- Public liability responsibility
- Stock theft and disturbance
- Reduced privacy
- Gates left open
- Farm safety and insurance
- Litter and vandalism
- Unauthorised usage (such as by motor bikes)

Conclusion

There is a wealth of experience from other very similar situations around the world (including numerous examples in Victoria and Western Australia and elsewhere around Australia) upon which to determine whether the proposed rail trail between Coolac and Tumblong should proceed, and whether issues raised can be satisfactorily resolved.

Almost without exception that experience suggests that trails along disused rail corridors do not cause the problems and issues that are commonly anticipated.

The Rails to Trails Conservancy (RTC) in the USA provides a huge volume of background information from which we can learn. The RTC has overseen the development of over 1,450 rail-trails nation wide (for a total of 13,935 rail-trail miles – 22,400 kilometres).

Numerous studies have been conducted and all provide evidence that the problems feared by adjoining landowners rarely, if ever, actually occur. In fact, more often than not, people living next to rail-trails (who were originally opposed to the project) discover that active management of the corridor is a far better situation than ongoing neglect and uncertainty. Indeed, many of these people – former opponents of a rail-trail conversion – become strong supporters as they discover that living next to a rail-trail has its advantages (which far outweigh any disadvantages they might encounter). (See testimonials in Appendix 2).

This is certainly the case for the Lilydale to Warburton Rail Trail in Victoria, an area where the predominant neighbouring land use is grazing of cattle – similar to the situation along significant sections of the railway corridor under examination.

Many of the concerns of adjoining landowners raised during the course of consultation on this and other rail-trail projects are legitimate and warrant careful consideration. No doubt, some landowners will have to change the way they have done things, should the community decide to proceed with the proposed rail-trail. Compromises will need to be made. The process of determining case-by-case resolution of practical issues then becomes crucial and the resolution of individual issues of each and every adjoining landowner needs to be a fundamental component of the next phase of the project.

The former railway corridor between Coolac and Tumblong has quite outstanding potential. It has the capacity to provide a long distance 'linear park' through interesting and scenic landscapes – and such opportunities do not arise often.

From a trail user's perspective, the former railway corridor is very attractive:

- The corridor is set in a highly scenic landscape, full of variety and interest with spectacular views of hills and valleys (though local people who have farmed this area for decades may not realise the inherent beauty of the landscape);
- The corridor commences and finishes in settlements (Coolac and Tumblong), and passes through several former sidings. Importantly, it passes through Gundagai – a sizeable town and a solid base from which to start or finish a trail trip;
- The corridor is situated in relatively close proximity to sizeable populations including Wagga Wagga (1 hours drive), Canberra (2 hrs), Melbourne (6 hrs), and Sydney (5 hrs);
- The major elements of the railway infrastructure remain (Gundagai railway station; railway signals; formations; cuttings; embankments; and most of the bridges and culverts). The viaduct and bridge over the Murrumbidgee River and its floodplain is a major attraction and a tourist drawcard in its own right;

The Gundagai station, the railway signal, deep cuttings, water towers and other railway remnants all add to the experience to be gained by users of the proposed rail trail.

- Despite the passage of time, the continuity of the former railway corridor is excellent – the major discontinuities being where the Hume Highway has been built over the railway corridor at the Coolac end and the Tumblong end (although alternative trail routes are available);
- The railway formation (through cuttings and along embankments) provides a gentle gradient, suitable for all types of cyclists, walkers, and horse riders; and
- The corridor provides for flexibility of use options (long, medium or short walks and rides). In particular, the entire corridor (32 km) provides an ideal length for a full day's cycle ride. Should the Tumblong to Tumut corridor (and the Tumut to Batlow corridor), or the Coolac to Cootamundra corridor, be included at a later date, the network of trails lend themselves to a multi-day recreational experience.

There are substantial benefits to be gained by the development of a recreational trail along the former railway. These benefits include:

- economic benefits accruing to businesses in the towns which are connected by the trail, through expenditure by visitors using the trail;
- health benefits, gained by anyone in the community who uses the trail for fitness, leisure and exercise;
- environmental benefits, through a concerted effort to eradicate weeds and undertake other landcare projects along the corridor; and
- improved fire management, through a more concerted effort at control of grasses, bridge reconstruction and unhindered access for emergency vehicles along the corridor.

A fuller discussion of the many benefits of trails, including rail-trails, is presented within this feasibility report.

The cost of developing a trail along the Coolac to Tumblong railway corridor has been estimated at **$3.33 million** (plus GST). Though this might seems an excessive amount of money, and well beyond the reach of the Gundagai Shire Council's financial resources, that construction cost must be taken in context. This project will provide significant health benefits to the many thousands of potential users in the coming years. The trail will also stimulate economic benefits to the region – if the experience of other trails (including rail-trails) is any guide.

Development of the rail-trail appears a very worthwhile proposition. The trail is being proposed at a time when governments are making funds available for cycling (and rail trail) projects:

- In April 2009, the Federal Government announced it would provide a grant of $13.2 million from the $800 million community infrastructure program for the construction of the Goulburn Valley Rail Trail in Victoria.
- The South Australian Government has just announced funding of $1 million for Stage 1 of Adelaide Hills Rail Trail. Additional funding is expected for future stages.
- The Victorian Government has provided funding close to $2 million for the Port Fairy to Warrnambool Rail Trail. That rail-trail is currently being constructed.
- The Queensland Government has committed $3.6 million to construct the Brisbane Valley Rail Trail. That rail-trail is also currently being constructed.
- The Victorian Government recently announced funding of $650,000 to start construction on the first stage of the Goulburn River High Country Rail Trail, from Mansfield to Maindample.
- $3.5 million in funding has been provided for the Maroondah Highway Bridge on the Lilydale - Warburton Rail Trail.
- BHP Billiton contributed $200,000 towards trail construction of the Camperdown Timboon Rail Trail (in Victoria).
- In the recently approved $42 billion rescue package, The Greens ensured $50 million would be made available for 'bike paths'.

With the right marketing, the trail will attract local users, day-trippers and visitors. Under a relatively conservative scenario, it is anticipated that there will be significant local use – over 14,000 local users/year is a reasonable expectation.

It is also calculated that the trail may attract nearly 4,000 (3,987) overnight visitors/year (under a low/low scenario drawing only on the Canberra market).

The direct additional expenditure as a result of trail development in the region will be in the order of **$1.006 million/year**.

This Feasibility Study recommends that the development of a trail on the disused railway corridor proceed. It should be a staged process over a number of years, enabling the community an opportunity to gauge the use and success of, and any issues associated with, the initial stages.

The recommended staging is as follows:

1. Philip Street (North Gundagai) to northern end of Viaduct at Sheridan Street (Gundagai)
2. Southern end of bridge over Murrumbidgee River at Tumut Street (South Gundagai) to Big Ben Creek on Snowball Road (Willie Ploma)
3. Sheridan Street (Gundagai) to Tumut Street (South Gundagai) (ie. the bridge and viaduct over the Murrumbidgee River and floodplain)
4. Coolac to Philip Street (North Gundagai)
5. Big Ben Creek on Snowball Road (Willie Ploma) to Tumblong

Funding for the trail would be available from a range of sources – as outlined in this report.

Low cost labour sources are available too, including volunteers and prison crews, which would significantly reduce some of the costs involved in this project.

In summary, the railway corridor offers an array of advantages to future trail conversion. These advantages – and the benefits that can flow from them – have been weighed against the concerns stated by adjoining landowners, and the other issues associated (cost, maintenance etc) to deliver the outcome set out in the Feasibility Statement below.

Feasibility Statement

This study has considered all of the major issues pertaining to the development of a trail within the railway corridor between Coolac and Tumblong. It has taken into account the views of people consulted (and background information obtained outlining the concerns of adjoining landowners). Following consideration of this information, and particularly evidence from numerous other successfully operating rail-trails, this Study recommends that the railway corridor be the subject of a rail-trail conversion, subject to a number of conditions being met.

The conditions upon which the rail-trail conversion should proceed are:

1. The NSW Government enacting legislation that allows conversion of a rail corridor to a rail trail, and the resolution of legislative and administrative processes that enables the corridor to be vested in the local government;
2. A Committee of Management, comprising (at least) representatives of the Gundagai Shire Council, the Rural Fire Service, residents of the community, local business proprietors and adjoining landowners, be formed to guide the ongoing planning, design and construction, management and maintenance of the proposed rail trail and the former railway corridor. (The Committee of Management could be modelled on successful Victorian examples);
3. Detailed design development plans for the rail-trail to be prepared, which will involve a thorough examination of the entire corridor, the preparation of detailed works lists and cost estimates, as well as a comprehensive program of one-on-one discussions on-site with all affected adjoining landowners to ascertain their individual concerns and to work out together solutions to each issue raised;
4. The preparation of a community-driven Corridor Management Plan before construction, including a comprehensive maintenance program (detailing the ongoing maintenance) for the trail and corridor;
5. The preparation of a Bush Fire Risk Management Plan for the corridor;
6. The proposed Committee of Management give its support for the relocation of side fences and/or the erection of new fences (should they be required) and 'stock crossing gates' to create a narrower trail corridor, allowing adjoining farmers to enjoy a long-term lease of the 'surplus' corridor land. The cost of fencing and (reasonable) privacy screening are not to be the sole responsibility of landowners. New, renovated and relocated fencing costs (where required by landowners) to be shared between the trail proponent and adjoining landowners;
7. 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;
8. Council/State agencies are to assume liability responsibility for trail users and are to take all actions possible to mitigate potential claims against landowners and neighbours;
9. A policy decision is to be implemented to make the majority of the trail 'no dogs', though certain sections – such as sections close to towns - could be declared 'dogs on leads'; and

10. The proposed Committee of Management give consideration to the appointment of a trail manager so that landowners have a direct point of contact for issue resolution.

Providing the above conditions above are accepted, this Study concludes that a staged conversion of the railway corridor between Coolac and Tumblong to a multi-use recreation trail is feasible and desirable.

This statement is made contingent upon the NSW Government making a decision that would allow the railway corridor to be vested in the local government and/or a management committee.

There are a number of stages for trail development if and when a decision is made to proceed with the development of the trail as recommended in this report.

1. Form a Committee of Management (or similar – depending on management structures recommended in NSW).
2. Seek funding for the detailed trail development plan (and detailed one-on-one consultation with concerned neighbours of the proposed trail).
3. Consult with the community, including concerned neighbours of the railway corridor.
4. Use the detailed trail development plan to seek funding for trail construction.
5. Commence preparation of a Corridor Management Plan (including trail maintenance plan).
6. Commence preparation of a fire management plan.
7. Proceed with a 'demonstration' or 'trial' project – a high-profile segment of the railway corridor that will ably demonstrate the success and effectiveness of the development program. This is recommended as being the Phillip St to Sheridan St section in North Gundagai.

Recommendations:

It is recommended that the Riverina Regional Development Board, and the Gundagai Shire Council:

1. Resolve to endorse the Murrumbidgee Valley Rail Trail Feasibility Study and seek to implement the recommendations contained therein. In particular, work towards setting up a demonstration or 'trial' project (in North Gundagai) that allows concerned citizens to see for themselves how a rail-trail would look and how it is managed.
2. Make this feasibility report available for public scrutiny, and invite submissions from the community on the findings and proposals of this study.
3. Refer this feasibility report to the taskforce charged with the responsibility of developing best practice for consultation for proposals involving conversion of a piece of public land (such as a rail corridor) to an alternative use (such as a rail trail).
4. Seek funding to commence preparation of the detailed rail-trail development plan (and associated one-on-one consultation with adjoining landowners).
5. Commence the process of seeking funds from other sources and funding programs for the actual construction of the rail-trail.
6. Make arrangements for concerned and interested landowners (and other interested members of the Gundagai community) to visit (as a group) the Murray to the Mountains Rail Trail, the High Country Rail Trail and possibly the Lilydale to Warburton Rail Trail (all in Victoria) to investigate first hand the techniques used on those trails to alleviate landowner concerns and to speak with adjoining landowners about their personal experiences living / working alongside those trails.
7. Purchase multiple copies of the "Rail Trail Videos" DVD from RailTrails Australia, and make these available to members of the public for viewing, as it contains compelling stories and interviews with landowners adjoining the Lilydale to Warburton Rail Trail, and the Otago Central Rail Trail (in New Zealand).

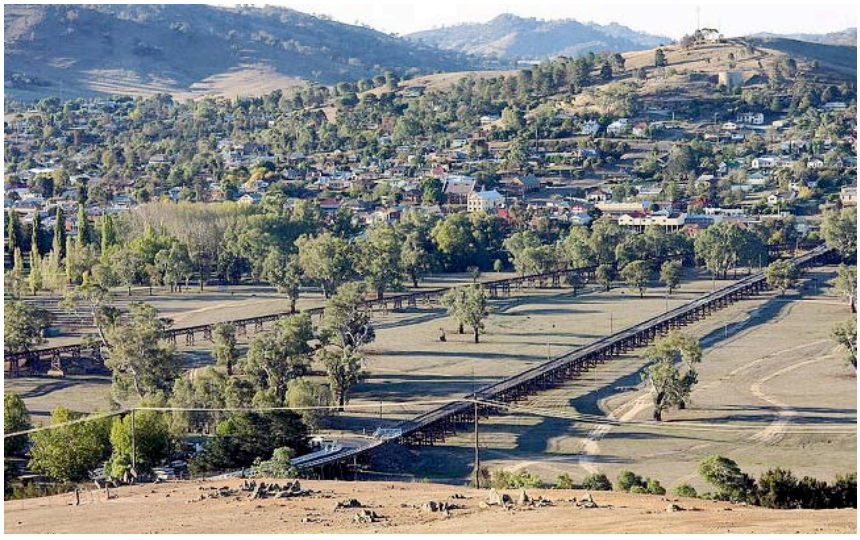
SECTION 1 – INTRODUCTION

The NSW Railway was the first government-owned railway in the British Empire – the Sydney Railway Company was formed in 1848. The first line in NSW was a 22 kilometre line opened in September 1855. From this initial network, NSW now has over 11,000 kilometres of rail network.

In the first decade after the opening of the initial line (1855-1865), rail spread slowly beyond Sydney. The late 1870's and 1880's were the great railway boom, when the rail systems (across Australia) reached maturity. Between 1878 and 1883, the route distance of rail in NSW doubled as the 'golden west' is reached with rail. Between 1878 and 1888, rail coverage went from 1,108 kilometres to 3,495 kilometres. Passenger traffic went from 3.7 million to 14.8 million and goods tonnage doubled (from 1.6 million tons to 3.4 million tons). The railway boom ended in 1890, not only in Australia but across the world. However, investment in rail continued until the Second World War, though not with the same enthusiasm as in the late 1800's (*Source: Railcorp website; Australian Heritage Commission website*).

The railway was the lifeblood of many small rural communities, not only providing essential freight and passenger services, but creating a very real sense of connection between peoples often considerably geographically dispersed.

As road transport became steadily more efficient during the 1950s, the railways began to lose their primary function. Throughout the following decades, scores were abandoned. Many of these corridors remain in public ownership. In NSW, railway lines cannot be closed without a specific Act of Parliament; consequently, many rail lines are classified as disused. The condition of these railway reserves varies widely, but many are still intact as 'linear corridors' in public ownership. This is the case with the Coolac to Tumblong rail line (32 kilometres) which is part of the disused Cootamundra to Tumut line. The corridor is generally 20 metres wide and in public ownership (though parts of the corridors are leased for farming purposes).



The road and rail bridges across the Murrumbidgee River and floodplain are amongst Gundagai's most famous attractions. Development of a walking and cycling facility on the historic railway viaduct would be a major tourist attraction for the town.

This study details the overall feasibility of establishing a rail-trail on the former rail line and proposes strategies for the trail's implementation and longer-term management.

SECTION 2 – BACKGROUND

2.1 History of the Cootamundra to Tumut Branch Line

From 1869 to 1884, the basic trunk pattern of railways in southern NSW was established. The lines to Albury, Hay and Jerilderie were designed to compete with the Victorian river and railway, and South Australian river transport for the traffic of this area.

The NSW railway system reached Cootamundra (from Sydney) in 1877. Even before that, the residents of Gundagai had been lobbying for a railway connection. A railway league was formed in 1870. In July 1874, the Engineer-in-Chief notified the Railway Commissioners that as soon as surveyors could be spared from the main Southern Line (Sydney-Albury), they would be sent to survey the Gundagai area.

Inter-colony rivalry was strong; at that time, the Victorian railway had already reached Wodonga and the Victorian Government was actively soliciting business in the area of Southern NSW. The railway's presence and ability to transport goods easily and rapidly was used as a lure for such business.

The lobbying was successful and construction of the Cootamundra-Gundagai branch line began in October 1883. Despite a range of construction difficulties (including the location of stations remote from villages), the line was officially opened as a Government line on 1 June 1886, though it had been operating as a "private railway" run by the constructing contractor (for mail and passengers) from mid November 1885.

Now that the line to Gundagai was opened, it was anticipated that work to connect the line to Tumut would commence. Reality was not as simple as that. The line was surveyed in 1883 and a report made in December 1884. Plans were approved by the lower house of the NSW Parliament in 1886 (the Legislative Assembly) but were not approved by the upper house (the Legislative Council) and significant concerns were raised about the costs (notably the Murrumbidgee River crossing) and returns to be derived. After significant debate and inquiry, the Public Works Committee recommended (on 3 February 1900) that the line be built. The line was opened to Mt Horeb on 12 October, 1903, and to Tumut on 3 December, 1903. As noted in the Introduction, road transport became steadily more efficient during the 1950s and took much business off the railways. The last service ran on the Cootamundra – Tumut line on 13 January 1984 (almost 100 years after the line was first opened).

(Source: *Australian Railway Historical Society 1991*).

2.2 The Corridor's Condition

The corridor has not been used for some 25 years. However, rail infrastructure still remains. Much of the steel track remains (although some has disappeared). Ballast remains and many of the bridges are still intact (though their condition varies greatly). Some of the corridor has been subsumed into the Hume Highway – the new Coolac by-pass in the north and a 2.5 km section immediately north of Tumblong. Railway signage has all but disappeared and station platforms are mostly gone. Some goods sheds remain - in use by adjoining farmers or simply still standing on the railway land (again, their condition varies).

The rail corridor remains a remarkable resource and the cuttings, embankments and most of the original formations appear to be in good condition (noting the limited inspections that were undertaken).

The Gundagai Station has been restored. According to the NSW Heritage Branch (NSW Department of Planning), Gundagai is a highly significant site with an excellent group of buildings and structures from the late 1880's. In particular the relationship of the station, yard and early timber road and rail viaducts adds to the particular significance of the area. The station features the only slate roofed Goods Shed in New South Wales and was restored to its original 1886 glory in the 1990's. Inside, displays recall the travelling past, when trains ran regularly on the now defunct Cootamundra-Tumut branch line (*Source: Gundagai Shire Council website: www.gundagai.nsw.gov.au).*

The magnificent Gundagai Rail Bridge and Viaduct (over the Murrumbidgee River) is on the NSW State Heritage Register and on the State Rail Authority s.170 Register. The NSW Heritage Branch indicates that

> *"the timber viaducts are of very high significance because their size, their pairing and their construction are examples of an early engineering solution to crossing a major flood plain. The viaduct is an example of timber bridge construction on a grand scale. A multi-span, high level viaduct of timber deck trusses and timber trestles, it is one of the most impressive structures in Australia. It dominates the crossing of the Murrumbidgee flood plain more so than the adjacent low level timber beam road viaduct. Its combination with the steel truss over the river makes for a unique technical juxtaposition of bridge types."* (*Source: NSW Heritage Database www.heritage.nsw.gov.au*)

The viaduct in particular is listed on the Register of the National Estate (registered in 1989). The listing notes that

> *"These approaches form a significant technical accomplishment. The northern approach consists of seventy two timber truss spans, typically of 10.7m span, with a further five similar truss spans on the south side. These timber trusses have spans totalling 819m; they were completed in 1903 and form the longest timber truss bridge ever constructed in Australia. There were longer timber girder bridges but only one remains with its original form and length (in Queensland), but was constructed much later (1935). The rail approaches at Gundagai remain as one of the greatest timber structures ever built in Australia. The main span of the bridge, although of considerable interest is less significant historically. Completed in 1903, it has a 61m main truss span with pinned joints."* (*Source: Australian Heritage Database www.environment.gov.au*)

2.3 Current Uses of the Corridor

2.3.1 Ownership and Management of the Corridor

Land in the rail corridor is still owned by the State Government. The line is currently managed by the Australian Rail Track Corporation (ARTC). In 2004, the ARTC took a 60 year lease from the NSW Government (through its agents – firstly, the State Rail Authority of NSW and then its successor, the Rail Infrastructure Corporation) on the

main interstate rail lines in NSW. As part of the agreement, the ARTC assumed management of the residual rail network (including disused lines). The NSW Government retains policy and funding responsibility for the residual network whilst ARTC provide the management services. The Cootamundra to Tumut line is officially classified as a disused line. It is understood that the lease agreements allow the ARTC to manage the main interstate lines on a commercial basis. On the disused network, the ARTC does what the owner (the NSW Government through the Rail Infrastructure Corporation) directs. The disused network is leased on a rolling 12 month basis, but any lease can be stopped on a 3 monthly basis.

2.3.2 The Reinstatement of Rail Services

The Tumut Shire Council and a number of community members have raised the issue of the reinstatement of the Cootamundra to Tumut branch line (the Coolac to Tumblong section is in this corridor) as a functioning railway and what this means to the rail trail proposal. This is discussed in detail in Section 13.2.2.

2.3.3 Current Rights of Access

Australian Rail Track Corporation Ltd – has safety concerns about people traversing the corridor. An Application to Enter ARTC Property must be completed by any non-rail entity who wishes access to the Railway Corridor for any reason, or is intending to carry out any Construction or Development work near or adjacent to the Railway Corridor. If any adjoining land holder has a lease or licence over a part of the corridor, they have access to that part only.

2.3.4 Use of the Corridor for the Hume Highway

The Hume Highway has intersected with the rail corridor in two places –near Coolac and near Tumblong. In the northern section (immediately south of Coolac), the new highway alignment has been built on approximately 2 kms of rail corridor. The understanding is that, should rail services be reinstated along the corridor, the Roads and Traffic Authority (RTA) has agreed that it will purchase the rail corridor and the railway developer would use that money to purchase a new alignment in this section. A similar situation has occurred on the southern end of the subject corridor on the northern approaches to Tumblong. Some 2.5 kms of rail corridor has been 'alienated' by the road corridor, though in this locality, it is understood that the rail corridor actually runs down the middle of the highway between the two carriageways (although this is not entirely clear). Again, any proposal to reinstate the rail services would require negotiations between the RTA and the rail developer. In both cases, a rail trail can be constructed with careful design and negotiation without the need to access 'new' land. Negotiations with the RTA and its agreement (particularly on the southern end) would be needed for the rail trail to proceed.

2.3.5 The Corridor as a Designated Travelling Stock Route

It has been suggested that part of the corridor is designated as a travelling stock route. A Travelling Stock Route is an authorised thoroughfare for the walking of domestic livestock from one location to another. Travelling Stock Reserves (TSRs) are parcels of Crown land reserved under legislation for use by travelling stock. Livestock Health and Pest Authorities (formerly Rural Lands Protection Boards) now manage over 500 000 hectares of TSRs in NSW. The (new) Livestock Health and Pest Authorities, which have taken control of the routes from 47 local Rural Lands

Protection Boards, must declare by September how they can economically justify keeping them and, if they cannot do this, the property will be given to the Department of Lands.

According to the Livestock Health and Pest Authorities, anyone can use a TSR, without needing a permit for walking, picnics, swimming, fishing, bird watching, horse riding and cycling. A permit is required for grazing and/or walking stock. Conversion of the rail corridor to a rail trail appears unlikely to change the current situation regarding permits (information from the Livestock Health and Pest Authorities website www.lhpa.org.au/travelling-stock-routes, and The Land newspaper "Battle for the Long Paddock" 16/2/09).

2.4 Current Leases of the Corridors

Along the railway corridor there are persons or organisations that have a lease over a portion of the corridor and/or railway station or siding areas. It is understood that Gundagai Shire Council has a lease over all the railway corridor land from Sheridan Street to Ann Street, North Gundagai. According to the ARTC, there are 23 separate current agreements (leases and/or licences) in place with a number of individuals and organisations on the line. There are 8 agreements south of Gundagai, 10 in Gundagai itself and 5 north of Gundagai.

These records are not included within this report for privacy purposes.

SECTION 3 – RAIL TRAILS EXPLAINED

The project brief requests that the issue of "what is a rail trail?" be addressed. In short, a rail trail is a multi-use recreation trail running on a disused rail corridor (public land) for non-motorised recreation. There are over 40 established rail trails in Australia, the majority of which are in Victoria. South Australia and Western Australia also have formal trails. There are at least three public rail trails in NSW, with a number under consideration. In Queensland, the State Government is currently developing the Brisbane Valley Rail Trail (from Ipswich to Blackbutt); a number of sections are already open.

3.1 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 a number of 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 are existing or easily developed tourism infrastructure in or near townships along the rail trail - wineries, and places to eat, explore and stay.
- Good rail trails have some heritage infrastructure in place such as historic stations, bridges, tunnels, goods sheds, sidings, platforms, switches, signals, and mile posts. Rail trails elsewhere have utilised their railway history as part of their attraction. Stations in particular can provide a focal point for community activities as well as an interesting attraction for visitors. 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.
- 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 suspicious of rail trails; they often become converts once a trail is built.
- A uniqueness of experience is often important – be it landscape, trail type, a 'one-of' nature.
- 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 an added bonus when the trail is short.
- The best rail trails are located 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.

- The good rail trails often provide opportunities for short, medium and long length rides and walks on the main trail.
- 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 – this is the next frontier in all trail development. There are many good recreation trails (including rail trails) in Australia – few have good interpretation. Interpretation adds significantly to the user's experience.
- 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.
- Well-signed and mapped trails - both on the trail and easily available elsewhere - are more successful than those that are not.
- Informed locals make a user's experience more pleasurable.
- The best rail trails offer a challenge, and they offer peace and solitude.
- A well-maintained trail and a strong community support network adds 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. Various rail trails in Australia feature at least some of these elements.

In addition, all rail trails have a number of 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 major road 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, 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.

Rail trails are not new – they have been established in America for over 40 years. These provide successful models for Australian rail trails.

3.2 History of Rail Trails in America

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 grades, socialising, exploring, discovering railroad relics, marvelling at the industrial facilities such as bridges, tunnels, abandoned mills, sidings, switches and whatever else they

could find. In the snows of winter the unconventional outdoor enthusiast skied or snowshoed on the corridor, but these were days before even running and all-terrain bicycles were common, so the predominant activity was walking. Of course, none of the corridors were paved or even graded — they were simply abandoned stretches of land.

"Rails-to-Trails" is what people called the phenomenon. The name was catchy and descriptive enough to give the concept a tiny niche in the fledgling environmental movement that was gathering momentum. However, it was destined to move into the mainstream of the conservation and environmental movements. After all, it had all the ingredients: recycling, land conservation, wildlife habitat preservation and non-automobile transportation - not to mention historical preservation, physical fitness, recreation access for wheelchair users and numerous other benefits.

Today, more than 40 years later, rail trails have made a significant mark in America, with around 100 million users per year travelling on 13,935 miles of trail on 1,453 rail trails. There is another 1,079 rail trail projects being planned and/or developed for a total of 12,523 miles (Rails-to-Trails Conservancy website). The longest trail is the Katy Trail State Park in Missouri (225 miles) while 9 other trails are longer than 100 miles. All American states have a rail trail network. Wisconsin has the most rail trail miles (1,540 miles on 70 trails), while Pennsylvania has the most trails (123 rail trails covering 1,155 miles). Interestingly, Wisconsin is the home of the first rail trail in America – the Elroy Sparta State Trail opened in 1965.

The Burke-Gilman Rail Trail in Seattle (Washington, USA) is one of that country's oldest and most popular rail trails. Studies along that trail corridor have demonstrated that property values have risen as a result of the development of the trail, and are higher with close proximity to the trail.

In Seattle, more than 1,200 people a day cycle along the 16 mile Burke-Gilman Trail, near Lake Washington, while in Florida over 100,000 people stroll, skate and cycle along the 22 mile Pinellas Trail every month. In Washington D.C. the easy grades and varied topography of the 45 mile Washington and Old Dominion Railroad attract nearly two million users annually, including cyclists, runners, equestrians, people with disabilities, skaters and cross-country skiers.

3.3 History of Rail Trails in Australia

In Australia, conversion of corridors to rail trails is a 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 2005-2010 reports that there are currently 463 kilometres of rail trail in Victoria on 18 trails, while the 3rd edition of *Rail trails of Victoria and South Australia* lists 26 rail trails throughout Victoria. Some listed in the Guidebook are still under

construction or require signage and/or publicity materials, though they are in use. Since the publication of the guide, more rail trails have been opened and many more are currently in the planning stages.

One of the best known of Victoria's rail trails is the Lilydale to Warburton Rail Trail which is situated some 68km east of Melbourne. 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 by wineries, cafes, pubs and restaurants following the Yarra River valley.

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.

Various styles of interpretation have been used on the Old Beechy Rail Trail in Victoria to highlight the farming history, indigenous history, railway history and natural history of the region. An innovative feature is the use of rusty steel cut-outs. The steel structure pictorially illustrates timber cutting, farming history and other agricultural practices over the years.

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 several wineries and offers spectacular views from numerous points along the trail. The 27 kilometre long Riesling Trail allows visitors to experience the Clare Valley from end to end by foot or from the saddle of a bicycle. 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 are now creating 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. The Riesling Trail Management Committee has recently received funding to extend the trail another 8 kilometres north to Barinia Siding, the "official" northern end of the Clare Valley.

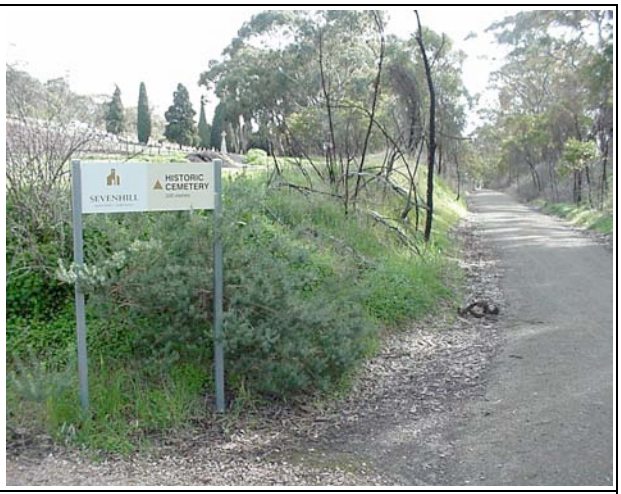
The Coast to Vines Rail Trail continues this very popular South Australian theme, connecting many of the vineyards of McLaren Vale.

The most notable example of a rail trail in Western Australia is the Railway Reserves Heritage Trail in the Shire of Mundaring, in the hills above Perth, 30km from the CBD. The rail trail was established primarily for horse riders and walkers some 30 years ago, making it one of the earliest known rail trail conversions in Australia. Subsequent upgrading of the trail surface has made it a true multi-use trail, catering for walkers, mountain bike riders and horse riders.

In Queensland, the State Government is currently developing the Brisbane Valley Rail Trail. That Rail Trail will recycle the now disused Brisbane Valley railway line to provide an outstanding 148 km regional trail for walking, cycling and horse riding, serving both local and regional communities of South East Queensland. Four discrete sections are already opened (totalling 50 kilometres), with trail completion scheduled for 2012.

NSW is beginning to develop some rail trails, although the legislative situation remains unresolved. The Pioneer Rail Trail meanders for 6 kms through the undulating farmlands of the Oberon tableland between Oberon and Hazelgrove. A rail heritage group is proposing to run trains from Oberon on the railway; consequently, the trail has been developed as a rail-side trail, potentially overcoming some of the legislative hurdles. The Fernleigh Track and the Fassifern to Toronto Rail Trail are both functioning rail trails in the Newcastle area; they are managed by the relevant councils (Lake Macquarie and Newcastle Councils). The Fernleigh Track is on a former private coal railway line which was purchased by the two councils and converted to a rail trail. The Fassifern to Toronto Rail Trail is on a former Government railway corridor (though initially built by a private business) which was officially closed in 1995 (though tracks are still in place).

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



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 Sidings Rail Trail (WA) makes the most of existing historic rail infrastructure. This trail has two elements – as well as being a rail trail in itself, it will be part of the Munda Biddi Trail when it is extended south from Collie.

Above: The Brisbane Valley Rail Trail (Qld) is being progressively developed and will be completely opened by 2012. It attracts users from South East Qld, one of Australia's fastest growing regions.

Above: The Oberon-Tarana rail trail meanders through the undulating farmlands of the Oberon tableland (NSW). It has been developed as a rail-side trail (picture courtesy of RailTrails Australia).

Above: Gates across the Murray to the Mountains Rail Trail (which must be opened and closed by trail users) enables adjoining landowners to move stock with minimal hindrance and delay.

3.4 Complementary Uses of a Rail Corridor

A linear corridor such as a rail trail does lend itself to a range of potential future uses – many of which are not excluded by the possibility of the corridor being converted into a recreation trail.

These former railway corridors, like so many others around the world, are also ideally suited for the placement of utilities, such as wires, cables and pipes. Data, telephony and energy can and are all carried in pipes alongside or underneath rail trails. These uses can be complementary to the corridor's use as a rail trail.

3.5 How Do Rail Trails Function and Operate?

As stated above, rail trails are most prominent in Victoria. There are differences in the way rail trails function and operate, primarily due to differing legislative regimes.

The next section examines how existing rail trails operate in three states with an established history of rail trails – Victoria, South Australia and Western Australia.

3.5.1 Victoria

Overview

Victoria has led the way in converting disused railway lines into recreation and tourism destinations. Consequently it has the most mature process. A rail reserve is gazetted under the Crown Land (Reserves) Act as a public recreation reserve. Gazettal as a public recreation reserve allows for the setting up of a formal Committee of Management which has vested management responsibilities for the corridor. Where the corridor traverses more than one Local Government, a Special Joint Committee is required under the legislation.

The Department of Sustainability and Environment is the lead agency for the establishment of Victorian rail trails and supports the delegated managers.

The State Government has set down a uniform process for establishing rail trail Committees of Management. It involves an Expression of Interest period where applicants prepare and submit their applications. The State Government, in consultation with relevant Local Governments, selects members depending on skill sets required.

Under the Victorian guidelines, the Committee of Management has relevant Local Governments and individual people selected for appointment by the relevant Minister. The term of appointment is for 3 years. The members must be an adult resident or ratepayer within the 'community of interest' of the Reserve. The Minister is also able to appoint nominees of various interest groups that may use a reserve or have an interest in its proper management.

Committees of Management are generally incorporated. Incorporated Committees allow lawsuits, contracts, borrowings and tenancy agreements in the name of the Committee providing security and greater continuity. Sub-committees have no power in themselves; recommendations need to be bought to the full Committee.

Committees of Management under the Crown Land (Reserves) Act have a number of powers and duties:

Powers

- Managing the reserve;
- Undertaking works and improvements;
- Using workers;
- Deriving income;
- Spending, borrowing and investing;
- Controlling users;
- Entering into legal proceedings; and
- Granting tenancies (licences, leases, permits)

Duties

- Financial records and auditing;
- Reporting – financial, annual, performance;
- Liability insurance – duty of care;
- Duties as an employer;
- Council rates (payable by occupiers under lease, licence and tenancies – commercial and agricultural); and
- Responsibilities under Freedom of Information and Ombudsman requirements.

Committees of Management have traditionally absorbed the responsibility for pursuing the development of a rail trail including the preparation of concept plans and business plans.

The CoM guidelines set out the need to determine objectives under heading of recreation, tourism, conservation, economic and social. These objectives translate into a community-driven concept plan which provides the basis for the Business Plan.

Murray to the Mountains Rail Trail

As the most developed rail trail in Victoria, the Murray to the Mountains Rail Trail provides a good example of how the Victorian Government's rail trail legislative and management regime is put into action. The trail runs for 97 kilometres from Wangarratta to Bright through the Ovens Valley.

The Trail has a full-time trail manager, the only paid trail manager on an Australian rail trail that the consultants are aware of. The trail development project was driven by the three Local Governments through which it passes – the Rural City of Wangarratta, Alpine Shire and Indigo Shire.

Management of the trail is in accordance with the Victorian Government guidelines. There is a General Committee of Management which has two representatives of each of the Local Governments through which it passes, one representative from the Technical Group (a sub-committee) and three representatives from the Advisory Group (a sub-committee). Its roles and responsibilities are:

- Day to day management and ongoing development of the trail;
- Preparation and implementation of a business plan;

- Development and achievement of trail objectives;
- Develop future budgets; and
- Oversee activities of the Technical Group and ensure active participation of the Advisory Group.

The Technical Group has been set up as a sub-committee. It has three Local Government representatives (one from each Local Government), one representative from the Department of Sustainability and Environment and one representative from Vic Roads (State Government agency). Its roles are trail maintenance, weed and vegetation control, and bridge maintenance.

An Advisory group has also been set up as a sub-committee. It has six representatives of user groups/communities, one representative from the Country Fire Authority, three local landholders (one from each Local Government area) and one representative from the Victorian Farmers Federation. Its roles are representing community and user group interests to the Committee of Management, and liaison with the Committee of Management on management and maintenance issues.

Great Southern Rail Trail

The Great Southern Rail Trail provides a slightly different example of how the legislative and management regime has been implemented. The trail runs for 53 kilometres from Leongatha to Foster in the Gippsland region. The trail was entirely community driven; proponents believe that there was, and there continues to be, a need to engage a range of individuals, organisations and governments – this is a lot easier if the project is driven by the community rather than by Government. The Committee of Management is made up of community volunteers and has responsibility for protection, maintenance and improvement of the railway lands. With the assistance of the Shire of South Gippsland, the Committee designed and managed trail construction and facilities. The Committee is responsible for the maintenance, preservation and enhancement of trail and natural vegetation. It receives assistance from the Friends of the Great Southern Rail Trail.

3.5.2 South Australia

South Australia has two significant rail trails (the Riesling Trail and the Coast to the Vines Rail Trail) and these are managed differently primarily based on the involvement of the relevant councils. There are some similarities. In both cases, trail management is governed by a partnership between the Office of Recreation and Sport (ORS) (an agency of the SA Government) and another organisation. Land on the rail corridors was granted to the Office of Recreation and Sport by other agencies (notably Transport SA) to make the rail trail happen.

The Riesling Trail

As indicated above, the Riesling Trail is perhaps the best known rail trail. Located in the Clare Valley, the 27-kilometre trail passes several wineries and offers spectacular views from numerous points along the trail.

Trail management is governed by a partnership between the Office of Recreation and Sport (ORS) (an agency of the SA Government) and the Riesling Trail Incorporated (RTI), an incorporated association under the Associations Incorporation Act. RTI is a community body with an interest in developing and promoting the trail and

facilitating management at the local level. ORS has formalised management roles and responsibilities of the Association in overseeing and ongoing development of the trail through a partnership agreement. The Government of South Australia (though ORS) covers legal liability insurances as they relate to the trail.

There is also a partnership agreement between RTI and the Clare and Gilbert Valleys Council. The Council will consider funding nominated projects where the trail traverses and interfaces with council roads, and will contract to do maintenance and repair work.

RTI is run by a Management Committee. Membership of the Committee comprises representatives from ORS, Clare Valley Tourist Association Inc., Clare Valley Winemakers Inc, Clare and Gilbert Valleys Council, and five community members with experience in areas such as tourism, arts and culture, business and finance etc. Community membership is invited through public notice and is determined at an AGM.

The Office of Recreation and Sport has a $30,000/year maintenance budget to cover both the Riesling Trail and the Riverton Trail network to the south. RTI is responsible for organizing/overseeing the maintenance (done by their own hands or by contractors) for the Riesling Trail and the Riverton trail network. RTI has the main role to pursue grants.

The Coast to the Vines Trail

This trail on the outskirts of Adelaide is jointly managed by the two Councils – the City of Onkaparinga and the City of Marion in partnership with the Office of Recreation and Sport. It is understood that there are no other special arrangements – the trail is managed as a recreation asset of the Councils.

3.5.3 Western Australia

Mundaring Railway Reserves Heritage Trail

This trail is a 72 kilometre multi-use trail opened in the mid 1980s. It is managed solely by the Shire of Mundaring as a recreational asset like all its other recreational assets.

Aware of the tremendous economic and recreational benefits of the Railway Reserves Heritage Trail, the Shire of Mundaring continues to expend funds on improving the trail (see 8.4.1).

3.5.4 Overview

While legislative regimes differ, the operations of many rail trails across the country are marked by a common set of features. A discussion of successful rail trail development characteristics was included in Section 3.1. Some common characteristics about all aspects of operation include:

- Most rail trails have incorporated Committees of Management; many (but not all) of these draw support from 'Friends of' groups.

- Community involvement in positions of 'power' i.e. on a Committee of Management is critical to community buy-in.
- In Victoria in particular, all Committees follow a template for setting up the organisation and, to a certain extent, pursue the same activities (due to the requirement under legislation and the guidelines).
- All trails predominantly use public land – mostly State Government land (as they are on former rail corridors).
- There are no charges to enjoy any rail trails.
- Many offer leasing arrangements to adjoining landholders as the trail rarely needs the (almost standard) 20 metre corridor. This generates income for the trail, keeps the farmers onside and provides some maintenance.
- Most trails opened section-by-section (i.e. a staged process) while keeping the big picture in mind. However, there is a need to be conscious of how stages are marketed.
- All trails make the most of official 'opening ceremonies' – bridges, sections, etc.

SECTION 4 – THE STUDY APPROACH

4.1 Scope of the Project - The Brief

The Project Brief sets out a number of aims, being:

- To provide an overview history of rail trail developments in NSW and other States and give an outline of the basic concepts and features of existing rail trail developments;
- To provide a broad outline of the proposed Coolac to Tumblong Rail Trail as well as details and discussion of local and regional features supporting its development;
- To present an economic evaluation of the project including the expected benefits and costs associated with the complete rail trail development; and
- To identify and discuss the main issues concerning the proposed development and give recommendations concerning the subsequent approval and implementation process.

4.2 The Impact of the Rail Trail on the Community

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.

In this Feasibility Study, the approach taken defines the community not just as the local community (i.e. people living and working alongside the Coolac to Tumblong railway corridor), but also all of those people living in the wider region encompassing residents of Gundagai Shire. The approach has also encompassed visitors to the region in its scope, as these numbers are quite significant.

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 interruption to long-established farming practices, negative impacts on lifestyles, and loss of currently-used land. The "winners" from such a project are often a much more diverse and geographically-spread group – local users, visitors, 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. Section 6 (community consultation) goes into detail about consultation undertaken to elicit the range of views and concerns.

It must be remembered that the railway corridor is public land and is owned by all residents of NSW (while acknowledging existing use and practice by adjoining landholders). These different layers of community have informed the approach taken to this study.

SECTION 5 – THE REGION AND ITS CHARACTERISTICS

5.1 Gundagai

5.1.1 The Town

Gundagai is a regional town situated 375 km south west of Sydney just off the Hume Highway. In 1838, against the advice of the local Aboriginal people, the town was built on flood-prone flats on the northern banks of the Murrumbidgee River. In 1852, severe flooding virtually destroyed the European settlement and 83 of the 250 townsfolk lost their lives. The toll would have been higher but for two Aboriginals who came to the rescue in bark canoes, saving 48 people. The town relocated further up the slopes of Mt Parnassus, and the highest street in the original town, Sheridan Street, is now the main street. The old flour mill in Sheridan Lane, the Prince Alfred Bridge, the rail bridge and viaduct, and the Gundagai Station (the largest wooden railway station in NSW) are examples of the town's rich built heritage; many of the buildings in town are of significant aesthetic and historic value. The works of master craftsman Frank Rusconi adorn the town's cemetery and his Marble Masterpiece is proudly displayed in the Visitor Information Centre.

The town has been immortalised in the *Road to Gundagai* ("There's A Track Winding Back ... Where The Murrumbidgee's Flowing …") and in *The Dog Sits On The Tuckerbox 5 Miles from Gundagai* - two very well-known Australian songs.

Wineries (an attraction on many rail trails) are developing in the Gundagai region and are promoted on the 'Wagga Wagga to Gundagai Wine Trail', and on the 'Cellar Doors of the Snowy Valleys Way' map. The Gundagai Bakery, the oldest continuously operating bakery in New South Wales, provides another significant attraction for potential trail users – bakeries are a great attraction for hungry trail users.

The Murrumbidgee River is the town's (and the shire's) most prominent natural feature, winding its way through the town's heart.

Clear signposting will ensure trail users are informed of local attractions and amenities, such as the above example on the Lilydale to Warburton Rail Trail.

5.1.2 The Shire's People

The population of the Shire was 3,692 at the 2006 Census. In common with the rest of Australia, the population of the Shire is aging. The population is older than its neighbours in the Eastern Riverina. The median age is 43 years compared to 38 years for the REROC region. There is a higher percentage of people aged over 60 in Gundagai than in the REROC region. Intriguingly, there are proportionately more young children (0-4) than in Eastern Riverina and the largest age group in the Shire are children (0-14 years) (making up 24% of the population – 857 people). There are fewer people in the young adult age groups (15-24) and less in the 30-34 year old group compared to the Eastern Riverina region. The population "aged" 5 years

between the 2001 and 2006 Census with the median age changing from 38 to 43 years (by contrast the Eastern Riverina population "aged" only 3 years fro 35 years to 38 years). The biggest growth between 2001 and 2006 was in the retiring age (55-69 yrs) and the pre-school group (0-4 years). There are 692 school students in the Shire – many of these may use the trail for 'commuting' to and from school.

Rail trails bring economic benefits (further discussed in Section 8). Complementary economic development opportunities have arisen from the development of trails across Australia. For example, a large number of accommodation businesses along the Riesling Trail (in the Clare Valley of South Australia) are prospering due to the trail. Sevenhill Winery, also in the Clare Valley, has constructed a short walk/cycle trail in its grounds which links to the Riesling Trail. People employed in the service sectors will develop complementary facilities that make trails attractive to visitors. In Gundagai Shire, employment in the food and accommodation sector employed 11.9% of the workforce in 2006 (up from 7.6% in 2001).

5.2 Beyond the Shire

Wagga Wagga is one hour's drive from Gundagai, making it an easy half-day to day trip for residents of Wagga Wagga. It is legitimate to consider the population characteristics of Wagga Wagga when considering the feasibility of a rail trail. Having a major population base nearby is a positive factor for any proposed rail trail.

Wagga's population at the most recent Census (2006) was 57,015. The City's population is growing at 1% per year. At this growth rate, the forecast population for 2020 is 74,800. There is a slightly higher proportion of people in the 15-24 category (compared with the State average). Immediate neighbours Tumut Shire (30 minutes from Gundagai with a population of 10,801) and Cootamundra (50 minutes away with a population of 7,315) also provide potential trail users in terms of 'day-trippers'.

5.3 Tourism

5.3.1 The Region

The Riverina is one of Australia's emerging holiday destinations – Gundagai is part of the Riverina Tourism Region. The Riverina region received over 2 million domestic visitors in 2007 who spent a total of over 2.7 million nights in the region. The main market segment is "visiting friends and relatives" (accounting for 45% of visitor nights). People travelling to the Riverina for holiday and leisure purposes accounted for 18% of visitor nights, while business travel was significant accounting for 19% of visitor nights. Visitors spent $405 million in the region with domestic overnight visitors accounting for 60% of expenditure. The average stay was 3 nights (although visitors from the ACT had an average 2 night stay – this is likely to be due to proximity).

Around 65% of the visitors to the region come from within NSW. Victoria was the biggest source of interstate visitation at around 18%, while the ACT accounted for 8% of visitors. 85% of all visitors travelled by car.

The region received over 1.1 million domestic daytrip visitors in 2007. Unlike the overnight visitors, the bulk of these trips (41%) were for holiday or leisure while visiting friends and relatives accounted for almost 30%. Almost 40% of day trip

visitors were aged below 35, those aged 35-54 contributed almost 37% while those aged over 55 contributed 25% of visitor numbers.

Looking at Gundagai specifically, annual visitation is between 35,000 and 39,000 people. Visitation is primarily from southern Australia (around 65% of visitors). The Visitor Information Centre indicated there are sufficient attractions in Gundagai to occupy a weekend. These include the Dog on the Tuckerbox, 'Dad and Dave', the timber bridges and viaduct, the Gabriel Gallery, the Art Gallery and the first caravan village in Australia. The town is the 'quintessential historic town' and features regularly on lifestyle shows on cable television. Being half-way between Sydney and Melbourne is a significant advantage in attracting events such as family reunions. Visitation is evenly spread throughout the year.

There are 2 annual festivals – the Turning Wave Music Festival, and the Dog on the Tuckerbox Festival – both attract over 4,000 visitors. There are also a number of horse-related events – the NSW Pony Club Championships, the Snake Gully Cup Race meeting.

5.4 Trails and Tourism

It is reasonable to state that Gundagai Shire does not have a 'trails and tourism' profile. There are however events and places 'in the neighbourhood' that tap into that market. A rail trail would be an additional attraction to the region for those interested in 'trails tourism'.

The Snowy Valleys Way promotes tracks and trails in the region covered by its promotion – in Gundagai, those listed are the Two Foot Tour (a historic walk around town), the North to South Tour, and the South Gundagai Interpretive Walk Trail. Adelong and Tumut (both relatively close) have a number of historic and natural walk trails.

The Hume and Hovell Walking Track is the best known of the walking tracks in the region – a 440 km trail between Yass and Albury. The Track's reported usage is between 40,000 and 60,000 users per year (on a part of the track). To the east of Gundagai is Kosciusko National Park with numerous walking and cycling opportunities.

These attractions are complementary to a rail trail, providing a different experience that encourages visitors to extend their stay.

Section 7 discusses growing demand for cycle riding opportunities (both on and off-road). The region in which Gundagai is located is developing a profile as a cycling destination. Recent cycling events and promotions include the 2006 NSW Big Ride (a 9 day bike ride) which involved 900 cyclists and travelled through the eastern Riverina from Holbrook to Binalong, and a 3 hour mountain bike race as part of Tumut Festival of the Falling Leaf (Tumut State Forest).

Any additional trail activity, such as the rail trail, will help extend the stays of existing visitors, will attract additional visitors and will generate return trips.

One of the key elements in the region's attractiveness (and therefore the attractiveness of the rail trail) is the proximity to major tourism markets. Sydney, Melbourne and Canberra are all major markets within a reasonable distance from the proposed rail trail as Table 5.1 shows.

Table 5.1 – Distances to major markets

	Melbourne CBD	Sydney CBD	Canberra CBD
Gundagai	495 km (5 hrs 43 mins)	376 km (4 hrs 42 mins)	160 km (2 hrs 5 mins)

It is worth noting that the Victorian and South Australian rail trails are all within 2-3 hours of their capital city. Interestingly, the Murray to the Mountains Rail Trail also cites its relative closeness to Canberra (around 5 hours) in its promotional material. The proposed rail trail would be within 2 hours of Canberra, a potential major market. Whilst its distance to the major markets of Sydney and Melbourne is, on average, somewhat further than rail trails in Victoria and South Australia, none of the Victorian or South Australian trails can claim to be within 6 hours of three major markets. Given the growing popularity of the short break market (discussed in Section 7), this positioning of the rail trail within a reasonable drive (or short flight) from major markets is quite significant.

5.5 Conclusion

While the population of Gundagai Shire is stable, demand for outdoor recreation opportunities is growing (as discussed in Section 7). This provides a number of opportunities in the outdoor recreation area. The proximity of a major growth centre (Wagga Wagga) may provide a significant demand for a rail trail for recreational purposes. Potential demand is explored in Section 7.

The other significant user group will be visitors to the region. A rail trail would add significantly to the tourism assets.

SECTION 6 – COMMUNITY CONSULTATION

6.1 Introduction

Consultation with local and affected people is extremely important in building community understanding and support which is vital to delivery of any rail trail project. There are often opponents to the idea of turning an abandoned rail corridor into a multi-use trail. Adjoining and nearby landholders understandably are disturbed about the prospect of change to a situation that they have grown accustomed to.

Given the strong community interest in this project and the need for a supportive community for its success, consultation formed a component of the study (even though the project confined itself to feasibility rather than detailed design).

6.2 Previous Consultation

Prior to the commencement of this feasibility study, consultation had previously been carried out by the Gundagai Shire Council. A discussion paper was produced by Gunda BUG (Bicycle Users Group) in mid 2007 and made available for public comment. A number of public comments were received by the Council from individuals and groups; some of these supported the proposal while others were opposed to the project. It is not the intention of this feasibility study to specifically deal with these submissions. A number of issues raised in the submissions (both positive and negative) are covered as part of this report.

Consequently, members of the community along the corridor were aware of the project at the commencement of this feasibility study. The level of community 'conversation' on the rail trail proposal prior to the commencement of this study may not have been at a sufficient level to allow all members of the community who had an interest in the project (either favourably or unfavourably) to be fully conversant with the nature of the project and what was proposed; however, the Gundagai Shire Council was willing to proceed to a feasibility study on the basis of the consultation it had undertaken up to December 2007.

6.3 December 2008 Round of Meetings

6.3.1 Project Steering Committee Meetings

A project inception meeting was held between the consultants and the Project Steering Committee on 16 December 2008 at the outset of the feasibility project. Key points raised included:

- The protocol for consultation on the development of rail trails as discussed in the brief – where is development of the protocol up to, what does it involve, who should the consultants talk to, how does it impact on public consultation for this project. Detail and background was provided on who is on the Task Force to develop the protocol and what are its tasks.
- Proposals for the community meeting, including the use of an independent chair to manage the meeting.
- Progress on the major general issue of the legislative and administrative process to convert disused rail lines in NSW and make them available for recreation use.

- Clarification that the project is a feasibility study and consequently it is not within the budget to consult directly with every adjoining landholder.
- Clarification of the position of Tumut Shire Council (as expressed in its two letters to the Gundagai Shire Council).
- Potential funding sources noting that the RTA funded cycle routes on the M7 (Sydney) and on the Albury by-pass.
- The impacts of the realignment of the Hume Highway at Coolac and its impacts on the proposal.
- Details on the current use of the Gundagai station were requested and provided.

The consultants also met with the manager of the Tourist Information Centre during this field trip. A number of landowners were contacted by phone to notify them of the future consultation process. Unfortunately, due to the timing of the trip, most were unable to meet with the consultants at that time. However, the consultants met with two adjoining landholders (one within the rural area and one within the town area) and a representative of the local pony club during this time.

6.4 February 2009 Round of Meetings

6.4.1 Community Meeting

Community meeting notifications were sent to 14 interest groups across the region (based on a stakeholder list provided by Gundagai Shire Council). Steps were taken to notify 39 landowners who were seen as likely to be adjoining the proposed trail corridor. These landowners were notified of the public meeting, but were also invited to discuss their individual concerns with the consultants in a series of 'one-on-one' sessions on Thursday 26th February 2009.

One community meeting was conducted in Gundagai on Wednesday 25th February 2009. The meeting was attended by over 80 people (the figure reported in the Gundagai Independent on Thursday 26th February 2009).

The chair, Peter Gain, made some introductory comments noting that the purpose of the meeting was to give and receive information about the rail trail investigations. He stressed that no decisions would be made on the night, but that the meeting was the first step in a lengthy process to determine whether the trail will proceed.

Cr Len Tozer, Mayor of Gundagai Shire Council, gave an outline of the project's history to date. In May 2007, the proposal to convert the disused rail corridor to a rail trail was received by the Council and placed on public display (until August 2007). In September 2007, the Council resolved to seek funding to prepare a feasibility study. In 2008, the State Government approved funding (through the Riverina Regional Development Board) on a 50:50 basis with the Council. Cr Tozer indicated that the Council's share of the study costs is being funded from the Tourism Reserve. He indicated that, in 2009, the draft feasibility report will be placed on public display.

Cr Tozer indicated that the Council's position is that it supports the proposal on the following four conditions:

- The trail is feasible;
- There is general community support for the project;

- Capital costs for construction will need to be found from external sources (i.e. not the Council's funds); and
- The ongoing maintenance costs will be incorporated into Council's ongoing budget but need to be 'topped up' by external funds.

Mike Maher (Transplan) made a number of introductory comments. He indicated that:

- Transplan Pty Ltd and Mike Halliburton Associates are experienced trail planners having carried out over 150 trail planning jobs – that is why they have been appointed to this project.
- Most importantly, the consultants are NOT the trail proponents. The consultants are NOT the trail developer.
- Mike indicated that the consulting team is independent and that the project is not a fait accompli – the consultants have recommended to other clients that they NOT proceed with a number of proposed trails - including a 'rail trail'.
- Mike discussed the consultants' brief i.e. what they are required to do for this project. He indicated that this project is a feasibility study – it is therefore not within the brief or available budget to identify each and every landowner concern and to solve these, nor to identify each and every business opportunity arising from the possible development of the trail.

A PowerPoint Presentation followed which:

- Gave a summary of the consultant' brief which requires them to identify benefits, estimate costs, and identify issues and concerns for the corridor;
- Provided a broad description of rail trails and provided examples and photos of rail trails from elsewhere;
- Discussed the factors that determine feasibility;
- Provided a review of commonly stated concerns and issues and practical solutions; and
- Identified rail trail benefits.

When Mike finished his presentation, Peter Gain ran an open forum, inviting people to raise relevant issues. These are summarised below. Many of the general questions have been addressed in other sections of this report (noting that some were not addressed in detail on the night).

Question: A number of people raised the issue of water access for livestock. Stock currently wanders across the corridor to access watering points. If the corridor is fenced (as may be the case), how will stock continue to access watering points

Response: From observations, much of the corridor is already fenced (single-sided or double-sided). The best possible solution is to install openings in the corridor fence to allow stock to continually access water. This is likely to involve installation of self-closing gates along the railway corridor (ie. across the proposed rail trail) so stock do not wander along the corridor, but rather are kept within a short section of the corridor. An alternative is to seek funding from the project budget to install watering points (tank and pump) in the paddock which may no longer have access to the water if the corridor is fenced. A supplementary question to this response was who would pay for the water in the tanks to be replenished.

Question: There were some questions about the selection process used by the Council in determining who should undertake the feasibility study.

Response: Graeme Tickner, Council General Manager, responded to these questions.

Question: How will use of the railway line impact on future use of the railway corridor and the reinstatement of the railway connection to Tumut. The audience was aware that Tumut Shire Council is advocating for the re-opening of the line. The situation would be similar to the Hume Highway re-alignment which is built on the rail corridor at Coolac. Will the trail prevent re-opening of the rail line in the future? Will the investment in the trail's development be 'wasted' if the trains come back?

Response: The legal and ownership situation at Coolac was explained by the RTA representative present.

In USA, rail trails are regarded as a 'land bank' for possible future transport options.

The situation that may arise is similar to other public infrastructure projects; money can be invested in the delivery of one project which in time may be 'subsumed' by another public infrastructure project where the community gain is more significant. The possibility of another project (such as the reinstatement of a functioning railway) using the corridor in the future (and it appears unlikely that reinstatement of a functioning railway will occur in the near future) should not prevent the rail trail from proceeding.

(This question raised a number of issues that were not able to be clarified at the meeting, but have been clarified (as far as possible) elsewhere in this report).

Question: How would the trail work? Would users camp on the trail, would they cycle and/or walk out and back?

Response: Use patterns are varied and not easily predictable. The route is not long enough (at 32 kms) to justify the construction of any camping facilities. In addition, there are three urban areas (Coolac, Gundagai, and Tumblong) along the route which could provide such facilities privately. There are economic opportunities that have been capitalised on elsewhere, where local business people have organised a bike bus that drops the user and bike at one end and picks them up at the other. People could ride from Gundagai in either direction then back to Gundagai (as Gundagai is roughly half-way along the corridor). The trail is an 'out and back' trail meaning there are no loops and users have to come back the way they went out.

Question*:* What is the liability of farmers when people divert off the trail and hurt themselves?

Response: Mike responded that courts are increasingly ruling that people are responsible for their own actions. Peter Gain responded that this would be a matter between the insurance providers (of public liability insurance) and would likely be resolved in court. He indicated that the adjoining landholder's liability would likely be limited if they had not 'invited' the trail user to come off the trail onto their property.

Question: Is there any indication of likely numbers of users? There is a statement on Council's website that 10,000 people a year would use the trail.

Response: Consultants cannot respond to the numbers posted on the Website as they did not provide this figure. Mike Halliburton talked about trail user numbers

elsewhere and said that numbers would be conservatively estimated in the feasibility study.

Question: What percentage of Council's time and funds would go towards pursuing this project?

Response: After seeking clarification of the question, Mike Halliburton indicated that if Council was to pursue this project in the future, human resources (Council officers or other people) would need to spend significant time on preparing funding submissions and presentations, given that the project's construction would need to be funded from external sources. Putting together a funding application is a serious business and one that should not be taken lightly.

Question: The rail corridor north of the Hume Highway is classified as the travelling stock route. How can this be dealt with if the trail proceeds?

Response: Consultants were not aware of this. Consideration of this issue will be included in the feasibility study.

Question: There are issues around naturally occurring asbestos rock on the rail corridor and asbestos at rail sidings from brake linings. How can this be dealt with if the trail proceeds?

Response: Consultants were not aware of this. Subsequent inquiries indicated that the naturally occurring asbestos rock is only an issue if earthworks are required (earthworks will not be required on the rail trail at the localities where this rock occurs).

Question: How will the feasibility study account for the reduction in values of farming land if the trail proceeds?

Response: There is no empirical evidence in Australia regarding changes in land values (positive or negative) as a result of rail trail construction.

(This question raised an issue that was not able to be clarified at the meeting. The following supplementary information is provided).

What empirical evidence exists on this impact comes from the USA. The evidence is that rail trails positively add value to properties along their route.

A survey of six trails in Indiana (two of which were rail trails that ran through both urban and rural settings) reported that a very large percentage of trail neighbours viewed trail development as having either no effect or a positive effect on their property's value and on the saleability of their property. Specifically 86% to 95% of trail neighbours indicated they felt the trail had either no effect or a positive effect on their property value. Coupled with trail neighbour responses of between 81% and 93% indicating the trail had no negative effect or made it easier to sell their property, it is clear the majority of trail neighbours do not anticipate negative effects on the value and ease of selling their property.

A study of the impact of the Little Miami Scenic Trail in Ohio on single family residential property values (not farming properties though the trail runs through some rural land) showed that proximity to the trail positively impacts on property values.

A study of the impacts of the Pere Marquette Rail-Trail in Michigan showed that the majority of businesses and residents along the trail believed the trail made no difference in the value of their property and the speed at which it would sell. However, more than a quarter of residents (28%) felt the trail would reduce selling time.

Another study examined homes sales in the seven Massachusetts towns through which the Minuteman Bikeway and Nashua River Rail Trail run. The analysis shows that homes near these rail trails sold at 99.3% of the list price as compared to 98.1% of the list price for other homes sold in these towns. The most significant feature of home sales near rail trails is that these homes sold in an average of 29.3 days as compared to 50.4 days for other homes. These results are similar to those for other rail trails showing that homes near rail trails have become desirable. Houses near the trail sell for a higher proportion of the asking price in about half the time that it took for houses in the general inventory to sell.

The City of Seattle surveyed homeowners and real estate brokers along the 12 mile Burke-Gilman Trail in 1987. They found that properties near, but not immediately adjacent to the trail, sold for an average premium of 6% while those immediately next to the trail sold for a minimal premium (around 0.5%). Of those interviewed, 60 percent believed that trail adjacency would have a neutral or positive effect on the selling price of their property.

The vendors of this property alongside the Riesling Trail obviously believe it is beneficial to advertise the property to trail users – an indication that proximity to a rail trail is a positive attribute.

Neutral-to-positive expectations for property values were held by 87 percent of adjacent neighbours to the Luce Line Trail (Minnesota). In the same 1988 study, 56 percent of farm neighbours held that same view, and 61 percent of suburban neighbours. The most positive expectations were held by the newest owners. Appraisers and real estate brokers claimed that trail adjacency was a positive selling point for "suburban residential property, hobby farms, farmland proposed for development, and some types of small town commercial property."

It is acknowledged that empirical evidence in Australia is non-existent and that American evidence is primarily (though not exclusively) focussing on non-farm neighbours. However, the evidence that exists is that trails impact positively on property values. Like any public (or indeed private) infrastructure project, some neighbours may be positively impacted while some may be negatively impacted (in terms of values). It is impossible to factor the totality of changes to values (both positive and negative) into a feasibility study of this scope.

Question: Who will maintain the corridor once the trail is constructed. This issue was raised a number of times and the consultants were asked to consider the Council's ability and track record in maintaining public assets (notably the Dog on the Tuckerbox) in examining the maintenance issue.

Response: Other trails in Australia provide numerous different examples. Many rail trails are managed and maintained by Committees of Management which consist of community people and Local Governments working together. Other trails are maintained primarily by the Council/s (Murray to the Mountains and High Country Rail Trails are good examples) with community assistance. The Bibbulmun Track (WA's premier long distance walking track) is maintained for almost its entire length by volunteers organised through the Bibbulmun Track Foundation (a community group). The consultants indicated that they are unable to assess the Council's capacity to maintain the trail in this feasibility study, but will set out a broad list of maintenance tasks and cost estimates for consideration by the community.

Question: Is it possible to develop the rail trail link to Cootamundra along the rail corridor, allowing a link to existing significant public transport (the main Sydney-Melbourne line)?

Response: This is not in the consultants' brief and would be a major extension. The possibility of extending to Tumut was also raised although the Tumut Shire Council has indicated a position of opposition to the proposal unless the rail transport option can be maintained in the corridor.

Question: Are there likely to be increased insurance premiums, particularly if horses are involved?

Response: Consultants are not aware of increased insurance premiums for the trail manager. The trail (if managed by the Council) is added to its inventory of recreation facilities that are insured. The issue of horses on the trail does not impact on the trail manager; significantly increasing insurance premiums for businesses providing horse riding opportunities has put many of these out of business, but these are trail users rather than the trail manager.

Question: Can a user charge be put on the rail trail?

Response: Consultants are not aware of any rail trail (or any other trail) on public land in Australia that levies a user charge. In addition, the Council (should it be the trail manger) is only leasing the facility (the rail corridor) from the State Government which may want to access some or all of any user charge that could be levied by the Council.

Question: What if horses run into people? What insurance premium applies?

Response: This is the same situation that applies for any public space that permits horses and people.

Peter Gain concluded the meeting at 9.30 pm with Cr Tozer reinforcing his earlier comment that the report will be on public display and community members should ensure they make a submission.

6.4.2 One-on-one Meetings

As noted above, landowners were invited to discuss their individual concerns with the consultants in a series of "one-on-one" sessions on Thursday 26th February. Four people took advantage of this offer - two were adjoining landholders. In the case of the landholders, they were unable to attend the previous evening's meeting and their questions covered a range of issues that had also been discussed at the meeting (though there were other issues raised).

Issues raised during one-on-one meetings

The main issues raised were:

- Possible use of an existing specific alternative alignment in one location where bike path infrastructure has been developed.
- Fire hazards – what would be done about fire access and the potential of fire lighting.
- Controlling motor bike access to the trail. How will this be managed in a way that allows horses and cycles without allowing trailbikes.
- Dogs on the trail - opposes dogs on the trail in the rural areas.
- Concerns over liability issues – who will be liable if a trail user goes off the trail onto private property and injures themselves. Who will be responsible for incidents involving trail users off the trail? Landowner indicated that his insurance broker has suggested that Council would need to alter its policies to protect adjoining landholders from any liability and this would be difficult for Council.
- Fencing – who pays, who maintains (landholder indicated the corridor in his property is unfenced, but he would like it fenced).
- Moving stock across the corridor to water and how this might be achieved. Detailed appropriate design solutions were discussed (including grids and gates).
- Maintenance – who does the maintenance, and who pays for the maintenance?
- Who would use the trail – likely numbers and user profiles. Would the surface allow road bikes?
- One person fully supported the proposal to re-use the bridge and suggested possible sources of craftsmen. It was suggested that such a project would have significant benefit for local skills development.
- Gundagai Shire has a higher than State average portion of volunteers within its community.
- There were some queries about the legal status of the corridor – who is allowed on it presently, what would be the situation if the trains were to be reinstated.
- One person said they had done the Murray to the Mountains Rail Trail and thought it was an excellent ride and if the proposed Murrumbidgee Valley Rail Trail could get 50% of the numbers on that trail, it would be a great outcome.
- One person indicated that some of the scenery, particularly south of Gundagai around Jessops Lagoon Road, was outstanding.

6.5 Submissions Received Prior to Report Preparation

Three unsolicited submissions were received during the preparation of the report seeking clarification of certain issues and reiterating points made in verbal conversations. These have informed the development of elements of the report.

SECTION 7 - DEMAND

The demand for rail trails specifically and recreation trails in general is influenced by many factors, including population trends and demographics, existing recreation trends, and supply generated demand.

The resources available to the project did not allow for any new survey work to assist in the analysis of resident and visitor demand. The approach adopted in this section has therefore been a comparative one, i.e. general conclusions have been drawn using available data from other parts of Australia.

7.1 Population Trends and Demographics

Population statistics, including resident and visitor numbers, are discussed in Section 5. The key points from those statistics are:

- The current population (2006 Census) of Gundagai Shire is 3,692.
- The population has aged over recent years in line with the national trend. However, the median age of the Shire is older than the Eastern Riverina Region (43 years compared to 38 years). Intriguingly, there are proportionately more young children (0-4) than in Eastern Riverina and the largest age group in the Shire are children (0-14 years) (making up 24% of the population – 857 people).
- The biggest growth in population between 2001 and 2006 was in the retiring age (55-69 yrs) and the pre-school group (0-4 years). There are 692 school students in the Shire.
- Wagga Wagga is one hour's drive from Gundagai and could be considered to be within the rail trail's region. Wagga's 2006 population was 57,015. Growing at 1% per year, it will reach 74,800 by 2020. There is a slightly higher proportion of people in the 15-24 category (compared with the State average). Tumut Shire (30 minutes from Gundagai) has a population of 10,801, while Cootamundra (50 minutes away) has a population of 7,315.
- Tourism is a significant (but relatively small) industry in the Shire. The Riverina region (which includes Gundagai Shire) received over 2 million domestic visitors in 2007 who spent a total of over 2.7 million nights in the region. The average stay was 3 nights (although visitors from the ACT had an average 2 night stay – this is likely to be due to proximity). Annual visitation to Gundagai itself is between 35,000 and 39,000 people. In addition, the region received over 1.1 million domestic daytrip visitors in 2007.

7.2 Recreation and Physical Activity Trends

It is a wise use of public money to build trails that will have high use rates, both from residents and from visitors (who are playing an increasingly important role in local economies). But what do people want from their trails?

7.2.1 What Do People Do?

The latest Exercise, Recreation and Sport Survey (2007) reports on the propensity of Australians to participate in trail-related activities at a general level:

- 33% of survey respondents across Australia participated in walking, making it the most popular form of activity. This figure marks an increase of 24% since the first survey in 2001.
- 9.7% of survey respondents across Australia participated in cycling, making it the fourth most popular form of activity. This figure marks an increase of 11% since the first survey in 2001.
- 5.7% of survey respondents across Australia participated in bushwalking, making it the seventh most popular form of activity. This figure marks an increase of 17% since the first survey in 2001.
- Regular participation in non-organised physical activities (such as walking, bushwalking and cycling) was highest among people with university degrees (39.4%) or diplomas (37.8%).

Two general findings from the 2001 inaugural study work are also relevant.

- Significant technological advances in equipment design and function have created new forms of outdoor activities and extended the scope and levels of participation for the general population.
- In general the population are making increased 'lifestyle' choices that associate with greater access and contact with the natural environment. This includes aspects of urban to rural ('sea change') residential drift, increased demand for open space (parks, recreation trails etc.) in urban developments, and increasing demands for recreational time in the outdoors (changing work patterns and day trips from home).

Together, these two general trends have helped increase demand for passive non-organised recreation (as opposed to organised sporting activities).

A number of survey-based studies are available which together give a consistent indication of participation levels relevant to trails-related outdoor recreation activities. These studies come from South East Queensland (1998, 2001 and 2007), South Australia (Adelaide and Adelaide Hills, and Market Equity 2004), and the ACT (Lanyon Valley Community Needs and Facility Study). Table 7.1 provides a summary of the relevant participation rates.

Table 7.1 – Participation Rates in Outdoor Recreation Activities

Study	Walking	Cycling	Horse riding
SE Qld (1998)	60%	25%	7%
SE Qld (2001)	50%	26%	7%
SE Qld (2007)	35%	29%	7%
South Australia	59%	26%	4%
SA – Market Equity	69%	29%	*
ACT	73%	58%	14%

** no horse riding trails were considered in this survey of five trails*

All studies used large samples; consequently, their results can be considered reliable. The ACT study included a large number of school-aged children, which may explain the higher participation rates, particularly for cycling. The very extensive Canberra bike path network may also have contributed to the high participation in cycling.

Maher Brampton Associates undertook work for the Cradle Coast Authority in North West Tasmania. The participation figures in this area are similar though not the same for the five more detailed studies above. Bushwalking accounted for 86.3% of activities, bike riding for 7.2% and horse riding for 6.5% of trail activities. These figures also included interstate and overseas visitors, which the other studies did not.

The point of most significance in these figures, including the figures from North West Tasmania, is the relative proportion or level of participation for each of the three activities. Clearly walking is the most popular trail related activity, and is in fact one of the most popular outdoor activities amongst all Australians. It is likely to remain so as the population ages. The SEQ Regional Trails Strategy (2006) confirms this conclusion, and notes that walking is the most popular activity for older people.

Unfortunately none of the surveys distinguish between cycling generally and off-road cycling. What is known is that off-road cycling or mountain biking is a rapidly growing recreational pursuit around Australia, and that there is growing usage of non-urban areas for this activity. Mountain biking underwent a tremendous increase through the 1990's. It has been one of the 'boom' recreational pastimes of the last decade. Cyclists are the most dominant user group on the Tasmanian Trail. The Mawson Trail in South Australia was primarily designed for off-road cycle touring, and the 950km Munda Biddi Trail in WA is designed exclusively for off-road cycle touring. These projects indicate a growing demand for cycle trails, as does the popularity of rail trails in Victoria. The SEQ Regional Trails Strategy also noted a strong demand for cycling in younger age groups (less than 30 years). Recent work by Market Equity for the South Australian Office of Recreation and Sport adds to the body of evidence on the popularity of cycling, particularly on certain trails. Market Equity's survey of five trails in South Australia (interviewing 933 trail users) included the Riesling Trail (a rail trail); the percentage of trail users that were cyclists was quite high at 65% (compared to an average of 29% of cyclists across the five trails).

At a general level, bikes have outsold cars over the last nine years- last year, bikes outsold cars by a healthy 38 per cent (this margin has increased every year since 2001). Most households own a bike. Over 1.2 million bikes were sold in 2005; most of these were hybrid and mountain bikes. The pattern has been repeated at the State level. In 2007, NSW residents bought around 430,000 new bicycles, outstripping the number of new vehicles registered in the same period by 75,000. In Sydney alone, bicycle use has grown by 23 per cent on weekdays and 58 per cent on weekends since 2001 *(Bicycle NSW website)*.

Horse riding is an activity by a relatively small number of participants; however, national park management processes in Australia are increasingly closing off horse riding opportunities. Horse riding demand can also be highly localised – certain localities attract residents who are horse riders.

7.2.2 Who Uses Trails?

What sort of person is a trail user? This can be critical to a community's perception of some of the problems associated with the development of a rail trail. The community

concerns often raised about trail development include disturbance of privacy, theft, and trespassing issues. This may arise because adjoining landholders in particular are unaware of the types of people who use trails.

Unfortunately, there is limited Australian research on who uses trails. The limited research that has been done shows some interesting attributes of trail users across Australia:

- Almost half of the trail users of the Murray to the Mountains Rail Trail listed their employment status as professional (e.g. doctors, lawyers, managers).
- The majority of people (53%) who participate in outdoor recreation are aged between 25 and 54 (*South East Queensland Outdoor Recreation Demand Study 2007*).
- 80% of users of the Bibbulmun Track (WA's primary long-distance walk track) are aged between 25 and 60 (*Colmar Brunton 2004*).
- 62% of users of the Murray to the Mountains Rail Trail were aged between 31 and 60, while 28% were aged between 9 and 20.
- The City of Greater Geelong conducted a very extensive survey of walkers (not just on trails) in the City. 82.9% of survey respondents who had a degree or post-graduate qualifications had walked for exercise or pleasure in the last 2 weeks, while only 62.9% of those who had left school in Year 10 or earlier had walked for exercise or pleasure in the last 2 weeks. The authors of this survey concluded that walking participation increases with educational achievement.
- People using a series of walk and cycle trails in SA (including the Riesling Trail) are motivated by a desire to attain a sense of well-being (95% of users listed this as a motivation), to unwind and relax (91%), to be close to nature (87%), and to be close to family and friends (70%).

7.2.3 What Do Visitors Want?

It is also critical to consider the needs of visitors as they provide much of the economic benefits associated with trail development. Recreation trails (including rail trails) provide an important piece of tourism infrastructure and provide experiences in the ecotourism market. Ecotourism is estimated to be growing at 30% per annum and cultural tourism at 15% per year globally – significant growth markets to target.

What are tourists looking for? Research from the Bureau of Tourism Research and the Australian Tourist Commission indicates that an increasing number of visitors are interested in what is local and authentic. Successful tourism destinations are built on factors that give a place its own distinctive character. These factors are lifestyle, heritage, cultural activities, landscape, flora and fauna; characteristics of the basic tourism product of any destination. Rail trails provide opportunities to highlight many of these characteristics.

7.2.4 How Long Do People Spend on a Trail?

A Victorian study (prepared for the Victorian Trails Strategy 2005 -2010) found that there is a clear preference for shorter walks (up to 6 kilometres and taking between 30 minutes and 2 hours to walk) both in metropolitan and "remote" trails. The Market Equity work in South Australia confirms this finding with 76% of walkers using trails for less than 2 hours.

Use patterns for cyclists are somewhat different. Market Equity's work shows that the majority of cyclists (74%) use a trail for 3-4 hours and are more prepared than walkers to travel to use a trail (36% of cyclists interviewed on the five trails were non-locals).

The rail trail corridor (should it proceed to development) would be around the ideal length for cyclists in particular (around 30 kms). Two of Australia's most successful and well known rail trails are of similar length – the Lilydale to Warburton trail (near Melbourne) is 39 kilometres long while the Riesling Trail (in the Clare Valley) is 25 kilometres long. Better known short trails include the Bass Coast Rail Trail in South Gippsland (16 kms) and the Camperdown-Timboon Rail Trail in western Victoria (22 kilometres).

There is no doubt that visitors in particular are likely to put aside the time to travel along the potential rail trail – people have more time on holidays than they do in their normal day.

Though there is no detailed examination of how long horse riders seek to ride for, investigations undertaken done by this consultancy practice on other projects indicate that horse riders are generally looking for loop rides of about 3-4 hours (approximately 25 -30 kilometres) – in addition to short 'after school' or 'after work' rides.

7.3 Participation in Trail-related Activities – What is Happening in the Region – Anecdotal

Visitor numbers are important – they bring significant direct economic benefits to a region. However, local demand is also critical to success. There will be significant local demand for improved bicycle access to provide safe cycle routes for both commuters and recreational riders.

The Gunda BUG Discussion paper indicates that Gundagai Shire Council has spent over $300,000 on pedestrian paths and cycleways within the Shire in the last 10 years, presumably in response to a community demand. Gundagai Pony Club is a strong local group; in discussions with representatives of the club, they indicated they were looking for different places to ride, particularly at the conclusion of training events. There is a strong network of endurance riders who may have an interest in a rail trail.

7.4 Cycle Tourism

Cycle touring can bring significant financial benefits to host towns. A South Australian research paper (South Australian Tourism Commission 1999) regarding cycle tourism in South Australia provides some background and relevant statistics. The research report states:

"Australian residents make an estimated 1.7 million cycle tourism overnight trips (1 or more nights) a year in Australia. Overseas visitors have a very high level of interest in nature activities, 'experiencing Australia' and seeing natural surroundings and wildlife when in Australia. This suggests that cycle tourism options that link with these high interest themes i.e. cycling that includes experiencing Australia's nature, visiting National Parks etc would be of particular appeal. Local back roads and off road bike paths are the most popular routes for recreational cycle trips."

A rail trail has the potential to be a critical piece of infrastructure in cycle tourism.

7.5 Supply Generated Demand (Speculative)

There is strong anecdotal evidence from around Australia that a large part of the demand for trails is supply driven, meaning trail 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.

Data to verify the proposition that "if you build it they will come" (induced demand) is rare in trails research. However evidence of usage on two recently developed trails in Western Australia, the Mundaring trails network and the Bibbulmun Track, show steadily growing usage. The Bibbulmun Track increased in usage from 10,000 in 1998 to 35,000 in 1999-2000 to 137,500 in 2003 (Bibbulmun Track Foundation 2004). 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. However, the 20,000 local users represented some 63% of Shire residents.

The experience of many towns across the USA also supports the notion that development of trails can stimulate visitation to an area because of the existence of the trails. There are many stories of towns in decline that reversed that trend by developing a trail (often a trail along an abandoned railway line) and the fortunes and economic prosperity of that town turned around.

7.6 Conclusion

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. Residents of Gundagai Shire are likely to have similar desires – the success of the cycle path in the town of Gundagai stands as testimony to this desire. It is also reasonable to assume that visitors to the region have similar desires. 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. It is this particular niche (off-road cycling) that a rail trail would fulfil, particularly noting the high percentage of cyclists on other established rail trails. A rail trail would also provide another significant high quality walking opportunity. The Gundagai bridge and viaduct adds another dimension to the attractiveness and possible demand for a rail trail. In addition to its heritage and community values, the Gundagai Bridge would have significant appeal as a tourist attraction, regardless of whether the rail trail proceeds. This attraction has not been considered in the business case presented in Section 12 (as it is beyond the scope of work and is not a speciality of the consultants) but it needs to be considered as part of the package.

SECTION 8 – BENEFITS OF RAIL TRAILS

Converting disused rail reserves into recreation trails makes eminently good sense. Such trails have many in-built advantages. One of the most important is gradient – most rail lines have a gradient of less than three degrees, which allows and encourages use by almost all population groups, regardless of age or physical condition. Hills and vehicles are two of the major negative factors which limit trail use, and rail trails circumvent both. Further, rail trails often traverse a wide variety of landscapes and can contain historic bridges and other remarkable structures. The existing formation means that little construction work is required to produce a broad, flat, firm trail surface.

There is little doubt that recreation trails provide significant benefits, both to trail users, and the host communities. The Recreational Trails Strategy for South Australia 2002 – 2010 (*SA Office of Sport and Recreation 2002*) provides a succinct summary of these. The authors of this report state that social health, physical fitness, environmental protection, cultural preservation and the economy can all improve from the effects and experiences offered by recreational trails.

8.1 Environmental and Cultural Benefits

Rail 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;
- Provision of green commuter journeys leading to a decrease in the use of motorised vehicles for transportation and recreation. This helps reduce the production of emissions that cause global warming and respiratory problems;
- Increased community ownership which helps to preserve natural and cultural values;
- The opportunity to preserve historic infrastructure that has benefits beyond its utility value as part of the trail. The Gundagai Rail bridge and viaduct is a very good example of historic infrastructure whose preservation and use would provide benefits far beyond its utility value as a connection on the rail trail.
- Opportunities for community participation in conservation and revegetation work.

8.2 Social and Physical Health Benefits

Rail trails provide communities with a diverse, free opportunity to explore and enjoy healthy recreational pursuits. Active recreation, in any form, will improve health. People can use trails in a variety of ways, depending on their abilities and preferences. Social and physical health benefits include:

- 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. Obesity, particularly childhood obesity, consistently features in the press as one of the major issues facing Australians. While a particular piece of recent research suggests that children are exercising as much today as in previous times and it is diet that is the major contributing factor, this conclusion is yet to be fully tested. Regardless of this research, obesity amongst adults and children is increasing. Increased physical activity will make a difference. The obesity epidemic is now estimated to cost Australia $1.3 billion/year (*Australian Bicycle Council*).

- 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;
- 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.

Regular physical activity, as can be provided by the use of a rail trail, improves health in the following ways:

- Reduces the risk of dying prematurely from heart disease & other conditions;
- Reduces the risk of developing diabetes;
- Reduces the risk of developing high blood pressure;
- Reduces blood pressure in people who already have high blood pressure;
- Reduces the risk of developing colon and breast cancer;
- Helps to maintain a healthy weight;
- Helps build and maintain healthy bones, muscles, and joints;
- Helps older adults to become stronger and better able to move about without falling;
- Reduces depression and anxiety; and
- Promotes psychological well-being.

(U.S. Department of Health and Human Services 1996)

In the USA, a comprehensive health economics study showed every $US1.00 invested in recreational trails for physical activity yielded a direct medical benefit of $US2.94 (*Wang et al 2005*).

McRostie (2004) reports on survey work in Adelaide that indicates that recreational trails in urban settings can be effective in supporting regular and beneficial physical activity and promote a sense of well-being of those who use them. Merom (2004) reports that public health has now moved its focus from fitness-centred exercise participation towards health-enhancing physical activities that can be easily integrated into daily routine, as a better way of increasing participation in physical activity. Trails are one good way of encouraging people to integrate physical activity

into daily routine. The report looks at the use of a converted rail trail in Sydney's inner-west and the increase in physical activity by nearby neighbours when the trail was opened. St Leger (2004) prepared a summary of international research which continues to show that tracks and trails play a major part in building and sustaining the health of the population and that recent evidence suggests their influence to be more important than first thought.

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.

8.3 Economic Benefits

Rail trail visitors spend money in towns and communities along trails. Rail trails (and recreation trails generally) generate intrastate, interstate and overseas tourism spending.

- Trails support and enhance local business opportunities. For example, many local businesses along the Bibbulmun Track (Western Australia's premier long distance walking track) are now able to identify a turning point in their fortunes relating directly to the popularity of the track. In America, the White Mountains section of the Appalachian Trail contributes $63 million to the local economy and employs one in nine people in the region (*Department of Natural Resources and Mines and Environment Protection Agency 2002*);
- Trail users spend money preparing for their trail journeys or recreation activities;
- Trail construction and maintenance can generate employment opportunities; and
- Participation in trail activities improves community health and reduces health expenditure.

8.4 Potential Economic Benefits in Detail

Some detailed consideration should be given to the potential economic benefits accruing from the development of a rail trail on the Coolac to Tumblong rail corridor. Projects requiring substantial expenditure of public funds must make their case. This section outlines in detail potential economic benefits as this particular range of benefits is of interest to many stakeholders (a more detailed business case has been included in Section 12, using some of the primary date discussed below).

8.4.1 Mundaring Shire – The Economic Impacts of a Local Trail Network

The most significant study undertaken in Australia was that completed by the major market research company Colmar Brunton for the Trailswest Unit of the Department of Sport and Recreation in WA, in April 2001. Titled "Attitudes of Users towards the Mundaring Recreation Trails" (*Jessop and Bruce 2001*), this study generated valuable data relating to both gross usage levels for trails in the Mundaring Shire (on the outskirts of Perth) and the economic benefits flowing from that usage. It is worth noting that the trail network is just under 1 hour from the Perth CBD, a similar distance from Wagga to Gundagai.

The Mundaring study covered a suite of trails in the Shire including the Railway Reserves Heritage Trail, a rail trail in the network. It is reasonable to assume, given traditional trail usage patterns in the area, that a substantial majority of all trail users were accessing some part of the rail trail.

Key outcomes from this study that are relevant to this project include:

- 42% of local residents surveyed had used the trails in the previous 4 weeks. Only 23% had either not used the trails or were not aware of them at all;
- Residents who lived adjacent to a trail were no less satisfied with the proximity of trails to private property than were those living further from them;
- The total number of people using the Mundaring trails was 209,488 per year, with 20,605 of these being Mundaring residents;
- The total number of trips on the trails studied was a staggering 2.454 million visits annually, with local residents accounting for 63% of these;
- Of all those visitors from beyond the Shire who had come to use the trails, 81% had come specifically to do so, showing the direct pulling power of trails;
- Trail users travelling from beyond the Shire spent an average of $11.43 per visit in the Shire. This injected a total of $10.39 million into the local economy;
- The same trail users travelling from beyond the Shire spent a further $12.28 outside the Shire, injecting another $11.16 million into the State economy;
- Local trail users spent an average of $1.44 per visit to the trails in the Shire. This injected a further $2.23 million into the local economy annually; and
- The same local trail users spent an additional $2.62 per visit outside the Shire, adding a further $4.05 million to the total State economic benefit.

These figures indicate that trail use has become a mainstream economic activity in the last ten years.

As previously stated, significant data is available from the USA on the economic benefits of trails. This serves to calibrate the Mundaring Shire data. Some relevant expenditure figures from the USA include:

- Visitors to Ohio's Little Miami Scenic Trail spend an average of $US13.54 ($A17.15) per visit on food alone;
- A study of the Oil Creek Bike Trail (Penn State University, 1992) in Pennsylvania revealed average visitor spending of $US25.85 ($A32.70) per day; and
- Users spent an average of $US9.21 ($A11.65), $US11.02 ($A14.00), and $US3.97 ($A5.00) per person per day as a result of their trail visits to the Heritage, St. Marks, and Lafayette/Moraga Trails respectively.

(National Pedestrian and Bicycle Clearinghouse)

Other studies from the USA and Canada show a similar range of daily expenditure by trail users. Indeed, it would seem that the figures generated in Mundaring Shire may be at the low end of the average daily expenditure spectrum.

8.4.1.1 Expenditure by Trail Users beyond the Shire

The Mundaring study showed that trail users – both locals and visitors – spent more outside the Shire than they did in it. While some $12.61 million was spent in the Shire, a total of $15.20 million was spent elsewhere, to the broader benefit of the State economy (*Jessop and Bruce 2001*).

8.4.1.2 Job creation

Using the accepted national average 'job creation' figure for the tourism industry (provided by ABS) of 13 jobs per million dollars of expenditure, the local trail network generates 163 full-time jobs in Mundaring Shire (*Jessop and Bruce 2001*).

8.4.2 The Riesling Trail – Economic Impacts of an Iconic Rail trail

Market Equity (a market research firm in South Australia) completed a study of the economic impact of the Riesling Trail, the 27-kilometre rail trail in the Clare Valley in South Australia. These figures provide more powerful economic data on the impact of a well managed and promoted trail. Key findings of the Market Equity report (2004) are:

- 46% of trail users from outside the region came primarily for the Riesling Trail – a raw number of over 5,000 visitors.
- Trail users are spending $215.82/person/visit in the Clare Valley. The net effect of this expenditure is that visitors who come to the Clare Valley primarily for the trail (46% of users) are estimated to spend $1.08 million/year; and
- The average length of stay is 2.2 days (giving a daily expenditure of $98.10).

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 for trail users.

The direct economic benefit is a very important impact of the Riesling Trail. There are also unquantifiable impacts on business confidence and operation. Qualitative research undertaken by Market Equity with local business operators confirms the impact of the trail in the psyche of these businesses. Key findings were:

- The trail contributes to economic activity in the region.
- The trail is seen to attract a variety of visitor types to the region; visitors have both wine and 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. 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.

8.4.3 The Bibbulmun Track – Economic Impacts of an Iconic Walk Trail

Another major Australian study examined the economic impacts of the Bibbulmun Track. The track has generated $21 million of expenditure **annually** by track users, well in excess of its **one-off** construction costs of $5 million (*Colmar Brunton 2004*).

8.4.4 The Murray to the Mountains Trail – Economic Impacts of an Iconic Rail Trail

The Murray to the Mountains Rail Trail in north eastern Victoria is one of the better known rail trails in Australia. Recent research work (Beeton 2006) undertaken on this trail over Easter 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.

8.4.5 Rail Trails in Victoria – Economic Impacts at a General Level

A study titled "An Economic Analysis of Rail Trails in Victoria, Australia" (Beeton 2003) investigated user activity and expenditure patterns on three rail trails in Victoria, each in a different geographical and social landscape. One is a semi-urban trail (the Lilydale Warburton Rail Trail), within one hour of Melbourne. The other two are rural, and much further from major population centres (the Murray to the Mountains Rail Trail in northern Victoria and the East Gippsland Rail Trail). The two rural trails are approximately three hours from Melbourne.

The study indicates that 89% of users who responded to the questionnaire, the base of the study, were cyclists. The 'bottom line' net benefit quoted is an average of $51.10 for every visitor day on one of the three rail trails.

The economic sectors that benefited from this expenditure were similar on both trails, notably the accommodation sector and the food and beverage sector. There was also significant expenditure on cycling equipment and repairs, representing a potential new industry in these regions.

This study strongly supports positive economic benefits flowing to host communities from trails such as the proposed Murrumbidgee Valley Rail Trail.

8.4.6 The Otago Central Rail Trail – Impacts on the Business Environment

The Otago Central Rail Trail is an iconic rail trail in the Otago region of New Zealand's South Island. Opened in 2000, it is a 150 kilometre long trail through rolling farmland. It has 68 bridges and was converted to a rail trail at a cost of $850,000. It is a one hour drive from Dunedin (population 110,000) and a three and a half hour drive from Christchurch (population 331,000). In 2004, 5,000 people travelled along the entire trail, with some 100,000 people movements along the trail in total (some of these are repeat use by local residents). Cyclists undertaking the complete journey often do so in 3 days, while walkers take 5 days (*Otago Central Rail Trail Trust 2005*).

A survey was recently carried out focussing on businesses immediately adjacent to a section of the rail trail (Middlemarch to Clyde) and also included businesses in Dunedin and other places offering ancillary trail services. The key findings were:

- 64% of accommodation providers in the vicinity of the rail trail prior to the trail's opening now attribute a substantial portion (>20%) of their turnover to the trail.
- 80% of accommodation providers in the vicinity of the rail trail set up since the trail's opening attribute a substantial portion (>20%) of their turnover to the trail. 53% of these attribute more than 60% of their turnover to the trail.
- The rail trail was the key factor in almost 25% of new businesses opening or existing businesses changing hands in the vicinity of the trail since February 2000.
- 82.5% of survey respondents believe the trail has had a positive economic impact on their communities with 43% rating the impact as major.

These figures are similar to figures discussed above on the business and community impacts of the Riesling Trail.

The economic impacts are also explored – the average expenditure per person per day was $NZ 92.80 with the average length of stay of 3.8 days. Over 200 employment opportunities have been created by the survey respondents since the official opening of the trail.

The survey also found that respondents generally believed that the trail had brought greater community pride and improved services and facilities to the towns along the route.

8.4.7 Potential Overnight Visitors – Another Economic Benefit

A rail trail would be a good inclusion in a package with other tourist attractions. Such a package makes an appealing weekend or short break (up to 4 days) away. The Bibbulmun Track is a good model – the Bibbulmun Walking Breaks provide such a package for those who enjoy walking but do not want to carry a heavy park or camp overnight. In 2002, the Walking Breaks won a national award for innovation in travel in the Jaguar Awards for Excellence and have been a contributor to the $21 million annual expenditure by Bibbulmun Track users. As the Walking Breaks prove, 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 (as can be seen in comparing the Riesling Trail and Mundaring trail network figures for example).

8.4.8 Expenditure by Trail Users Beyond a Trail's Location

The Mundaring study showed that trail users, both locals and visitors, spent more outside the Shire than they did in it. While some $12.61 million was spent in the Shire, a total of $15.20 million was spent elsewhere, to the broader benefit of the State economy (*Jessop and Bruce 2001*). By overseas standards these figures are low, and it is likely that the WA survey did not fully factor in purchase of gear and equipment such as boots or bikes. These are major expenses and studies from the USA and Canada give figures of between $300 and $1,200 per person annually for trail-related purchases.

8.4.9 Job Creation Associated with Trail Development

As discussed in 8.4.1.2, the local trail network in Mundaring generates 163 full-time jobs in the Shire (*Jessop and Bruce 2001*). Access Economics conducted research for Tourism Victoria in 2002 which found that, for every $82 000 spent in regional Victoria, an extra job is created (*Beeton 2003*). This figure is slightly lower than the accepted national average but is in the same range.

This study does not provide for the detailed work required to be able to clearly state how many jobs would be created by extending the trail. However, it is reasonable to believe, given the data that is available both in Australia (notably Mundaring Shire) and overseas, that the development of Murrumbidgee Valley Rail Trail would create employment opportunities in the region given likely expenditure patterns discussed above.

8.4.10 Other Economic Implications

A study by PriceWaterhouseCoopers for Alberta Community Development assessed the economic benefit of the proposed Trans Canada Trail in East Central Alberta. It explored both the direct and the indirect benefits of trail construction. A host of other factors, beyond those set out in this section, were brought into the overall equation, including:

- The immediate impact of construction expenditure, by way of direct jobs created, expenditure by workers in local towns, and flow-on taxation benefits;
- The ongoing flow of taxation benefits to all levels of government, accruing from money being spent by trail users (GST, fuel excise etc);
- The continuing benefits flowing from annual maintenance expenditure, in both direct and indirect (taxation) spheres; and
- The impact of various multipliers and additional induced expenditures, which significantly increase the overall net economic benefit.

These factors can be included to provide a more rounded picture of the net economic benefits flowing from the construction of the rail trail. Each factor would enhance the overall outcome, bringing additional benefits to the region, and to both State and Federal governments.

To re-iterate a point made in the demand section (Section 7), there is strong anecdotal evidence from around Australia that a large part of the demand for trails is supply driven, meaning trail 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. In addition, the Gundagai Bridge would have significant appeal as a tourist attraction, regardless of whether the rail trail proceeds. This attraction has not been considered in the business case presented in Section 12 (as it is beyond the scope of work and is not a speciality of the consultants) but it needs to be considered as part of the consideration of economic benefits.

8.5 Summary of Economic Benefits

Rail trails have a strong potential to contribute significantly to local rural communities – in south-western Wisconsin the 32 mile Elroy Sparta Trail generates more than $1.25 million for the small towns of Elroy and Sparta, by attracting visitors from all over America's mid-west (*Rails to Trails Conservancy website*).

The comprehensive survey of users of the trail network in Mundaring Shire (*Jessop and Bruce 2001*) provided significant data relating to the economic benefits accruing to businesses close to trails in the Shire. The report states that "some 200,000 people annually are making use of the trails (or other related facilities), with around 90% of users travelling from outside the shire". The report adds that 81% of those coming from outside the Shire had been attracted to the area specifically to use the trails, which "are viewed by users as a destination in their own right and are attracting people to the area."

In addressing the economic impact (i.e. the amount of additional economic activity an event or expenditure generates), the research study concluded:

> *"There is substantial economic benefit to the Shire of Mundaring from the trails and their users of an estimated $12 million. Travelling users from outside the Shire spend an average of $11.43 per visit, ……(which) injects as much as $10 million annually in the shire economy……. The majority of spending is on food and drink."*

The report continues with the following:

> *"A survey of local businesses also indicated that the trails play a valuable role in the local economy….. (Some) estimated that the trails were responsible for more than 50% of their annual turnover….. equating to $20,000 per annum."*

The research states:

> *"This finding again demonstrates the importance of trails to the local economy."*

In the conclusions to this study, the authors' state:

> *"The Mundaring trails are playing a significant role, not just for the local residents of Mundaring, but for the whole of Perth."*
>
> *"The results indicate that trails are serving as a specific destination for a large number of people from outside the Shire who bring a significant economic benefit to the Shire."*

The level of scientific rigour that applied to the Mundaring Shire project has not been used in this project. However, given what is known from that data and overseas data, it is reasonable to assume that the conversion of the rail corridor to a rail trail will provide a significant economic benefit for in terms of additional expenditure by residents and especially visitors, and consequent job creation.

8.6 Local Commuting and Recreation Benefits

Much of the foregoing analysis (particularly discussions on economic benefits) has focussed on the visitor markets and the benefits they would bring. However, there are significant direct benefits to local residents (beyond broader economic benefits) in

improving bicycle access and allowing both commuters and recreational riders safe cycle routes. Financial savings to the local Council and community, and the State and Federal Government accruing from health benefits, traffic management and road safety, are likely to far exceed the direct economic outcomes calculated in this report.

In brief, these benefits include:

- Social and physical health benefits as discussed in 8.1 above will accrue to residents who cycle and to the broader community. A recent study from Norway (*Institute of Transport Economics 2002*) shows that a physically inactive person who starts to walk or cycle to work instead of using a car gives an economic benefit to society of between $5,000 and $6,795/year. A physically active person who starts to walk or cycle to work instead of using a car gives an economic benefit to society of between $850 and $2,550/year.
- In 2008, bikes in Australia outsold cars for the ninth year running and by a healthy 38 per cent (this margin has increased every year since 2001). Most households own a bike, and from 2001 to 2006 cycle commuting increased 28 per cent.
- Provision of an off-road cycling facility will reduce chances of fatalities for cyclists. Whilst it is very difficult to put a financial value on a human life, it is desirable to be able to cost such a factor in to a project's evaluation. Potter Forbes and Aisbett 2003 cited in Rissell have calculated the value of a statistical life year at $46,000 (for an amortised value of $1.1 million per life).
- There are significant financial benefits for households who choose cycling over other forms of transport (notably a second car). Transport costs represent 15.5% of household expenditure, second only to food as a percentage of household expenditure. Cycling for commuter purposes can avoid the need for a second car, saving between $5,000 and $16,000/year. Provision of a safe cycle option for commuting purposes may significantly reduce or completely obviate the need for a second car in a household. The House of Representatives Standing Committee on Environment and Heritage found that, if a family traded in one car for bicycles, this would equate to $750,000 in superannuation over the main earner's lifetime.
- Cycling just 10 kilometres each way to work each day saves about $770 in transport costs and 1.3 tonnes of greenhouse gas emissions per year (*Australian Bicycle Council*).
- Cycling and walking as recreation activities can be cheaper than alternative forms of exercise such as gym classes (though the initial entry costs of cycling may be higher).
- While cycle commuting is never likely to be a major factor in a town such as Gundagai, the opportunity for local schoolchildren to ride bikes on a safe off-road facility (which extends the existing cycleway) is a wise use of community resources.

SECTION 9 - LANDOWNER ISSUES AND SOLUTIONS

9.1 Introduction

In working towards a recommendation about the feasibility of developing a rail trail along the corridor between Coolac and Tumblong, it is important to consider the issues that had been 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 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.

9.2 The Issues

During the community meeting held in February 2009, a presentation was made by the consultants listing concerns that are generally raised with respect to rail trails and possible solutions. It was emphasised that these were generic issues with some solutions that had worked elsewhere. It was not intended to provide a complete list of issues and solutions at the time. This is more correctly the role of one-on-one consultations with individual landholders during detailed trail development planning. Landholders took the opportunity at the community meeting, and through individual and collective meetings, on-site inspections and submissions, to highlight a number of specific concerns and issues they believed would arise should a recreation trail be established within the railway corridor.

The following extensive table (Table 9.1) documents the majority of issues raised in the project consultation, some comments and possible solutions. Necessarily, it is a summary of individual concerns (rather than a detailed list of every landholder's every concern). It is a more extensive set of issues and potential solutions than was presented to the community meeting; it has been extended by the inputs discussed above. The possible solutions proposed are not a substitute for detailed field analysis of problem and solution, but do provide a starting point for discussion.

Table 9.1 Landowner Concerns and Possible Solutions

IMPACT/ISSUE/PROBLEM	SOLUTIONS SUCCESSFULLY USED ELSEWHERE/COMMENTS FROM EXPERIENCE ELSEWHERE
Impacts on adjoining land owners lifestyles	
Crime - Trespassing, vandalism and theft. Landholders often express a range of concerns in regard to the issue of trespassing on to farmland, especially where the railway corridor is remote from farm buildings and public roads.	**Comments** ***Crime*** ○ Numerous studies have concluded rail trails do not generate crime. Research and anecdotal evidence suggests 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 (it is recognised that, on many parts of the corridor at the moment, the crime rate is zero). ○ The manager of the Murray to the Mountains Rail Trail (Victoria) has received no reports of trespassing, theft or vandalism since establishment of the trail. ○ Similarly, the Collie to Darkan Rail Trail (Western Australia) has had no incidents of crime (a trail with very similar land ownership, land use and topographic circumstances). ○ The Clare Valley (South Australia) Riesling Trail has had 2 incidents along the trail in over 10 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 which can be avoided by trail users following trail rules). ○ The Linville-Blackbutt Rail Trail (in South East Queensland) had 2 incidents with trail bike access, 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 a number of jurisdictions confirming that the expected/perceived crimes simply do not occur. **Possible solutions** ***Crime prevention*** ○ Design solutions to minimise theft include installation of security (and additional) fencing and planting. (See plans and drawings of Appendix 3 for illustrations of elements of good design, and ways of mitigating landowner concerns – both privacy and crime prevention).

	○ Trail design can eliminate overgrown vegetation and tall shrubs which minimises hiding places and creates long sight lines. ○ Security lighting at trail heads and parking areas adds security. ○ Emergency phone boxes and emergency vehicle access helps increase user security. ○ Keeping trail corridors clean and well-maintained increases sense of community ownership and 'passive surveillance' reducing minor crime such as litter, graffiti and vandalism. ○ 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. ○ Many trails have a signposted Code of Conduct as a means of reinforcing what is expected of trail users and highlighting inappropriate behaviour. ○ 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. ○ Volunteer or professional trail patrols ranging from informal monthly clean-ups and maintenance crews to daily patrols. The Murray to the Mountains Trail has a full-time trail manager, part of whose responsibilities include a daily traverse along the trail on a 4-wheel motor bike. ○ As an additional security measure, landholders could undertake a Farm Security Assessment (as promoted by the NSW Police). This assessment (contained in the guidebook NSW Police Farm Security Assessment 2006) is designed to help primary producers assess the security of their properties. The document also outlines the legal requirements for storing fertilisers, chemicals and explosives, the installation of warning signs, and securing machinery – three particular issues raised by landholders when rail trails are discussed. Such a systematic approach to assessing security is a wise investment of time regardless of whether a trail proceeds. The NSW Police Service offer assistance (through local NSW Police Rural Crime Investigators and Crime Prevention Officers) to landholders in undertaking this assessment.

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.	***Privacy*** ○ 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. ○ Re-routing the trail off the formation away from the affected residence onto an adjacent road reserve or elsewhere in the rail corridor. ○ Substantial additional vegetation planting to provide a visual barrier between the trail and the residence (while minimising 'hiding' places). ○ Installation of screen fencing to obscure views of houses from the trail.
Land value devaluation	**Comment** ○ What empirical evidence exists comes from the USA. The evidence is that rail trails positively add value to properties along their route. Research and anecdotal evidence suggests 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 in Ohio) were positively impacted by proximity to the trail. 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. 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 percent of adjacent neighbours to the Luce Line Trail (Minnesota). In the same 1988 study, 56 percent of farm neighbours held that same view, and 61 percent of suburban neighbours. ○ 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.

	Possible solutions ○ Staging of the project so that landholders and the responsible committee can see how sections work and what problems and issues arise and then react accordingly in subsequent stages is one possible way to minimise the concerns of landholders (given that these concerns may be felt differently by different people in different parts of the corridor).
Impacts on farming practices	For the majority of its length, the former railway corridor traverses agricultural land. Some farmers use the railway corridor for the movement of stock. Some adjoining farmers may have a lease that allows them to graze their stock on the railway corridor. In several other instances, farmers move their stock from one side of the railway corridor to the other - from one paddock to another paddock.
Chemical applications Farmers are often concerned about the impacts on users of chemical spraying with associated spray drift (and their possible exposure to liability), given its frequency and unpredictability of time.	**Comments** ○ Farmers have the same obligations as any other chemical user in preventing drift and potentially causing damage to adjacent land. ○ For other trails, this has not been an issue. On the Lilydale to Warburton Rail Trail, grapes and flower growers are in very close proximity to the trail – they are in fact tenants renting rail trail land. Spray drift has not been an issue of concern. The same applies to the Riesling Trail (again, most adjoining land owners are grape growers). **Possible solutions** ○ It is anticipated that heavy use of the trail in the "agricultural sections" will primarily be confined to weekends. Spraying "rosters" agreed to between farmers and a Committee of Management could manage spraying and confine it, as much as possible, to weekdays. It is acknowledged that this is not always possible due to nature of ownership, on-site presence of farm owner/manager, and climatic factors; it is one solution. ○ Notifications on trail literature (permanent and temporary – such as web sites) can spell out issues about spraying and indicate to users what they are likely to encounter at any time on the trail. ○ It is understood that chemicals usually used in spraying are not of such toxicity that incidental exposure for short periods on a one-off or irregular basis (the likelihood of exposure of trail users) will cause any long-term health effects.

Threat of fire Landowners are often concerned about the possibility of **increased fire risk** along the railway with fires spreading unimpeded along the corridor and considered that additional fire protection will be required if the reserve is used for a rail trail. Also concerned that there would be **poor access for emergency vehicles**, and there is lack of obvious refuge areas and water points (in case of fire).	**Comments** ○ Some fences have been erected across the publicly-owned sections of the corridor, providing a barrier to the movement of any emergency vehicles, such as fire trucks, which might need to access the corridor. ○ The closure of bridges along the corridor provides another major obstacle to the passage of emergency vehicles. **Possible solutions** ○ Development of an effective fire management plan in close consultation with the Local Rural Fire Service. ○ Areas of the trail deemed high fire risk can have more active management controls including re-construction of bridges to carry 13.5 tonne fire tenders. ○ 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. Trails in fire-prone areas can be closed for the duration of the high fire risk season. ○ Clearly signposted refuge spots (directional, "advance notice – fire refuge spot 500 metres ahead" - and at-site signs) can be constructed at regular intervals depending on fire risk "zone". ○ Smoking can be prohibited on the trail. Councils can declare the pubic 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). ○ Bridges with missing decks can be rebuilt, enabling all trail users (and emergency vehicles) access across creeks, rivers and wet areas. ○ The development of the trail will in most cases require the removal of fences which have been put across the railway corridor. Their removal will result in unimpeded access along the corridor for emergency vehicles. ○ The management of grasses along the corridor (contributing to fire risk) is one which will be overseen by a Committee of Management appointed for such decisions. The choices will be to continue to allow grazing by sheep and cattle where appropriate, or to slash the grasses at regular intervals, or to spray when and where appropriate. ○ Generally, the development of the rail trail will create a situation in which fire services will be better able to deal with any emergency situations which arise along the railway corridor. It will be imperative that all emergency services have access to all padlocks on all gates along the rail trail, and locks should be keyed alike.

Weeds. There are weeds on the corridor at present – who will remove them and who will keep them under control. Will they be moved (unwittingly) by trail users.	**Comment** ○ The corridor is a mix of grazed and sprayed sections, and overgrown weed-infested sections. **Possible solutions** ○ The management of grasses along the corridor is one which will be overseen by a Committee of Management appointed for such decisions. The choices will be to continue to allow grazing by sheep and cattle where appropriate, or to slash the grasses at regular intervals, or to spray when and where appropriate. ○ Parts of the corridors could be leased to adjoining landholders to allow grazing. ○ Grazing on trails (or sections of trail) could be allowed at regular intervals (overnight – controlled with electric fences, some weekdays when activity is quiet, some times of the year – either during low levels of activity or high growth periods). ○ Preparation of a regularly reviewed Trail Management Plan covering all maintenance issues prepared in advance of construction. ○ Focus of maintenance – erosion, vegetation regrowth, weed control and signage damage. ○ Division of maintenance into regular inspections and simple repairs and once/twice yearly programs undertaking larger jobs such as vegetation control.
Loss of access to grazing paddocks Adjoining landholders use the corridor to move cattle between one paddock and another and along the corridor between paddocks. A trail may interfere with this process and there is also concern about gates being left open by trail users. Access to watrering points needs to be maintained.	**Possible solutions** ○ Use of old style railway gates that can be closed on either the rail corridor (to allow livestock to be moved across the corridor) or on the paddocks when the livestock are in one or other paddocks. This also reduces the human/cattle interaction. ○ Construction of fences (if desired by the landowner). ○ There may be other farming practices, such as usage of the railway embankment as an access driveway, and tracks for tractor movements, which could continue unhindered by the development of the proposed rail trail. Discussions with all farmers will reveal other uses to which the railway corridor is put. For each and every existing agricultural use, there is likely to be a solution that can be used to enable the trail to proceed, and the farming practice to continue. ○ The overall width needed for the trail would be in the order of 10 metres. 5-10 metres either side of the original formation (containing the railway embankment and/or cuttings) could be regarded as 'surplus to requirements'. The 'spare' metres either side of the rail trail corridor could be re-fenced and be leased to the adjoining landowners – for grazing

	or machinery turn-around. An annual fee could be directed into trail maintenance. The land leased to the adjoining landowners would then be managed as part of the farm.
Interactions between nervous livestock and trail users including 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** ○ It is well recognised that people walking dogs is a pastime with considerable physical and mental health benefits, and therefore there could be some sections of the trail (most likely in the urban areas) where this activity could be permitted. **Possible solutions** ○ 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. Only those sections of the trail which pass through a town, or are on the outskirts of a town, should be areas where dogs are permitted (on the proviso that they be kept on leads). ○ Ongoing monitoring of this situation should occur, and should farming practices change, or should adjoining farmers give their consent, additional sections of the trail could become available for dogs on leads. ○ With respect to interaction between people and livestock, appropriate information will discourage people from going off the trails onto farm property and thus placing themselves in close proximity to livestock. ○ If sections of a rail trail are declared 'dog free', Council's Animal Control Officer (ie. ranger) could issue infringement notices and the offender can be fined.
Chemical-free status of livestock / biosecurity issues There are concerns that the use of rail reserve by cyclists will increase the risk of contamination of livestock. Farmers argue that chemical control of the corridor by another (e.g. trail committee/manager) means that chemical application will not be under the landholder's control.	**Comment** ○ Advice obtained by the proponents of the Goulburn River Rail Trail (in 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.

	Possible solutions ○ In respect of chemical control of the corridor, two options are available that would allow farmers a level of knowledge. The first is that the adjacent landowner sprays the corridor as it runs through their property, reaching an agreement with the Committee of Management for suitable recompense. The second option is cooperative flow of information – the trail manager lets adjoining farmers know in advance what they will be spraying and when they will be spraying.
Increased risk of livestock disease transfer	**Comment** ○ This issue was raised on work done for the Goulburn River Rail Trail in Victoria. Advice from the Department of Primary Industries (Victoria) was that footrot is spread by introducing infected sheep. **Possible solutions** ○ Wandering sheep should not graze the trail. If any grazing is allowed, it will only be by sheep from the farms adjacent to the corridor. Self-closing gates along boundaries should prevent stock moving from one landholding to another.
Fencing of the corridor Farmers often believe that the rail-trail project will result in them needing to pay for additional fencing. Some sections of the railway reserve may currently be unfenced and farmers have adopted their practices to suit – moving livestock and machinery across, moving vehicles across, developing watering points on both sides etc. Farmers believe fencing will cause problems with farming practices and not fencing will create havoc with livestock/trail user interactions, liability etc. Farmers believe there will also be time consumed in checking gates regularly after trail users	**Comments** ○ The vast majority of the railway corridor appears to be fenced, and that fencing appears to be in relatively good condition. It is evident that this railway reserve was originally fenced on both sides for its entire length. **Possible solutions** ○ Fencing may be appropriate in some places and not in other places – this depends on a number of factors. Consultation with each adjoining landowner will be required. ○ When fencing of the corridor is required, the installation of livestock crossing points (such as stock underpasses) may be necessary to allow livestock to move between paddocks (or part-paddocks). It is understood that livestock quickly get used to having to cross at certain points to get to watering points or fresh herbage. ○ The cost of fencing, where required and requested, should be negotiated with each individual landowner during the one-on-one consultation process recommended in this report. ○ Where fencing is not required/requested, trail users will be made aware of this fact as they enter a property. Trail information will include warnings about unfenced sections and educate users about possible issues and appropriate behaviours.

pass through. Farmers believe fencing will require them to check and maintain fences on a regular basis.	○ Vegetation lines may also act as "visual" fences if appropriate. ○ One recommended option (suggested by several farmers on other rail-trail projects in Australia) is for the rail-trail project to supply the materials needed for re-fencing, and for the adjoining landowners to install the fences themselves with the materials supplied to them. This however is not the only way forward. It is recognised that some farmers may want the corridor fenced and some may not want it fenced. ○ Self-closing gates on boundary fences and at road crossings points will assist in managing straying stock (and unauthorised trail users). ○ Self closing gates can be installed across the rail trail corridor itself, leaving an open corridor between paddocks (ie. across the rail trail corridor) completely unfenced, enabling stock to move freely to watering points. Trail users will be required to open two gates to continue their journey. An innovative self closing gate, for use on rail trails and elsewhere, has already been developed and will be installed on the Riverina Highlands Rail Trail (should they proceed).
Use of Travelling Stock Route	**Comments** ○ According to the Livestock Health and Pest Authorities, anyone can use a TSR, without needing a permit for walking, picnics, swimming, fishing, bird watching, horse riding and cycling. A permit is required for grazing and/or walking stock. The permit conditions specify that grazing or walking stock must be adequately controlled at all times. If graziers are moving stock on a roadway, approved stock warning signs must be displayed. It is reasonable to suggest that similar signage would help manage any interactions between stock and trail users and notices could be included at trailheads and on trail promotional material that travelling stock may be encountered. Conversion of the rail corridor to a rail trail would not change the current situation regarding permits.
Restricted pest baiting Due to safety concerns (dogs and children accidentally eating baits) and consequent loss of stock and native wildlife	**Possible solutions** ○ Trail to be declared "dog-free" in areas of agricultural activities. ○ Trail users to be aware of agricultural practices – information to be included in all material on rail-trails.

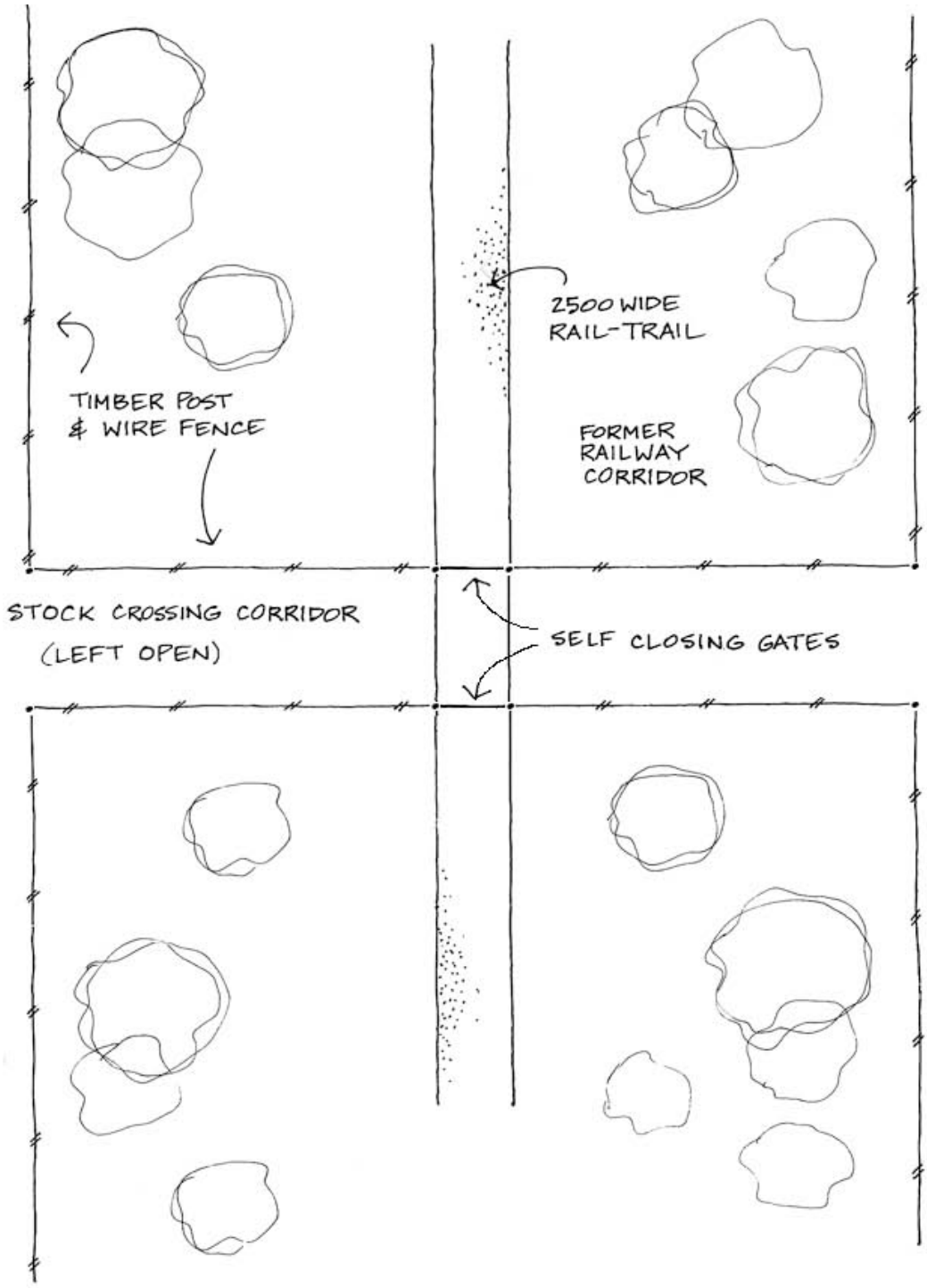
Impacts of trail users	
Management of litter and toilet waste	**Comment** ○ Some landowners whose properties adjoin the former railway corridor expect high levels of litter. ○ It has not been a problem elsewhere. The Lilydale to Warburton Rail Trail (Victoria) is kept spotless, with little or no visible 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 and between stops 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. The accepted distance between toilets is 25-30 kilometres (recognising that rail trails are used mostly by cyclists). As there is not this distance between any towns on the corridor and the towns located along all the corridor already have public toilets, there is no need to install trail-side toilets.
Farm safety Adjoining landholders can be concerned that farms are unsafe work places and people are being invited into such unsafe workplaces.	**Possible solutions** ○ Good design and appropriate information (as discussed above) will discourage people from going off the trails onto farm property and thus placing themselves in dangerous work environments or in close proximity to unpredictable livestock. ○ 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). ○ The Farm Security Assessment (as discussed above in the section of crime prevention) provides advice on appropriate signage which may assist in the prosecution of trespassers if detected.

Trail Management issues	
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. For example, the Adelaide Hills Rail Trail South Australia) has just received State Government funding of $1 million for development of Stage 1 of that trail. Further funding is expected for future stages. The Port Fairy-Warrnambool Rail Trail (in Victoria) has received close to $2 million in State and Federal Government funding. The Brisbane Valley Rail Trail (Qld) has received $3.8 million in State Government funding. ○ 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 born by local government, therefore there is minimal impact on ratepayers (even though ratepayers do benefit directly from trails, and indirectly by visitors spending in the community).
Liability – who is liable for the safety of users both on-trail and when they stray off-trail Farmers have also raised the question of increased insurance risks and consequent increase in premiums for them for both public liability and general insurance (upgraded fire insurance and theft)	**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. **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 trail heads 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 Many respondents expressed concerns over whether motor bikes would use the trail – they were opposed to this use and queried how the trail could be protected from this use. There were also some concerns over horse use.	**Comments** ○ Unauthorised access to the trail by users of cars, motor bikes, etc, was 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 drawings in Appendix 3) ○ On the Lilydale to 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 motor bikes 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) gate. ○ Installation of these gates and fences at all road crossings is recommended on any rail trail that proceeds, as they will effectively prevent access to the trail by unwanted and unwelcome people who may be intent on vandalism or theft, etc. ○ Encourage reporting of vehicle/bike registration numbers of illegal users. Experience on the Murray to the Mountains trail was that motor bikes tended to use the same sections at the same time – enforcement was therefore relatively easy. ○ In this project, installation of barrier gates is recommended from the commencement of the project.
Ongoing maintenance costs. Who is responsible, who will pay, what effect will it have on rates?	**Comment** This issue was raised at both the community meeting and in all discussions with adjoining landholders. There were concerns about the capacity of Council to maintain the trail, about who would undertake some of the maintenance work on the corridor now undertaken by adjoining landholders (who would not continue to do so if the trail was built), and a criticism of Council's ongoing maintenance of the Dog on the Tuckerbox.

	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).
Environmental issues Who is responsible for environmental effects of rail corridor? Environmental issues include construction concerns – noise impacts on wildlife and vegetation destruction on rail formation.	**Comment** ○ Development of the rail-trail will not change the existing situation – the existing formation will be used. The project may in fact provide an opportunity to apply for funding to address any current environmental issue (such as poor drainage). ○ Additional culverts under the trail (through embankments) could be installed during trail construction, thereby improving drainage and water flow. ○ With respect to construction concerns, good trail design and appropriate construction techniques on a site-by-site basis can mitigate environmental concerns. Significant vegetation stands on the boundaries of the formation should be untouched – vegetation growing between the rails is likely to be removed during construction (although alternative routes could be found should there be major concerns).
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. The typical rail trail user has been defined earlier in this Feasibility Study. 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.
Road crossings – particularly interactions between heavy vehicles and trail users	**Comment** ○ Interactions between vehicles and trail users were raised in both the community meeting and the individual consultations. There was a particular concern that traffic volumes (particularly trucks) were heavy at certain times of the year, thus increasing the danger to trail users. **Possible solutions** ○ Good design of road crossings allowing good sight lines and movements of people en masse (to avoid one at a time crossing). ○ Good signage on both road and trail. ○ Road crossing details to conform with Australian Traffic Engineering standards (*Guide to Traffic Engineering Practice - Pt 14 – Bicycles - Austroads*). ○ Notifications on trail literature (permanent and temporary – such as web sites) can spell out issues about heavy vehicle movements and indicate to users what they are likely to encounter at various times of the year at road crossings and the need to be more vigilant.



STOCK CROSSING ARRANGEMENT
-TYPICAL
SCALE 1:200

Above drawing: Stock crossing gating system – where the corridor between paddocks is left open so that stock can cross unimpeded to watering points and feed areas (and trail users have to stop and open self-closing gates) - seems a reasonable solution that some farmers will find to be acceptable. Using self-closing gates is a must.

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. Bridge were re-built by the Country Fire Authority which used the contract fee to acquire a new fire tender.
	The gating system 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.
	Cattle crossing gates, as used on the Lilydale-Warburton 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.

	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 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 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 in place on the Riesling Trail – a rail-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 – see photo below).
	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 it 27km 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 pedestrians and horse riders.
	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 Riesling Trail in the Clare Valley has operated for many years and runs alongside numerous residences – with negligible reports of trespass, theft, vandalism and other crimes. This highly popular trail is currently being extended.

	Temporary concrete causeways have been used on already opened sections of the Brisbane Valley Rail Trail until such time as funds are available for re-instatement of the original timber pile bridges. This is an approach that could be used on some of the shallower crossings where significant amounts of bridge materials have been removed.
	Bridges on the existing Collie to Darkan Rail Trail have been re-decked as part of the construction of that rail trail. Various signage is used along that rail trail to advise users of their rights and responsibilities. Anecdotal evidence indicates this rail-trail has operated with no issues to adjoining landowners.
	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.

9.3 Landholder Consultation - The Next Phase

Detailed trail development planning is a critical phase of any rail trail project. One of the central elements in this phase would be one-on-one consultations with adjoining landholders to determine, in a cooperative manner, solutions to their particular problems. It is time-consuming but absolutely 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 landowners will take the time to discuss the potential trail and the problems they envisioned. When issues are discussed at the actual site where the perceived problem is, discussion of possible solutions with the landowners often reveals that the problem can be minimised or completely avoided.

For example, it is known that several farmers have a particular issue with the proposed trail potentially cutting off access to watering points (on the other side of the railway corridor). Discussions with farmers have revealed that the installation of a gating system whereby an open corridor remained between paddocks (across the railway corridor), and trail users needed to open self-closing gates to continue their journey, would be a satisfactory solution, and lessen their opposition to the proposed rail trail.

Involving landowners 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 have to answer a wide range of concerns that local residents may have about the impact of the proposed trail on their farming operations.

Any management body formed to oversee the future stages in the development of the trail should include several landowners whose properties adjoin the railway corridor. It may be appropriate that, if the recommendation to proceed with further investigation of this trail is accepted, adjoining landowners be contacted early in the process and an invitation be extended for some of them to join a 'steering committee'.

SECTION 10 - TRAIL DESIGN AND DEVELOPMENT CONSIDERATIONS

10.1 General Considerations

This section of the Report addresses a series of matters relating to trail design and development – to achieve a trail that is constructed with minimal disturbance to the natural environment, are sustainable and that require minimal maintenance.

During construction of the railways (across Australia), effective drainage was important, as it is with all public infrastructure. Locating a trail on the formation of a former railway is important, and reinstatement of bridges where they have fallen into disrepair, or have been taken away, is important for the continuity of a trail.

The rail corridor has a number of bridges, in various states of disrepair. Repair and restoration of the bridge surfaces, with new timber decking and handrails, is required should the trail proceed.

Construction of the railway involved the cutting and filling of the landscape to create a surface that was relatively flat to enable passage of steam trains. The result was a series of cuttings and embankments along the entire length of the rail corridor. Effective drainage will be required, especially within cuttings to ensure stormwater is quickly and effectively removed from the sides of the trail (as it was when the trains were running).

Culverts and other drainage controls should be used to direct run-off away from the trail where possible. Rail trails, by their very nature, tend to deal with these problems relatively well. Water must drain freely, and where possible, pass beneath the trail without impact on either the base formation or the surface itself. Particular care must therefore be given to reinstating the side drains through any cuttings. Regular cleaning of culverts under the railway formation is also essential. Additional pipe culverts may be advantageous in some locations. Reinstatement of all bridges, and cleaning/clearing of blocked culverts is essential to avoid serious soil and water degradation problems.

Choosing appropriate materials for the trail's sub-base and topping (surface layer) is critical to the longevity and suitability of the trail for the intended user groups.

10.2 Trail Width and Height

To function effectively as a multi-use trail, a rail trail should have a standard trail width of 2.5 – 3.0 metres. If, in some sections the surface is wider, this should not be seen to be a negative factor (unless of course this increased width reaches 4 metres or more, at which point the trail users experience will begin to diminish). Some sections of a formation may be currently used as access to farming properties, or as access between paddocks, and this access can be retained without seriously diminishing trail user experiences. Passing bays for fire and emergency service vehicles may be required in appropriate locations, although much of the terrain allows ease of passing off the formation.

Overhead clearance should be maintained to approximately 3 metres from the trail surface, to ensure that horse riders (on those sections of the proposed rail trail where

horse riding may be permitted) have clear 'head space'. All overhanging vegetation - and that which intrudes from the sides into this 'corridor' should be cut back on a regular basis. Care should be taken that sharp and dangerous 'points' are not left in this pruning process.

Drawings 1 and 2 of Appendix 3 illustrate typical cross sections for the proposed trail.

10.3 Trail Surface Material

A smooth compacted surface is most appropriate for a multi-use rail trail. The surface should be firm enough to provide cyclists with a relatively smooth ride. A separate horse trail could be developed, parallel with the main bicycle/walking trail surface, where appropriate.

Most rail trails developed in Australia use a locally available earth surface (gravel, decomposed granite, crushed limestone, etc) to produce a firm surface easily capable of accommodating walkers and cyclists. Use of such material provides a high quality natural surface without the expense of a hardened (ie. sealed) surface.

The Rails to Trails Conservancy (USA) undertook a survey of 65 rail trails (1995) that found that many trails had re-used original ballast surfaces and it reportedly worked fine as a surface. After smoothing and grading, ballast surface is left as surface material. The surface of the Fernvale-Lowood trail (part of the Brisbane Valley Rail Trail) consists of a low grade sandstone pavement placed over the existing ballast. The trail manager has reported this has resulted in a very suitable surface for all users. Elsewhere on the Brisbane Valley Rail Trail, a layer of crusher dust was placed over the existing base soil. At other locations, the fine rail ballast was left as the surface 'mainstay'; there was some reworking of the surface to give a smooth surface. Most of this material had a high proportion of powerhouse furnace waste ash. Along another stretch of the trail, the gravelly ballast material was mixed with excavation spoil (obtained from a creek crossing), graded and rolled to provide the finished surface.

Detailed trail planning (to be undertaken once the decision to proceed is taken) would make a determination of the best solution for the location.

Generally speaking asphalt, concrete and other such hard surfaces are not appropriate on trails such as these. There are some good arguments for sealing the surface – users on road bikes are able to use such a trail and the very successful Murray to the Mountains Rail Trail (Victoria) is a sealed trail. However, the costs of putting down a hard surface (a hardened surface can cost up to ten times more than a natural surface) and the aesthetics of a hard surface are arguments against a hard surface. The very successful Lilydale to Warburton Rail Trail attracts 100,000 users per year to a natural surface trail. Consideration could be given to sealing the 'in-town' section (from Phillip St in the northern part of Gundagai to South St, South Gundagai) of the corridor to facilitate use by school children in particular.

At the other end of the scale, it is also not appropriate to allow the trail surface to deteriorate into either a soft sandy material or a wet, boggy or slippery condition. Soft sand may be comfortable for horses but is not acceptable to cyclists or walkers. Water-logged trails are quickly damaged and degraded and are very unpleasant to traverse. Loose surfaces such as ball-bearing gravel are also unacceptable as they pose safety risks to all 3 user groups (walkers, mountain bike riders, horse riders).

10.4 Safety Considerations

The most significant safety issue is that of potential conflict between road users (cars and trucks) and trail users on the proposed trail - especially at the road crossings. This is more fully dealt with in 'Road Crossings' below.

Another major safety issue is that of the bridges over the watercourses. When the railway bridges were constructed, handrails were not required in view of their use by trains. Now that use of these structures by horse riders, cyclists and walkers is being contemplated, the issue of safety railings on the sides of the bridges needs to be considered. Handrails will help ensure the safety of users of the bridges, preventing people from falling over the sides – a Standards Australia requirement. Handrails should be installed on all bridge crossings to give a sense of safety, uniformity and consistency along the trail. There are designated standards for handrails for pedestrians and cyclists (1.4 m high with a number of detailed specifications regarding design). There are no standards for horses, although the UK has adopted a height of 1.8 m where fall to ground is significant. There has been some concern expressed on other rail trail projects about horses going across high bridges. However, discussions with some rail trail managers in Victoria have indicated there have been no issues with horses crossing high bridges (though some trails provide an alternative crossing for horses on some creek crossings).

The Lilydale to Warburton Rail Trail (above left) provides for all users, including horses. Some of the bridges are more than 5 metres above the ground. Appropriate handrail heights ensure safety for all users. Similar handrails could be provided on high bridges along the proposed Murrumbidgee Valley Rail Trail, such as this one at Muttama Creek (above right).

A 'Dismount and walk' policy for horse riders on the bridges could be implemented, with signage directing them to dismount on bridges, which should prove quite adequate to manage what is statistically likely to be a relatively small number of potentially dangerous situations.

The only other significant safety issue relates to possible conflicts between different types of trail users – legal and illegal - for example, horses (or walkers or cyclists) and trail bikes or 4WD's, or horses and cyclists (or walkers). Effective signage and vehicle exclusion barriers (management access gates) will greatly limit this potential problem. Both topics are discussed in the following sections.

Dogs can be a potential safety consideration on rail trails, as they usually pass a number of private properties, many of which are sure to have dogs, and numerous

properties that may have cattle. This consultancy practice generally recommends that a "no dogs" policy applies for the majority of any trail, while there should be some short sections in towns and villages (such as within Gundagai) where a "dogs on leads only" policy could be implemented.

10.5 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 or riders 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).

Signs required to create safe road crossing are outlined in the next section of this report. The trail should be clearly marked on each side of the road for easy recognition and the crossing be designed to move the trail user away from the road reserve as quickly as possible.

If at all possible the trail should not slope down - or up - to the road. Such slopes elevate danger levels considerably.

Conformity with road crossing detail as specified in *Austroads Guide to Traffic Engineering Practice - Pt 14 - Bicycles* is essential.

Generally along rail corridors, two types of road crossing treatments are used:

- At-grade crossings of major roads (for example at Sheridan Rd, Gundagai. Crossing the Hume Highway at Coolac would have been an issue, though the existing highway will become a minor road (Coolac Rd) by mid 2009); and
- Minor road and 'lane' crossings.

Drawings 6 – 9 of Appendix 3 illustrate these various types of crossing.

10.6 Signage

Several kinds of signage are required on a rail trail, including distance, directional, warning, promotional, etiquette and interpretive signs. Each should be standardised along the trail and, where appropriate, concordant with relevant local or Australian 'standards' or practices. The chosen colours of all signs should be uniform throughout the trail.

Themes and styles already established for other rail trails in Australia, and in keeping with the uniformity in signage sought by Railtrails Australia, may dictate what style of signs and marker posts are used along this trail. Trail markers and signage on other rail trails are sometimes affixed to old (recycled) railway sleepers, and the removal of the old steel track and sleepers could provide a ready source of suitable sleepers. These are usually 2400mm long with 1800mm out of the ground, the face of the post being 200mm wide and the side 75mm.

10.6.1 Directional Signage

Trail markers need to be placed at regular spacings along the route. These could be the standard black on yellow triangle, but a unique colour scheme could/should be considered. The trail markers should have a distinguishing symbol or logo.

Markers do not need to be placed at frequent intervals along straight sections of trail as the formation is clear and obvious, and even the most inexperienced of users will feel confident that they can remain 'on track'.

They must be affixed with at least 2 nails (on hardwood or pine posts) to prevent them being turned or removed by vandals. Alternatively, the direction markers (as well as the various other sign panels used on the totem posts) could be affixed with silastic ('gaskets') or liquid nails.

An example of a marker post with directional arrows from Meekatharra in Western Australia.

10.6.2 Warning Signage

There are a number of locations along the proposed trail which demand warning signage, primarily at the many road crossings facing trail users. Warning signs are 'standardised', using the red triangle featuring an 'exclamation mark' or, as is the case for road crossing, a "Road Ahead" yellow diamond warning sign some 50-70 metres before a crossing, with a triangular "Give Way" sign on the verge at the road crossing.

Rail trails have a number of road crossings along their route, and some of these provide both challenges and opportunities for trail development. The challenges come in ensuring that these crossings are safe for future trail users, while the opportunities surround the passing traffic who can be alerted to the trail's presence. Such 'opportunistic' promotion can only be good for the future of the trail in raising awareness and increasing user numbers.

To facilitate a high level of information - and therefore a high level of safety and amenity - standard signs (as set out in *Austroads Guide to Traffic Engineering Practice – Pt 14 – Bicycles*) should be used on any trail. In most cases all - or some - of these signs will be located in and around these crossings at appropriate locations. Each style of sign serves a distinct and different purpose, and each has a specific location at which it will best serve its intended purpose.

Road crossing signage is very important for both trail users (top) and road users (bottom). On all major road crossings, both sets of signs are warranted. On minor road crossings and lanes, warning the trail user of the road ahead may be sufficient. On-road signs can also serve promotional purposes.

10.6.3 Promotional Signage

Though the railway corridor may be quite likely familiar to many local residents, it is recommended that a number of 'promotional' signs be erected at major road crossings to give prominence to the trail if constructed. The installation of these signs will make motorists and other road users (and visitors) more aware of the trail, hopefully inducing greater care when in the area.

This style of promotional signage has been used to great effect on other trails throughout Australia, increasing general awareness of the trail among the broader community. Signage could be constructed as a 1200mm x 250mm x 3mm aluminium panel (painted both sides in trail-specific colours). The aluminium panel should be constructed with a 10mm 'lip' to provide greater strength. The sign should bear the name of the trail and a trail logo on both sides.

It could be mounted on 100mm – 150mm treated pine posts approx. 1 metre out of the ground. The actual posts would be either 1.5 or 1.8 metre long, thus having 600 - 800 mm in the ground. The sign would be placed in a slot cut in the top of the posts, and security bolted through. An alternative construction method is to use routed timber signs.

10.6.4 User Etiquette Signage

User etiquette signage should be installed at every road crossing and entry point, in recognition of the expected pattern of use (potentially) by all three primary user groups (walkers, cyclists, horse riders). These signs should inform all groups about appropriate behaviour when in the vicinity of each other.

10.6.5 Distance & Direction (Access Point) Signs

Recognising that users will join a rail trail at any number of points, installing distance and direction signs at road crossings will not only benefit those joining the trail at that location, but provide additional information for users already on the trail. It is recommended that these signs be a 180mm x 250mm x 3mm aluminium plate placed on the standard 'totem' post (200mm x 50mm). The plate should indicate the distance to the upcoming localities along the trail. In addition, such signage provides good reference points for emergency services.

The Railway Reserves Heritage Trail (in Mundaring, Western Australia) has an excellent array of signage providing legitimate and illegitimate users with clear, unambiguous information. Above left: signs advising of illegal activity. Above right: distance signage.

10.6.6 Other Attractions Signage

Signs should be installed along any trail clearly directing visitors to other attractions which may lie nearby (such as B&B's, cafes, delis, and natural attractions).

Above left and right: "Attractions" signage on the Railway Reserves Heritage Trail in Mundaring, Western Australia (both official and non-official) provide trail users with useful information. Toilet locations in towns are clearly signposted.

10.6.7 Interpretive Signage

On-trail interpretation is becoming more and more of a feature of trails built in recent times. When well done, it can add significantly to the depth of the user's experience. It can also generate a sizeable cost, and can be subject to ongoing vandalism in urban and rural areas. Care will need to be taken in a base-line decision about what on-trail interpretation is provided, and in choosing a style of signage with a reputation for withstanding both graffiti and vandalism. Etched anodised aluminium may be a good option, if they can be lacquer-coated to enable easy graffiti removal.

Interpretive signs should be a 400mm x 300mm x 5mm aluminium panel, mounted on a 50mm diameter aluminium post - unless such signage is to be a part of a major display at a trail-head, when it should be on standard 1200 x 800 panels, in a 2 or 4 panel shelter.

Good quality interpretive panels (such as the one at the Old Flour Mill along the Murrumbidgee – above left) add significant enjoyment and education to a trail. Trailhead panels (above right) allow the construction of more elaborate interpretive information and the inclusion of regulatory and directional information and general information about the district.

10.6.8 Emergency Management Signage

As stated above, distance signage provides good reference points for emergency services. It gives anyone who needs emergency assistance an easy reference point. On other projects, consultation with ambulance officers in particular highlighted this need. When people panic (as they often do in an emergency situation), normal cognitive processes do not work. On-trail signage should be as helpful as possible and minimise likely stress. Consequently, distance signs should be installed at very regular intervals (with distances to the next trailhead (on either side of the post). This enables people to quickly identify where they are by travelling a very short distance from the emergency situation. All road crossings should also have a GPS reference/identifier on the post (underneath the Give Way sign) for use in emergencies, again as a location aid for those in stress. There is also a need to include the emergency

An emergency management sign on the Lilydale-Warburton Rail Trail in Victoria.

telephone number at all trailheads (on the trailhead sign) and clearly identify that one number will contact all three emergency services (police, ambulance, fire). While the emergency number from a landline is 000, the emergency number that works best from a mobile phone is 112. Information on what to do in an emergency, the location of public phones (there may be none on the trail itself), and the capacity for a flip-down sign indicating trail closure (due primarily to fire, flooding or maintenance work) should also be included on trailhead signage.

10.7 Erosion Control and Water Crossings

Proper drainage is of considerable importance in constructing a lasting, maintenance-free facility. Water should be removed from trail surfaces as fast as possible, wherever possible. The steepness of the trail and the type of soil dictate individual site requirements for the frequency of draining water from the trail. In these cases, given the flat terrain or gentle slopes involved on much of the proposed rail trail, erosion control should be relatively easy. However, those sections of the railway formation which do have blocked or dysfunctional drains should be attended to in the trail construction process, as allowing water to stand on the proposed trail surface or run down even a gentle slope is to invite surface damage followed by costly repairs.

It may be necessary to clear existing drains on a regular basis, or to install additional culverts under the trail in some locations to remove standing water effectively - if this is done care must be taken to ensure the surface is soundly patched afterwards.

10.8 Bridges

10.8.1 The Original Bridges

Bridges are one of the most obvious reminders of the heritage value of disused railways, one of the most significant attractions of trails along disused railways and also one of the most costly items in the development of trails on former railways.

There are a number of timber bridges on the corridor, notably the 920m bridge and viaduct in Gundagai over the Murrumbidgee River and its floodplain.

10.8.2 Bridge Re-use

Reinstatement and refurbishment of the bridges (notably re-decking and installing handrails in compliance with Australian Standards for bridges) will be a major component of the cost of establishing any rail trail. Handrails will be required if the fall from the bridge decking to the ground is greater than 1 metre (which applies to most of the bridges). Timber handrails are best, providing a more aesthetic finish and are more in keeping with rail trail heritage values.

The costs of re-decking and any other necessary structural repairs to existing bridges needs to be offset against the cost of building viable alternatives. Alternatives include reinstating a bridge at the same level or constructing a new bridge, a boardwalk or a concrete floodway lower down in the watercourse. Lower level crossings will need to be built at a height that ensures that the crossing is not underwater at regular flow levels.

It is worth noting that railway bridges were constructed to hold heavy steam locomotives – and that, provided the bridge structure is sound, weight is not a significant factor when considering the reuse of rail bridges for walkers, cyclists or horse riders.

Unless there is an obvious reason for not doing so, all bridges should be retained on the assumption that they are potentially structurally sound pending a structural engineering assessment to confirm their capability to carry the weight of trail users. Where necessary, bridges which are sound enough to carry the weight of a 4WD emergency services vehicle (up to 4 tonnes) or a rural fire appliance (13 tonne), should be maintained in that condition. The Rails to Trails Conservancy recommend that, as a general rule, multipurpose trail bridges should support as minimum design load of 5.67 tonnes (the RTCS is an American organisation and consequently recommends the imperial measurement of 6.25 tons). Such a specification would ensure all ambulance vehicles could be carried.

If bridges are to be re-used for a rail trail, rails would need to be removed, the bearers/beams would be reused and decking to 2.5 metres wide would be installed. Decking should be attached perpendicular to the direction of travel. Decking timbers should never be fixed parallel to the direction of travel.

Bridges usually have an abutment at either end as a way of retaining the earth of the embankment. Most bridge abutments use a combination of timber and concrete in the structure. Bridge assessments should include assessment of the stability of the abutments.

One lower cost option is the provision of a concrete floodway at flow level. Use of this option elsewhere on rail trails has shown that the approaches to gully or stream crossings need to be hardened as they are often steep and will erode in major storm events. This is initially a cheaper option than refurbishing bridges. However, using floodways creates a long-term maintenance issue; in times of high water flows, floodways and approaches (in particular) will be damaged, thus creating the need to restore or, in some cases, replace them.

In addition (and just as importantly), not using the bridges means the loss of an essential part of the rail trail experience. If the trail proceeds, there is a strong case for retention of bridges for their heritage and convenience/utility value. Riding down a steep path to cross a creek then up an equally steep climb on the other side presents at least some trail users with daunting technical and physical challenges and necessitates careful design, construction and maintenance of gully/watercourse approaches to provide for safety and prevent erosion. Retention of the bridges also retains the positive experience of riding along the top of old bridges with panoramic views of the surrounding landscape. The rail bridges were originally built in their locations primarily because railways need very gentle grades or slopes and the same principle applies to reuse of railways as recreation trails. Bridges also provide a safe crossing when water is flowing in gullies, creeks and rivers.

In certain locations (for example at Big Ben Creek), the construction of a new bridge may be the most desirable solution. The consultancy team have recently completed work on a shared-use trail (the Coast to Crater Trail) along the Great Ocean Road in Victoria. To complete the trail, a new bridge needed to be constructed over a river. A suspension bridge was determined to be the most appropriate solution. In this situation, the main span was estimated to be about 35-40 m long with a 10 m approach span on one side and a 15 m approach span on the other side.

As this is a feasibility study, a detailed structural assessment of each and every bridge along the railway corridor was not warranted. Engineering certification of all bridge

supporting structures and abutments is strongly recommended, to ensure their structural soundness. Should the decision be made to proceed into the next phase, the services of a qualified bridge engineer will need to be utilised to assess every bridge for structural soundness (a Level 2 integrity test is sufficient), to provide drawings of, and specifications for, a typical bridge super-structure and re-decking.

10.8.3 The Gundagai Bridge and Viaduct – An Attraction on Its Own Right

The bridges have heritage values in their own right, particularly the Gundagai bridge and viaduct. This bridge in particular is a significant component of the local landscape and its historical and aesthetic value should not be under-estimated, even if a rail trail does not proceed. The strength of community feeling about the bridge has been highlighted by campaigns in the past to preserve it. In addition to its heritage and community values, the Gundagai Bridge would have significant appeal as a tourist attraction, regardless of whether the rail trail proceeds. This attraction has not been considered in the business case presented in Section 12 (as it is beyond the scope of work and is not a speciality of the consultants) but it needs to be considered as part of the package.

Above left: Noojee Bridge, in Victoria's Gippsland region, is an old railway bridge that has been converted to form an attraction in its own right (there is a very short walk trail connecting the bridge to a carpark). Above right: A similar opportunity exists for the Gundagai Bridge and Viaduct.

It is worth noting the experience and use of Noojee Bridge in the Victorian Gippsland region. It is an old rail bridge (102 metres long with a 20 metre drop) on a "rail trail". However, there is not much "trail" to this rail trail; people park close to the bridge and walk a short distance on the old rail formation to enjoy the experience of the bridge. The bridge is the attraction, rather than the trail. The Gundagai Bridge and viaduct has the potential to be an attraction in its own right. It is not hard to envisage that visitors to the region who would not use the trail would enjoy the opportunity to get out on the bridge and enjoy the views of the landscape.

10.9 Trail Furniture

There are a number of locations, such as trailheads, well suited to the placement of facilities which would benefit all trail users. This furniture could include tables and seating in appropriate and attractive locations with expansive outlooks. Care should be taken in the selection of styles of seating and tables. Many styles commonly used on trails are more suited to backyard gardens, or city parks. Few look 'right' in the natural

environment. It may well be appropriate to have a local furniture maker or woodworker build something suitable to the situation if the decision to proceed is taken.

Infrastructure including seats and/or picnic table, signage, composting toilets, and other facilities can also be installed at trailheads (discussed below). While installation of composting toilets is one appropriate solution, these are costly and are generally recommended only where there are long stretches between towns. The accepted distance between toilets is 25-30 kilometres (recognising that rail trails are used mostly by cyclists). As there is not this distance between any towns and villages on the corridor and the towns and villages located along the corridor already have public toilets, there is no need to install trail-side toilets.

10.10 Trail Heads and Parking

Given that much of the usage of the trail is likely to come from walkers and mountain bikers from other regions and from horse riders who float horses to the trail, formal 'trail-heads' are important (Note: a 'trail-head' is a 'starting point' with parking, signage, toilets, etc). Thought will need to be given during detailed design development to an appropriate level of development at each of the trailheads. For the purposes of this feasibility study, a general cost estimate has been assigned to the development of trailheads. Should the trail proceed, trailheads should be located at strategic locations – at Coolac, Gundagai and Tumblong. The Gundagai railway station provides a wonderful historic attraction and all the benefits of a trailhead – easy access and readily available space for any further development of car parking and ancillary facilities (though parking and many facilities already exist). The Coolac Hotel is the obvious location for a northern trailhead (though negotiation is recommended with the owner should the trail proceed). A trailhead at Tumblong is a little more problematic given the lack of facilities. The report examines the possibility of developing a trailhead adjacent to the Countrylink Bus Stop (at the intersection of Grahamstown Rd, Lewins Lane, and the Hume Highway) where this an existing roadside stop with parking and a composting toilet. Users could then travel the short distance to the Tumblong Tavern for refreshments.

Basic facilities such as parking, and a picnic table or seats in the shade, interpretive information and mapping showing distances to features and towns along the trail, and connections with other trails, is important and will prove useful to all trail users.

10.11 Suitability for Multi-Use

The flat grades and sweeping bends typically found on abandoned railway formations make them ideally suited for development of recreation trails – especially when developed with a wide trail surface that can accommodate all user groups (walkers, cyclists, horse riders [where permitted] and – possibly –users in gophers or off-road wheelchairs, etc).

The suggested trail surface is eminently suitable for walkers and cyclists (using mountain bikes). Drawing 1 of Appendix 3 illustrates a typical cross section of a rail trail, with a 3.0 metre wide trail surface.

This feasibility study has given some consideration to sections of the trail network which may not be appropriate for use for horse riding. Horses' hooves do damage unsealed trail surfaces, to the detriment of other trail users. However, the cost of developing a separate surface (even if it is relatively low) should not be considered until usage is monitored. Detailed trail development planning needs to address this issue. At this early stage of consideration, there is no need to consider banning horses from any trail section.

Above left: horse riding is not permitted on the trail surface of the Riesling Trail in South Australia. Above right: a marked horse trail (parallel with the main trail) is a feature of the High Country Rail Trail in Victoria. Decisions will need to be made to determine which sections of the Murrumbidgee Valley Rail Trail, should it proceed, could permit horse riding either on the trail or alongside.

It is worth noting that there are several concerns that are raised by walkers and cyclists regarding horses using rail trails in general:

- Potential damage to trail surface caused by horses' hooves. The passage of horses along an unsealed trail surface will inevitably cause surface damage, and soft, boggy conditions will render the trail unsuitable for use by cyclists.
- The additional engineering costs inherent in structures such as the bridges. The additional weight of horses will require that bridge structures be designed to permit these expected heavier loads – at additional cost to the project. An alternative may be to have the trail route for horses at a lower level than the bridge, though still keeping horses out of the water. However, as noted in Section 10.4 above, discussions with some rail trail managers in Victoria have indicated there have been no issues with horses crossing high bridges (though some trails provide an alternative crossing for horses on some creek crossings).
- The perceived dangers involved on the major road crossings.
- The potential conflicts between other trail users and horse riders. Though there are ways of educating trail users about their rights and responsibilities, and the rights and responsibilities of others, isolated incidences of inappropriate behaviour of one user group towards others often result in conflict and injury.

10.12 Other Users and Trail Etiquette

Managing interaction between user groups is a primary prerequisite on all trails, and standard signage and protocols already exist. Providing adequate signage is installed

and users are well aware of the likelihood of meeting other user groups, such interactions should generally be non-threatening and relatively safe.

The potential for unauthorised motorised usage of sections of the proposed rail trail is often regarded as a major problem to adjoining landowners – fearful that trail bikes in particular may gain access to farmland and property.

Every attempt must be made to ensure the trails are not used by either four-wheel drives or trail bikes, though this is likely to be difficult to manage and harder to police.

Gates/chicanes such as these, on the Lilydale-Warburton Rail Trail, are effective in allowing legitimate trail users, and excluding unwanted and unwelcome users such as motorcyclists.

The use of 'cavaletti' gates at road crossings (see Drawing 10 of Appendix 3) where other chicanes and management access gates are installed, is one method of enabling horse riders to access the railway corridor trail, and still keep unwanted trail bike riders out. The 'chicane' designs (Drawing 9 in Appendix 3) are effective motor vehicle and motor bike barriers.

Education through signage and use of locked gates or other vehicle exclusion barriers will help, as will encouraging bona-fide users - and local residents - to report registration numbers of illegal users.

10.13 Codes of Conduct

A Code of Conduct for each user group, especially for horse riders and mountain bike riders, provides these users with guidelines to minimise their impact on the environment, and on other trail users. Codes of Conduct help to:

- Prevent soil erosion;
- Minimise trampling;
- Prevent the introduction and spread of noxious and exotic plants;
- Protect waterways;
- Protect significant and environmentally sensitive sites;
- Minimise potential conflict with other users of the trail; and
- Ensure the safety of both horse and rider.

On a rail trail, horse riders in particular should:

- Stay on the marked trail;
- Clean horses' feet before a ride to reduce the chance of carrying any soil containing weeds into bush areas;
- Feed horses with processed food (not hay) if staying overnight because hay can spread weeds;
- Tie horses to something other than trees to avoid damage to trees;

- Use designated areas for picnics and leave the area clean and tidy;
- Wear helmets - they may be uncomfortable on long rides, however their use is encouraged, especially for children;
- Act in accordance with signposting;
- Check all saddlery before a ride to ensure there are no faults and that safety gear is present;
- Ride horses that are easily handled and keep horses under control at all times; and
- Attend organised rides to find out where other trails are in your area and to learn correct trail etiquette.

Typically, a Code of Conduct for equestrians will read as follows:

"Riders may meet walkers, dogs, mountain bike riders, trail bike riders and others who are unfamiliar with horses and unsure about passing them on the trail. It is important that all trail users are courteous and understanding, ensuring an enjoyable time for all.

When other users wish to pass or overtake you on a narrow trail, always ensure the hindquarters of your horse are facing away from them. Preferably move to the side of the trail and give them as much room as possible to pass.

Ensure all horses in your group are walking quietly when passing others on the trail. Please thank other trail users for any courtesy they show.

Horse riders may also meet those who are unsympathetic to riders enjoying the bush. Try to avoid conflict in these situations by explaining the existence of this Code and its purpose in helping to protect the bush environment.

If you meet riders who are acting contrary to the Code of Conduct, politely explain to them that by following the Code they can help ensure that horse riding remains a legitimate activity on bridle trails in bush areas. If necessary, report such incidents to relevant authorities, such as the local council or trail manager."

10.14 Heritage Issues

A number of structures along a rail corridor have historical or heritage value. These include bridges, culverts, cuttings and embankments, mile pegs, goods sheds, station buildings, other buildings at sidings, station name boards, signals and switches. The Gundagai Station and Gundagai Bridge and Viaduct are the most obvious items of heritage significance on the corridor. A rail trail will enhance the appreciation of these wonderful structures.

Items such as old mile pegs are of considerable social value, even though they may not be significant enough to rate as 'heritage value'. These often remain along railway lines.

10.15 Environmental Issues

The key environmental issue associated with any rail trail project is weeds and weed control. If the trail proceeds, the preparation of a trail management plan and trail

maintenance plan, to be prepared prior to the construction phase, is critical to address concerns. The Plan will need to focus on activities that ensure that weeds are managed and kept under control (or even eliminated).

Weed spread (especially by horses) can be seen to be a problem, though this can be minimised by ensuring the Equestrian Code of Conduct is clear in all literature. It should also be noted that most weeds are already present in agricultural areas such as this, especially along trail sections currently accessible to vehicles.

The community meeting raised the issue of naturally occurring asbestos rock on the rail corridor and asbestos at rail sidings from brake linings. It is understood that the naturally occurring asbestos rock is only an issue if earthworks are required (earthworks will not be required on the rail trail at the localities where this rock occurs). With respect to asbestos at rail sidings (reportedly from train brake linings), this has not been an issue for other rail trail projects in Australia. There are no sites listed in the Department of Environment and Climate Changes Contaminated Land register (which does not mean they do not exist).

10.16 Interpretation

A rail corridor is inevitably rich with history, not just European settlement history but also indigenous and natural history. People often move along a trail at a more leisurely pace than that of their everyday lives. This slower rate of travel, a more relaxed frame of mind and openness to new experiences provide ideal circumstances to educate trail users on all aspects of the country through which they pass. There are many stories that can be told along rail trails. The provision of interpretive material greatly enriches the experience of visitors to a rail trail.

10.16.1 What is Interpretation?

Interpretation is commonly defined as "a means of communicating ideas and feelings which help people understand more about themselves and their environment". In simple terms, it is the process of communication between the visitor and the values of a place (Perrigo 2004).

Perrigo argues that the best definition comes from a 1957 publication by Freeman Tilden entitled "Interpreting Our Heritage". He wrote that interpretation is "an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experiences and by illustrative media rather than simply to communicate factual information". According to Perrigo, this definition has stood the test of time.

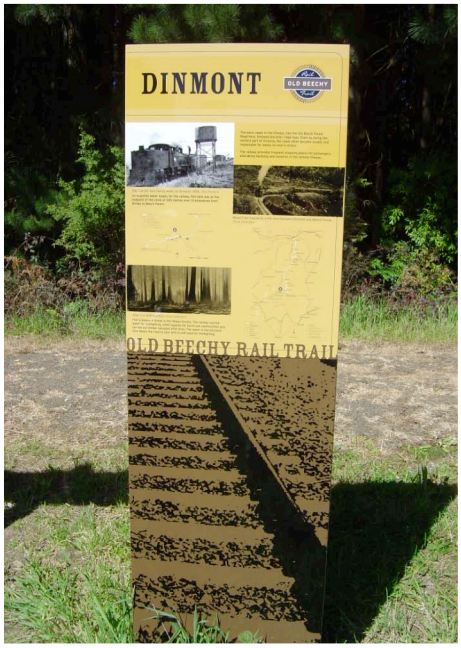
Through interpretation:

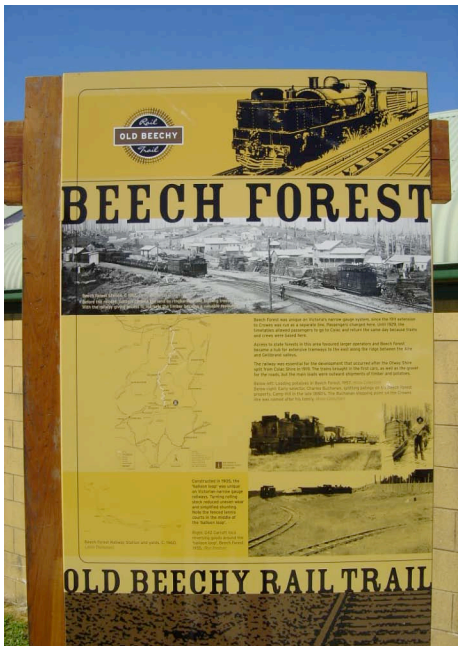
- visitors will be inspired – this will lead to increased commitment;
- visitors numbers and the duration of their stay will increase;
- visitors are more likely to come again;
- visitor diversity (user patterns) will increase. Examples will be children, adults and sections of the community particularly attracted to a theme or storyline; and
- Grants and other support are likely to increase

Perrigo believes that interpretation can provide the knowledge, awareness and understanding that propel visitors to make a commitment to the objectives of a trail. This is clearly a goal worth striving for.

10.16.2 What Could be Interpreted?

As stated above, a rail corridor is inevitably rich with history. The corridor under consideration is no different. The following is a preliminary list of features and stories that may be appropriate for use once a decision is made to proceed with trail development and the responsible entity decides to provide interpretive material. While there may be interpretation of these features and elements elsewhere in the region, trail users may venture no further than a rail trail due to a range of factors. Effective interpretive material gives a specific "flavour" of the events, landforms, wildlife, and vegetation relevant to a specific site. The intention is for the traveller to develop a deeper understanding of the multitude of stories contained in a region without delving further into either the country or published information. Conversely, the themes can be designed to spark interest, encouraging people to explore any story which interests them. It may also encourage them to extend their stay in the region to further pursue an interesting story or theme.





Interpretation on the Old Beechy Rail Trail in Victoria is first class: good mapping; good content and very pleasing to look at.

Items potentially worthy of interpretation on the potential rail trail include:

- History – railway development and settlement of the region. The whole region is rich with rail history. Signal and switching infrastructure is still in place. Excellent work by dedicated enthusiasts has restored the Gundagai Railway Station. The importance and function of the stations and sidings along the corridor and how these tied into the development history of the NSW railways is another aspect of railway history;
- Importance and function of the stations / sidings along the corridor, and the history of the selection of the routes of the railways to maximise exposure to as many farms as possible. The Australian Railway Historical Society (NSW) and

local historical societies would be able to supply much material for inclusion on the interpretive panels;

- Agricultural development history - cows, sheep,; these industries are the mainstay of the local economy; panels could indicate the how economics of food production has changed over time;
- Other agricultural enterprises - wineries and current land uses;
- Topography – the whole region is extremely scenic, with ranges of hills, mountains, creeks and valleys. The impact of soils and slope, the role of the Murrumbidgee River and numerous other panels with a topographic theme could be included along the railway corridor; and
- Indigenous history – all areas of Australia have an indigenous history that pre-dates European settlement. The region traversed by the rail corridor is no different. Various stories and mythology could be contained on any number of interpretive panels.

10.16.3 Planning Interpretation

Perrigo (2004) argues that, in the past, interpretation has been treated "as a walk-on part in the last act of a management plan". Rather than embracing and engaging interpretative principles into management plans, "bits and pieces" are often added at the end. Usually interpretation programs are the first to be lost in budget cuts. This is not the desired approach. Perrigo argues this is now changing and that there is a slow but growing recognition that interpretation is an essential tool for management of places and that resources are increasingly available.

It is therefore important for the trail manager, should the trail proceed, to give serious thought to planning and implementing interpretation in the early stages of the project development. This does not necessarily imply that interpretation material has to be in place from the trail opening though this would be a commendable outcome. However, interpretation should be an integral part of any trail's development process.

10.16.4 Funding of Interpretation

Interpretation must be planned within existing funds. Funding should be sought as soon as the decision to proceed with the trail is made.

SECTION 11 – COST ESTIMATES

This report provides a basis for determining whether development of a recreational trail within the disused railway corridor between Coolac and Tumblong is feasible and under what conditions a trail could be countenanced.

Part of the process of establishing whether a project is feasible or not is actually determining what the project is likely to cost. It is reasonably straightforward to set out the actual costs of developing a recreational trail, as the cost components are mostly known, and per unit rates can be applied.

In considering the costs set out below reference should also be made to the multitude of benefits of trails set out earlier in this report. These benefits have been taken into account in determining whether development of a trail within the former railway corridor is a feasible proposition.

As this is essentially a "feasibility study" report, and not a full-scale trail development plan, the costs of construction of the trail which follow are estimates only. In the next phase of the study (should the decision be taken to proceed with construction of the trail) the detailed design development would define more accurately the costs for the trail construction.

For the purposes of this feasibility report, the per unit construction rates set out below have been used. These unit rates have been averaged out over the length of the trail (approx. 32km).

Obviously some areas/segments of the trail will vary in terms of what elements of the construction process will be required. For example, some segments of the former railway corridor will require fencing one or both sides of the corridor – with self-closing gates - (to satisfy adjoining landowners who require it), while in other segments of the corridor little or no fencing will be required, as new fences have already been installed by neighbouring farmers or adjoining landowners do not require fencing (due to interference with farming practices). Most of the fencing is already in place anyway, and significant sections of the corridor run parallel with public roads and fencing on at least the road side would not be necessary.

Similarly, clearing of vegetation from the trail corridor, and removal of rubbish and weeds will be much simpler in some segments, and much more difficult in others.

- Fencing: * *see Note 1*

  New: $10/metre
- Self closing gates - $600 each
- Trail construction. Construction includes vegetation clearing/grading/shaping trail alignment (inc. materials, machinery & labour): $10-20/lineal metre
- Asphalt seal to trail – assume 2.5m wide = $150/m (on formed and prepared trail surface)
- Bridges: * *see Note 2*
  - Re-decking (hardwood) – including steel (top and bottom) handrails with chain link mesh * ($1,100/m for existing bridges where infrastructure remains; $1,300 where infrastructure is missing)

- Road crossings:
  - Major: $5000 (includes allowance for management access gates and chicanes)
  - Minor: $3000 (includes allowance for management access gates and chicanes)
- Signage: $2/metre (directional, warning, advisory, interpretive)
- Trailhead: $5,000 - $10,000 (gravelling of parking area; trailhead signage and information, map, code of conduct, etc); interpretive panel; picnic table; bike parking; etc) – depends on extent of existing development
- Weed / rubbish removal: $1/m
- Revegetation/screening: $0.50/m
- Drainage: $0.50/metre (where required, such as in cuttings)
- Engineers Assessment: $1000 - $3000/bridge

(Note: all distances are linear metres)

11.1 Section Costs

Section 1: Coolac to North Gundagai (Phillip St) (15,630 metres)		
Trailhead - Coolac townsite: parking area near Coolac Hotel		5,000
Clearing vegetation &/or grading trail alignment (ie. trail construction and surfacing)	15,630m	156,300
Trail construction: trailhead to crossing of Hume Highway	220m	3,300
Fencing	Allowance for 4,000m	40,000
Self closing gates (at selected stock crossings)	Allow for 50	30,000
Road crossings – Old Hume Highway – Minor road at Mingay Bridge – Phillip St	 Major Minor Minor	 5,000 3,000 3,000
New trail – Daisy Bed Creek to Old Hume Hwy	150m	3,000
Bridges: new decking and/or re-construction - Daisy Bed Creek (exists) (bridge 1) - Muttama Creek (exists) (bridge 2) - Bridge 3 (exists) - Bridge 4 (exists) - Bridge 5 (exists)	 5m 39.6m 6m 3m 3m	 5,500 43,560 6,600 3,300 3,300
Signage		31,260
Weed and rubbish removal	15,630m	15,630
Re-vegetation/screening	15,630m	7,820
Drainage (in cuttings)	Allowance	5,000
Bridge certification by engineer		15,000
Sub-total		*$385,570*
Contingency & Project Management 15%		$57,840
Sub-total		*$443,410*
10% GST		$44,240
Total (incl. 10% GST)		***$487,750***

Section 2: North Gundagai (Phillip St) to Sheridan St (2,350 metres)		
Clearing vegetation &/or grading trail alignment (ie. trail construction and surfacing)	2,350m	23,500
Sealing trail with asphalt (Phillip St to Sheridan St)	2,350m	352,500
Fencing	Allowance for 500m	5,000
Road crossings		
- Anne St	Minor	3,000
- Sheridan St	Major	5,000
Signage		4,700
Trailhead		
- Gundagai Railway Station		10,000
Weed and rubbish removal	2,350m	2,350
Re-vegetation/screening	2,350m	1,180
Drainage (in cuttings)	Allowance	3,000
Sub-total		*$410,230*
Contingency & Project Management 15%		$61,530
Sub-total		*$471,760*
10% GST		*$47,180*
Total (incl. 10% GST)		***$518,940***

Section 3: Sheridan St to Tumut St (viaduct and bridge) (930 metres)		
Bridges: new decking and/or re-construction (bridge 6)		
- viaduct	860m (@$1,200/m)	1,032,000
- Bridge over Murrumbidgee River	60m (@ $3,000/m)	180,000
Road crossings:		
- Sheridan St (south side)	Minor	3,000
- Tumut Street	Minor	3,000
- Homer St	Major	5,000
Path connection – Sheridan St to Homer St (under viaduct and old road bridge)	170m	25,500
Path connection –Tumut St to formation (southern end of bridge)	50m	7,500
Signage (includes extra allowance for short-term route signage along Homer St and Middleton Dr)		2,860

Bridge and viaduct certification by engineer	Allowance	20,000
Sub-total		*$1,278,860*
Contingency & Project Management 15%		$191,830
Sub-total		*$1,470,690*
10% GST		$147,070
Total (incl. 10% GST)		***$1,617,760***

Section 4: South Gundagai - Tumut St to Big Ben Creek (Snowball Rd) (6,910 metres)		
Clearing vegetation &/or grading trail alignment (ie. trail construction and surfacing)	6,910m	69,100
Sealing trail with asphalt (Tumut St to South St)	1,950m	292,500
Fencing	Allowance for 2,000m	20,000
Self closing gates (at selected stock crossings)	Allow for 10	6,000
Bridges: new decking and/or re-construction		
- Bridge 7 (missing)	10m	13,000
- Big Ben Creek (missing) (bridge 8)	53.34m	69,350
Construction of low level crossings (dips in formation)	10m x 2	
Road crossings:		
- Ridge St	Minor	3,000
- Mount St	Major	5,000
- Middle St	Minor	3,000
- Camphor St	Minor	3,000
- South St	Minor	3,000
- Gocup Rd	Major	5,000
- Snowball Rd	Minor	3,000
Installation of delineators along one side of embankment	230m	2,300
Installation of safety fencing along both sides of embankment	200m x 2	4,000
Installation of delineators along both sides of embankment	360m x 2	7,200
Signage	6,910m	13,820

Trailhead - Big Ben Creek		10,000
Weed and rubbish removal	6,910m	6,910
Re-vegetation/screening	6,910m	3,450
Drainage (in cuttings)	Allowance	5,000
Bridge certification by engineer		6,000
Sub-total		*$553,630*
Contingency & Project Management 15%		$83,050
Sub-total		*$636,680*
10% GST		$63,670
Total (incl. 10% GST)		***$700,350***

Section 5: Big Ben Creek (Snowball Rd) to Tumblong (6,200 metres)		
Clearing vegetation &/or grading trail alignment (ie. trail construction and surfacing) – includes section along Hume Hwy road reserve	6,200m	62,000
Fencing	Allowance for 3,000m	30,000
Self closing gates (at selected stock crossings)	Allow for 50	30,000
Bridges: new decking and/or re-construction - Snowball Creek (missing) (bridge 9) - Bridge 10 (exists) - Bridge 11 (missing)	 34m 10m 10m	 44,200 11,000 13,000
Road crossings: - Snowball Rd - Fullers Ln - Lewins Ln	 Major Minor Major	 5,000 3,000 5,000
Pipe and fill at Fullers Lane	Allowance	2,000
Signage	6,200m	12,400
Drainage along Hume Highway road reserve	Allowance	10,000
Trailhead (cnr Hume Hwy and Lewins Lane) - Tumblong (toilet, parking already exists)		5,000
Spur trail to Tumblong Tavern (signage and line marking on road)		5,000
Weed and rubbish removal	6,200m	6,200

Re-vegetation/screening	6,200m	3,100
Bridge certification by engineer		5,000
Sub-total		*$251,900*
Contingency & Project Management 15%		$37,790
Sub-total		*$289,690*
10% GST		$28,970
Total (incl. 10% GST)		***$318,660***

Summary of Costs (GST exclusive)

Section 1: Coolac to North Gundagai (Phillip St) (15,630 metres)	*$443,410*
Section 2: North Gundagai (Phillip St) to Sheridan St (2,350 metres)	*$471,760*
Section 3: Sheridan St to Tumut St (viaduct and bridge) (930 metres)	*$1,470,690*
Section 4: South Gundagai - Tumut St to Big Ben Creek (Snowball Rd) (6,910 metres)	*$636,680*
Section 5: Big Ben Creek (Snowball Rd) to Tumblong (6,200 metres)	*$289,690*
Total (excluding GST)	***$3,312,230***

NOTE 1: Fencing prices are general farming fence rates. It is should be noted that fencing is an issue that requires resolution during the detailed design development phase. Although most of the original fencing remains in place, significant lengths of the corridor are now without fences. The fieldwork and corridor assessments of this study noted the existence of fencing. In calculating how much fencing might be required in the rail-trail development program, an estimate was made on the basis of adjoining land uses, proximity of roads, existing fencing (and condition of that fencing) and probable landowner requirements.

NOTE 2: Bridge re-decking and/or reconstruction cost estimates include an allowance for decking timber and kerbing, abutment repairs, fixings, transport, site works, work in difficult conditions and in elevated situations and a contingency for unforeseen works. Bridges in some locations will need to carry the weight of fire fighting equipment, while in other locations shared use of bridges will require special consideration in the design and upgrading.

NOTE 3: These broad cost estimates are based on contractors' rates. Costs can be considerably reduced through use of in-kind contributions from the Council, use of volunteers for various tasks, use of prison crews (for construction tasks), etc.

NOTE 4: The cost estimates above are based on recent relevant construction costs from other trail projects. Real-life costs will depend on a number of factors, including the state of the economy, the extent of 'advertising' of construction tenders, 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 tables contained within this report.

NOTE 5: Should it be allowed by the NSW government, removal of steel railway track, sleepers and ballast is assumed be a cost-neutral task to this project. Therefore, no costs have been assigned to removal of this material. It is known that earthmoving and salvage contractors have offered to remove track, sleepers and ballast on the (proposed) Riverina Highlands Rail Trails at no cost to the trail proponent, leaving the formation ready for the application of a sealed surface (not including bridges).

SECTION 12 – BUSINESS CASE

12.1 Introduction

While it is always difficult to predict the economic impact of a new trail, figures from other trails provide some useful starting points. For example, research on the Bibbulmun Track (a long distance walk trail between Perth and Albany) shows that visitor numbers grew from 10,000 when the new alignment was first opened in 1997 to 137,000 in 2004 (*Colmar Brunton 2004*). 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 Bibbulmun Track can be, in part, attributed to very good marketing of the track. The economic impact of the Murrumbidgee Valley Rail Trail is primarily dependent on the extent to which the trail is marketed and promoted (if it proceeds).

12.2 Population and Visitor Information – A Summary

Resident and visitor numbers and tourism profiles are discussed in Section 5. It is worth reiterating some key points:

- The current population (2006 Census) of Gundagai Shire is 3,692.
- Wagga Wagga is one hour's drive from Gundagai and could be considered to be within the rail trail's region. Wagga's 2006 population was 57,015. Tumut Shire (30 minutes from Gundagai) has a population of 10,801, while Cootamundra (50 minutes away) has a population of 7,315.
- Tourism is a significant (but relatively small) industry in the Shire. The Riverina region (which includes Gundagai Shire) received over 2 million domestic visitors in 2007 who spent a total of over 2.7 million nights in the region. The average stay was 3 nights (although visitors from the ACT had an average 2 night stay). Around 65% of the visitors to the region come from within NSW. Victoria was the biggest source of interstate visitation at around 18%, while the ACT accounted for 8% of visitors.
- Annual visitation to Gundagai itself is between 35,000 and 39,000 people.
- The Riverina region (including Gundagai Shire) received over 1.1 million domestic daytrip visitors in 2007.
- A rail trail could build on this visitation and give people reason to stay longer.
- The proposed rail trail would be within 6 hours of three major markets (Canberra, Sydney, and Melbourne). This positioning of the proposed rail trail within a reasonable drive (or short flight) from major markets is quite significant. The Canberra market has been identified by tourism organisations in the region as having huge potential and as a market worth considerable attention (though they have acknowledged that it is a difficult market to 'crack').

12.3 Projected User Scenarios - Local Resident Usage

The following set of scenarios provides an indication of the sort of visitor numbers that could be achieved (and is based on visitor numbers achieved elsewhere on trails).

Usage and expenditure patterns on trails have been extensively studied. One such study occurred in Western Australia on the Mundaring trails network.

The report by Jessop, M. and Bruce, D. (2001) *Research Summary, Attitudes of Users towards the Mundaring Recreation Trails* provides useful data.

In the case of the Mundaring Shire trail network, 63% of Shire residents (the Shire has a population of 33,400) had used the network in the previous 12 months.

Table 12.1 provides three possible local use scenarios, all of which are conservative compared with the Mundaring data.

Table 12.1: Potential Trail Usage by residents

(Population of the rail trail region – Gundagai Shire – 3,692)

	Use rate	Numbers
Low	10%	369
Medium	20%	738
High	30%	1,107

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 12.2 provides three visitation scenarios taking a far more conservative approach compared to the actual visitation rate coming from the Mundaring study.

Table 12.2: Potential Total Annual Visits by residents

(low, medium and high refer to the use rates developed in Table 12.1 above)

	Low trail usage : 10% of residents	Med trail usage : 20% of residents	High trail usage : 30% of residents
Low (10 visits/yr)	3,690	7,380	11,070
Medium (20 visits/yr)	7,380	14,760	22,140
High (30 visits/yr)	11,070	22,140	33,210

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 – mainly food and drink) are a legitimate base to work from (though it should be noted that these are 2001 dollar figures and the dollar benefits would be greater if converted to 2009 dollars). Using this figure in combination with visitation scenarios generated in Table 12.2 gives a range of expenditure estimates (Table 12.3).

Table 12.3: Potential Total Annual Expenditure by residents ***(low, medium and high refer to the use rates developed in Tables 12.1 and 12.2 above)***

Trail usage	# of trips	# of visits	$/trip	Total spend
Low	Low	3,690	1.44	$5,313
Low	Med	7,380	1.44	$10,627
Low	High	11,070	1.44	$15,940
Med	Low	7,380	1.44	$10,627
Med	Med	14,760	1.44	$21,254
Med	High	22,140	1.44	$31,881
High	Low	11,070	1.44	$15,940
High	Med	22,140	1.44	$31,881
High	High	33,210	1.44	$47,822

These figures are considerably lower than the Mundaring results which delivered a total expenditure of $2.25 million in the Shire by local residents (noting the significantly higher number of residents in Mundaring Shire). In order to simplify the number of outcomes, Table 12.4 presents three scenarios: low usage / low number of trips, medium usage / medium number of trips, and high usage / high number of trips.

Table 12.4: Potential Total annual expenditure in the vicinity of the trail by residents
(low, medium and high refer to the use rates developed in Tables 12.1 and 12.2 above)

Use Scenario	# of person visits	Total spent ($)
Low/low	3,690	$5,313
Medium /medium	14,760	$21,254
High / high	33,210	$47,822

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. The medium/medium scenario (20% of the population making 20 visits/year yielding 14,760 person visits/year) is a reasonable, if very conservative, estimate. This analysis shows that, due to the small local population, economic benefits flowing from local trail use will be relatively low, given the investment required.

12.4 Projected User Scenarios – Day-trip Usage

The tourism region in which the rail trail is located received over 1.1 million domestic daytrip visitors in the year ending December 2007. The rail trail has the potential to add to this number (day trippers in this instance would be different from local 'back gate' users or local residents – as discussed in 12.3) or to convert day-trippers into overnight visitors. It is difficult to predict a likely increase in daytrip visitors as source information does not indicate where day-trippers are coming from. Other rail trails

provide useful information. According to Beeton (2003), day-trippers provided 78% of visitors to the East Gippsland Rail Trail, 40% to the Murray to the Mountains visitors, and 88% of visitors to the Lilydale to Warburton. Expenditure is also quite significant – on the Lilydale to Warburton Rail trail, day-trippers are spending an average of $44.63/visit. The Mundaring study shows visitors from outside the Shire (these are, in the main, Perth residents on day trips as the Mundaring network is only 40 minutes from the Perth CBD) spending $11.43/visit. Beeton indicates that there may be definitional issues with her work on day trippers – people may perceive their journey to the trail as a day trip, when it is part of a longer overnight stay in the region. Given this factor, the Mundaring data is probably more reliable, though visitors to the proposed Murrumbidgee Valley Rail Trail may come further than a 40 minute journey (Perth to Mundaring) and consequently may spend more.

It is impossible to predict with any certainty what effect development of the rail trail will have on the day-trip market in the region; comparative work on other rail trails simply does not exist. In addition, the level of detailed information on day trippers to the region is not sufficient to discern inputs. However, with proper marketing to an already-established day-trip market, it is not unreasonable to assume that trail construction will attract additional day-trippers to the region (particularly given the figures on user demand showing a consistent rate of cycling for leisure discussed in Section 7). Increasing day-trippers to the region by 1% will result in an injection of some $125,000 into the local economy per year (based on the lower Mundaring day tripper expenditure figures). The day trip market may reduce in time with rising fuel prices – however, 11,100 day trippers for the purposes of using the trail does not seem unreasonable, even if the overall numbers of day trippers reduces.

12.5 Projected User Scenarios – Overnight Visitor Usage

Predicting the economic impact of potential visitors (i.e. those who stay at least one night) can be done by applying similar logic to local users – though using different inputs. It seems reasonable to assume that the Canberra market will be a significant market for rail trail users, given the proximity of the rail trail to Canberra, that residents of Canberra are positively inclined to cycling, and that the Canberra market has been identified by tourism organisations in the region as having huge potential and as a market worth considerable attention. It should also be noted that rail trails provide different experiences to cycling in urbanised environments on sealed paths – it is reasonable to assume Canberra cyclists would enjoy the different experience. These assumptions make it reasonable to determine visitation from Canberra.

It is noted that the majority of current visitors to the Riverina tourism region come from Regional NSW and Sydney – this is to be expected given the population sizes and proximity. Unfortunately, there is not good source information on visitors from these places to include them in any analysis. The potential in other markets (notably Sydney and Melbourne) for the rail trail should not be discounted and will add significantly to the trail's benefits; unfortunately it is not possible to use these markets in the following analysis.

Applying the same process as was applied in Section 12.3 above yields the following tables.

Table 12.5: Potential Trail Usage scenarios by Canberra and District residents

Population of ACT and region (includes Canberra, City of Queanbeyan, Palerang Shire, Yass Valley Shire) - 398,740

Low	1%	3,987
Medium	2%	7,974
High	3%	11,961

The next step is to estimate total trip numbers. Table 12.6 provides three visitation scenarios.

Table 12.6: Potential total annual visits by Canberra and district residents

(Population of ACT and region - 398,740)

	Low	**medium**	**High**
Low (1 visit/yr)	3,987	7,974	11,961
Medium (2 visits/yr)	7,974	15,948	23,922
High (3 visits/yr)	11,961	23,922	35,883

In terms of expenditure, trail users on the Riesling Trail are spending $215.82/user/visit in the Clare Valley. The average length of stay is 2.2 days (giving a daily expenditure of $98.10). This daily figure is relatively consistent between studies undertaken on rail trails in Australia and New Zealand. Beeton's 2003 study gives an average expenditure figure – over three trails – of $132/user/day while the users on the Otago Central Rail Trail spend $NZ92.80/user/day. It is worth noting that Beeton's 2006 study of the Murray to the Mountains Rail Trail showed average daily expenditure of $258/user/day. Use of the Riesling Trail figure as the basis for analysis is therefore conservative when taken against Beeton's 2006 study.

Using this figure in combination with visitation scenarios generated in Table 12.6 gives a range of expenditure estimates (Table 12.7).

Table 12.7: Potential Total Annual Expenditure by visitors from Canberra ***(low, medium and high refer to the use rates developed in tables 12.5 and 12.6 above)***

Trail usage	**# of trips**	**# of visits**	**$/trip***	**Total spend**
Low	Low	3,987	215.82	$860,474
Low	Med	7,974	215.82	$1,720,948
Low	High	11,961	215.82	$2,581,423
Med	Low	7,974	215.82	$1,720,948
Med	Med	15,948	215.82	$3,441,897
Med	High	23,922	215.82	$5,177,953
High	Low	11,961	215.82	$2,581,423
High	Med	23,922	215.82	$5,177,953
High	High	35,883	215.82	$7,744,269

**based on an average stay of 2.2 days as per the Riesling Trail*

In order to simplify the number of outcomes, Table 12.8 presents three scenarios: low usage / low number of trips (i.e. low/low), medium usage / medium number of trips (i.e. medium/medium), and high usage / high number of trips (i.e. high/high).

Table 12.8: Potential Total annual expenditure in the vicinity of the trail by visitors from Canberra

(low, medium and high refer to the use rates developed in tables 12.6 and 12.7 above)

Use Scenario	# of person visits	Total spent ($)
Low/low	3,987	$860,474
Medium /medium	15,948	$3,441,897
High / high	35,883	$7,744,269

What is the likely scenario for visitors? The low/low scenario (3,987 person visits/year) is a reasonable, but conservative, estimate particularly given that it focuses on the Canberra market and does not include (for data difficulties) any consideration of the trail attracting visitors from Regional NSW, Sydney and Victoria (the current major markets for the Riverina region). This would mean a 10% increase in visitor numbers based on current visitor numbers to Gundagai (35,000-39,000).

Figures from the Riesling Trail in South Australia are instructive and provide a perspective on potential visitor numbers. The Riesling Trail is some 2 hours from Adelaide in the Clare Valley – an overnight trip. The Trail receives around 11,000 visitors per year (the bulk of whom are not locals), of whom over 5,000 (some 46%) come primarily to use the Trail. The Trail is the same distance from Adelaide as the Murrumbidgee Valley Rail Trail would be from Canberra. Although Canberra has a smaller population, residents have a higher tendency to cycle as discussed in Section 7. The NSW Big Bike Ride attracted 6% of its participants from the ACT - well in excess of its commensurate share of population of the main states that participated - NSW, Queensland and Victoria. From Canberra alone, it is reasonable to assume that the trail could attract almost 4,000 visitors (of a population of 398,000 – 1% of the population) specifically to use the trail. The low/low scenario is very realistic based on experiences elsewhere.

A number of factors make it worthwhile to consider that this trail may attract more than the low/low scenario (almost 4,000 visitors) annually specifically to use the trail. The Riesling Trail attracts the figures on very limited marketing without proper packaging. It draws some 30% of its visitors from interstate and overseas – people are prepared to travel to experience a high quality trail experience. It is close to Adelaide but distant from Sydney and Melbourne. The Clare Valley (in which the Riesling Trail is located) is famous for the trail and for wines – these features draw some 413,000 visitor nights per year and 253,000 domestic day trips.

By comparison, the proposed Murrumbidgee Valley Rail Trail is better positioned with respect to major markets as there are three markets (Canberra, Sydney and Melbourne) within a reasonable distance. This trail would be within 2 hours of Canberra, within 5 hours of Sydney and within 6 hours of Melbourne (these three cities have a combined population of over 9.5 million people). As noted in Section 5, the Murray to the Mountains Rail Trail cites its relative closeness to Canberra (around 5

hours) in its promotional material. The Riverina tourism region (encompassing an area broader than the rail trail location) already draws a substantial proportion of visitors from Sydney, Regional NSW, Victoria and Canberra. The Riverina draws 2.7 million visitor nights and 1.1 million domestic day trips. The rail trail will be in an area with a significantly higher visitor base, both overnight visitors and day trippers (compared with the Riesling Trail). All these factors mean that it is reasonable to assume that the proposed rail trail has the potential to attract significantly more users.

With good marketing, high levels of visitor numbers are achievable as the Bibbulmun Track has shown with its visitor numbers going from 10,000 to 137,000 in seven years.

12.6 Projected User Scenarios - Summary

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

- Significant local use – over 14,000 local users/year is a reasonable expectation. This will result in an economic injection of $21,254/year;
- Expansion of the existing day-tripper market to the region. A 1% increase in the day-tripper market will yield an injection of around $125,000/year. With a new significant recreation attraction, some day-trippers may stay overnight, generating a new income stream;
- Expansion of the existing overnight visitor market to the region. If the trails attracts 3,987 overnight visitors/year (under a low/low scenario drawing only on the Canberra market), the economic injection is likely to be around $860,000. Significant market penetration into the Canberra market alone (a not unreasonable scenario), would increase this figure. It should be realised that such visitor numbers may not be achieved in the first year of operation. The Bibbulmun Track took seven years to reach its current figure of 137,000 from an initial base of 10,000.
- The total injection of dollars into the local economies from local, day-trip and overnight visitors may be of the order of **$1.006 million** per year (under a range of conservative scenarios).

12.7 Overview of Benefits and Costs

Trail development brings with it a number of benefits and costs. The following section summarises the benefits and costs – it does not arrive at a definitive benefit-cost ratio or dollar figure as there are too many unknown and generally unquantifiable factors to include in any detail. Benefits have been discussed in detail in Section 8, while construction costs have been documented in Section 11.

The preceding parts of Section 12 have presented some use scenarios and consequent economic benefits directly from trail use.

12.7.1 Benefits

It is important to indicate those benefits that can be quantified – those that can reasonably have a dollar value put on them. The following is a summary of the benefits of the development of these particular trails.

Direct Economic benefits to the region

- Direct additional expenditure as a result of trail development in the region will be in the order of **$1.006 million/year.**
- In regional Victoria (a similar ratio is assumed for NSW), every $82,000 of expenditure yields an additional job. Rail trail development will create **12 jobs/year.**

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. This trail will cost around $3.3 million – the health benefits of this investment have the potential to be substantial. (It should be noted that a substantial portion of this expenditure is on the bridge and viaduct over the Murrumbidgee River – as this duplicates an existing cycling facility, it should not be counted in any consideration of direct health investment returns). Descriptions of the economic-related health benefits that follow are not included in this particular benefit-cost ratio as they are from different sources – readers should not double count such benefits.
- The rail 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.
- 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. A cost-benefit analysis in Norway (Institute of Transport Economics 2002) assessed cycle network improvements that encouraged commuting and local exercise and costed their economic value to society. The study found that there was a significant reduction in severe diseases stemming from increased exercise activity on cycle networks. The costs savings to society from this reduction made up 50-66% of the total benefit of investment in cycle networks.
- Further development of the rail trail as part of the urban cycle network of Gundagai will create a safe cycling environment, particularly for school children.

Quantifiable Benefits to individual residents

There are a number of benefits that accrue to residents of the region from a rail 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.

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.

- Cycle trails can lead to a reduction in traffic accidents and an increased sense of security for those already riding.
- 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.
- 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.
- Trails help to connect people and places and to develop community pride and help to preserve natural and cultural values. They can help build social capital.
- Trails create opportunities for the community to experience natural and cultural environments.
- Trails can protect the adjacent environments by localising impacts and facilitating management of visitation effects.
- Trails can provide educational and interpretive opportunities and increased environmental and cultural awareness and appreciation.
- Trails provide opportunities for community participation in conservation and revegetation work.
- Trails contribute to new business formation and business growth in an area – this is particularly important in communities that are struggling economically, with old industries and employers closing or moving and no new businesses opening up. There is a positive psychological impact.

12.7.2 Costs

It is important to indicate those costs that can be quantified – those that can reasonably have a dollar value put on them.

It is necessary to note that all public infrastructure projects have costs above their direct financial cost. They often create stress and concerns for those who will be negatively affected (or perceive they will be negatively affected). In many cases (and this is one of those), the costs are borne by a few, geographically concentrated people and the benefits are spread much more diversely.

The following is a summary of the costs of the development of this trail.

Direct Economic costs

- The Rail Trail will cost approximately **$3,312,330** to construct (a cost which includes the bridge and viaduct over the Murrumbidgee River).
- Annual maintenance costs in the order of **$97,000/year** (2.9% of construction costs and based on work elsewhere rather than a detailed maintenance plan for the trail).
- The Committee responsible for the trail may determine to hire a full-time trail manager (at a cost of **$80,000/year**). Recruitment of a trail manager may reduce some of the annual maintenance cost listed above.

Non-quantifiable costs to the community

- Trails development may in fact divide communities (as well as unite them) between those who will benefit and those who believe they will accrue the costs.

Non-quantifiable costs to individuals

- There may be stress-related health issues for adjoining landholders. These include hypertension, depression and anxiety caused by a number of factors. These issues may arise during construction and upon commencement of rail trail operations.

Non-quantifiable costs of construction impacts

- There will be short-term impacts during construction. These are likely to include noise pollution (from rail removal in particular), and disturbance of livestock, landholders, farming practices and wildlife.

Other costs listed below are open to interpretation and are primarily related to the impacts on adjoining landholders. They have been discussed briefly in Section 9.

Possible economic costs to adjoining landholders

- Interruptions to efficient farm management practices including checking and managing straying stock, negative impacts on livestock, and interruption to chemical application and consequent loss of efficiency.
- Possible increased insurance premiums due to perceived higher risks of fire, theft and public liability (such increases depends on landowner and insurance assessment of risk).
- Higher risk of disease transfer.
- The possible provision of additional watering points in divided paddocks.

- Some reduction in land values due to rail trail impacts on farm management. However, existing empirical evidence is that trails impact positively on property values (as discussed in detail in Section 6). Like any public (or indeed private) infrastructure project, some neighbours may be positively impacted while some may be negatively impacted (in terms of values). It is impossible to factor the totality of changes to values (both positive and negative) into a feasibility study of this scope.

Opportunity Costs

In economic analysis, it is important to consider the opportunity cost of investment – the cost (foregone opportunity) of money invested in one project rather than in another. Much of the money that will be spent on this project, should it proceed, will be sourced from specific grants for tourism and/or recreation projects. It will not be available for other types of projects – there is, in a sense, limited opportunity cost for funds, though funds for this project could be spent on similar projects elsewhere with a different set of costs and benefits.

SECTION 13 – CONVERSION TO A RAIL TRAIL - LEGISLATIVE AND ADMINISTRATIVE ISSUES

13.1 The Legislative Process in Other Jurisdictions

Section 3.5 explored in detail different legislative and management models operating for rail trails across Australia. It noted that Victoria has led the way in rail trail development and consequently has the most mature process. To reiterate, a rail reserve is gazetted under the Crown Land (Reserves) Act as a public recreation reserve. Gazettal allows for the setting up of a formal Committee of Management which has vested management responsibilities for the corridor.

In South Australia trail management is governed by a partnership between the Office of Recreation and Sport (an agency of the SA Government) and a community organisation and/or a Council. Land on the rail corridors is granted to the Office of Recreation and Sport by other agencies (notably Transport SA) to facilitate rail trail development.

In Queensland, the only existing rail trail is managed by the State Government (the Department of Infrastructure and Planning) with one section within it managed by a local council. The corridor's designation has been converted from 'motorised transport corridor' to 'non-motorised transport corridor' by the head lessee (Qld Transport). The State Government (through the Department of Natural Resources and Water) is the 'landlord'.

13.2 The Legislative and Administrative Process in NSW

There is currently no clear legislative or administrative process to follow in NSW. The three rail trails that exist have been developed using different processes that do not provide a blueprint for action, although the development of the Pioneer Rail Trail is perhaps illustrative of a way forward.

13.2.1 Existing NSW Rail Trails

The Fassifern to Toronto railway was officially closed in 1995 (it had begun as a private railway but was taken over by the Government in 1910). The trail is managed by the City of Lake Macquarie Council.

The Fernleigh Track runs through Newcastle City and Lake Macquarie council areas. The two councils bought the land of this former private coal railway and converted the first section into a rail trail several years ago.

The Pioneer Rail Trail connects Oberon to Tarana and is a 'rail-side trail'. The rail line is still in place and the trail runs alongside the rail line. The rail line was to accommodate a tourist train, but this has yet to begin operations. This is the first rail trail in NSW on a Public Transport Commission rail corridor. The Oberon Shire Council has the lease on the corridor and has established the Oberon Tarana Rail Corridor Committee as a Council Committee under the NSW Local Government Act (s. 355). The Committee is set up to oversee the development of an overall plan for the railway and ensure all stakeholders are involved.

13.2.2 Issues With Rail Trail Conversion in NSW

There are ongoing discussions within the State Government about the legislative and administrative process to facilitate the conversion of disused rail corridors to recreation trails. These discussions were initiated over three years ago as a result of the proposed Riverina Highlands Rail Trails (Wagga Wagga to Tumbarumba and Batlow to Tumut). As indicated in the brief, an Independent Task Group has been set up to examine the consultation protocols for the Riverina Highlands Rail Trails. The findings of this Group are likely to impact on the ongoing development of rail trails in NSW. The Task Group's work covers a broader range of issues than simply the legislative and administrative procedures necessary for conversion.

The report of this Group is not available at this stage; it is therefore difficult to comment on the outcomes (as required by the Brief) or include any of the Group's recommendations. It is understood that the Group has looked at the best model for consultation for the examination of any proposals to convert a piece of public land (in this case a rail corridor) to an alternative use (in this case a rail trail).

It is unfortunate that the commissioning of a feasibility study has occurred prior to the finalisation of the Task Group's report as the findings and recommendations (if agreed to by the key stakeholders) may set out a different process for examining potential rail trails in NSW.

If the trail is to proceed, the Victorian model of conversion and management provides guidance. The relevant department (in this case, the Department of Lands) would take over the lease of the disused rail corridor from the Australian Rail and Track Corporation (an alternative is the closure of the line though this appears to be a more complicated process). This would allow the new land manager to make clear decisions regarding the development of the rail trail and would provide a degree of certainty.

The reinstatement of a functioning rail system is particularly important in this situation. Tumut Shire Council (among other parties) has been lobbying for the reinstatement of the Cootamundra to Tumut branch line (the Coolac to Tumblong section is in this corridor) as a functioning railway to serve the industries of the Shire. The Council has clearly indicated in correspondence to Gundagai Shire Council that reinstatement of the rail line as a functioning line is its first priority. However, Tumut Council indicated that it encourages the development of the rail trail in a manner that does not prevent the future reopening of the railway corridor to rail traffic. This has been raised at the community meeting and in discussions about the project.

The American experience is illustrative. In 1983, concerned by the rapid contraction of America's rail network, the U.S. Congress amended the National Trails System Act to create the railbanking program. Railbanking is a method by which lines proposed for abandonment can be preserved for future rail use through interim conversion to trail use.

Some railroad rights-of-way contain easements that revert back to adjacent landowners when abandonment of the corridor is legislated. However, if a line is railbanked, the corridor is treated as if it had not been abandoned. As a result, the integrity of the corridor is maintained, and any reversions that could break it up into small pieces are prevented.

A railbanked line is subject to possible future restoration of rail service. The abandoning railroad company can apply to resume rail service on a railbanked corridor. At this point, use of the corridor for trail purposes ceases. The terms and conditions of a transfer back to rail service must be negotiated with the trail manager (*Source: Rails to Trails Conservancy website*).

This situation has not been addressed in Australia, though in Queensland the Brisbane Valley Rail Trail is being developed on a former rail corridor that is now classified as a 'non-motorised transport corridor'. Under this situation, the head lessee (Qld Transport) can convert the corridor to any other form of transport if necessary in the future, though re-use as a motorised transport corridor (rail or road) would require a series of administrative processes to be undertaken.

In Victoria, this uncertainty is covered under the legislative process – the gazettal of land as a public recreation reserve removes any future liability on the Committee of Management to reinstate rail infrastructure. A rail trail can always be reinstated as a rail track, but the Committee of Management is not liable for these costs.

In NSW, this situation is not clear and there have been some concerns expressed by trail proponents that they will be legally liable to reinstate the functioning railway if they simply lease the corridor from the 'landlord' and remove the rail (to facilitate trail development). To date, trail proponents have generally been unwilling to accept this financial risk. It is understood that current Government requirements make the removal of rail line from a rail corridor very difficult to achieve (in an administrative sense); should a trail proceed, it may need to be a rail-side trail (as occurs with the Pioneer Rail Trail) if this requirement does not change.

Resolution of the legislative and administrative issues would provide certainty for the project and affected landholders. While the rail corridor remains classified as a disused corridor (rather than a closed line), there is a degree of uncertainty for any Committee of Management. This matter needs to be resolved.

13.3 Conclusion

The legislative and administrative process in NSW for conversion of a rail corridor to a rail trail is not clear. Should a rail trail proceed along this corridor (or any other corridor in NSW), State agencies will need to develop processes which enable the subject railway corridors to be converted from a railway tenure to another form of reserve that could then be managed by a suitable trustee(s). The issue of a suitable trustee needs to be resolved to the satisfaction of the State Government.

It is critical to understand that, until such time as the issue of legislative and administrative processes to allow conversion is resolved at the State level, there is limited possibility of the Murrumbidgee Valley Rail Trail proceeding. Further expenditure of resources would not be appropriate unless this issue is addressed and resolved.

SECTION 14 – FEASIBILITY STATEMENT

14.1 The Recommendation

To establish whether the proposed trail is a feasible proposition, this Feasibility Study sought to answer several questions (as set out earlier):

Is there a market for the proposed trail? Yes. Existing rail trails in other states, notably Victoria (including the Murray to the Mountains and the Lilydale to Warburton) are extremely well used and very popular recreational assets of the communities in which they are situated. It is highly likely that the proposed rail trail between Coolac and Tumblong (through Gundagai) will become a popular addition to the suite of rail-trails available to those who actively seek out these recreational opportunities. In addition, the sealed sections of the proposed trail will be very worthwhile additions to the local cycling and walking network for Gundagai.

Is there a supportive local government? Yes. The Gundagai Shire Council is supportive of the initiative. The Council has indicated that it will support the project if it is considered to be feasible; if there is general community support for the project; if capital costs for construction are found from external sources (i.e. not the Council's funds) and the ongoing maintenance costs will be incorporated into Council's ongoing budget but need to be 'topped up' by external funds. The Gundagai Shire Council should have no concerns. Rail trails do not bring the problems often anticipated by adjoining landowners.

Is there a supportive/strong advocates (trail proponent)? Yes. The Gunda BUG is very pro-active and supportive of the project and in fact has prepared an earlier 'discussion paper'. They most certainly believe the project is worth pursuing.

Is there a supportive community? To some extent yes. There have been numerous expressions of support from the community in the Gundagai Shire. However, as is often the case for community infrastructure projects, only those who are opposed to a project make their opinions known. Supporters of projects usually remain quiet on the matter. There are of course some within the community who fear that problems may arise and are somewhat opposed to the prospect of a change to the norm. There are also some who have genuine concerns about a project but are open to potential solutions if engaged correctly – for example, by one on one consultation as part of a trail development plan. It is fair to say that trail supporters have been less vocal than trail opponents during the preparation of this report. A number of positive submissions were received by Council before this study commenced, whilst some supporters spoke to the consultants during the preparation of this report. On the other hand, the public meeting seemed to be attended overwhelmingly by those opposed to the project. The Council has determined that it will support the trail on the proviso that there is general community support; this feasibility study and the public consultation that goes with it are but one part of gauging that community support.

What is the user experience (terrain/landscape/history)? The experience to be gained by users on the proposed rail-trail would be exceptional. The topography is undulating and very scenic; the landscape is varied and attractive; the proximity of the mighty Murrumbidgee River is a major attribute; the history is all encompassing. The viaduct and bridge over the Murrumbidgee River (and its floodplain) – if suitably

upgraded for cyclist and pedestrian traffic – would be one of the iconic rail-trail experiences in Australia. The rail-trail would provide a wonderful and enriching experience.

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 through which they pass; a boost to businesses associated with the trail; social and physical health benefits; and a range of environmental and cultural benefits. Making the viaduct and bridge over the Murrumbidgee River suitable for cyclist and pedestrian traffic would attract people from all over Australia and perhaps from around the world.

Is there a commitment to maintenance ("friends of …" group or support network)? Yes. The Gunda BUG is committed to being involved in the ongoing maintenance of the proposed trail. It is highly likely that the proposed Committee of Management would seek involvement from other community groups and volunteers, and perhaps even arrange a maintenance commitment from Mannus Correctional Complex (which has already offered to be involved in the ongoing maintenance of the Riverina Highlands Rail Trails – should they be constructed). The Gundagai Shire Council has stated that the ongoing maintenance costs will be incorporated into Council's ongoing budget but would need to be 'topped up' by external funds.

Will the trail provide a unique experience? Yes. There is no comparable rail-trail in New South Wales. The history and landscape associated with this proposed trail will be unique and add significantly to the range of trail opportunities available to walkers, mountain bikers and horse riders. The proximity of the Murrumbidgee River, and the spectacular viaduct and bridge over the river and its floodplain are unique and spectacular.

Following consideration of the major issues pertaining to the development of a trail within the railway corridor between Coolac and Tumblong, and taking into account the views of people consulted (and background information obtained outlining the concerns of adjoining landowners), this Study recommends that the railway corridor be the subject of a rail-trail conversion, *subject to a number of conditions being met*.

The conditions upon which the rail-trail conversion should proceed are:

1. The NSW Government enacting legislation that allows conversion of a rail corridor to a rail trail, and the resolution of legislative and administrative processes that enables the corridor to be vested in the local government.
2. A Committee of Management, comprising (at least) representatives of the Gundagai Shire Council, the Rural Fire Service, residents of the community, local business proprietors and adjoining landowners, be formed to guide the ongoing planning, design and construction, management and maintenance of the proposed rail trail and the former railway corridor. (The Committee of Management could be modelled on successful Victorian examples).
3. Detailed design development plans for the rail-trail to be prepared, which will involve a thorough examination of the entire corridor, the preparation of detailed works lists and cost estimates, as well as a comprehensive program of one-on-one discussions on-site with all affected adjoining landowners to

ascertain their individual concerns and to work out together solutions to each issue raised.

4. The preparation of a community-driven Corridor Management Plan before construction, including a comprehensive maintenance program (detailing the ongoing maintenance) for the trail and corridor;
5. The preparation of a Bush Fire Risk Management Plan for the corridor;
6. The proposed Committee of Management give its support for the relocation of side fences and/or the erection of new fences (should they be required) and 'stock crossing gates' to create a narrower trail corridor, allowing adjoining farmers to enjoy a long-term lease of the 'surplus' corridor land. The cost of fencing and (reasonable) privacy screening are not to be the sole responsibility of landowners. New, renovated and relocated fencing costs (where required by landowners) to be shared between the trail proponent and adjoining landowners;
7. 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;
8. Council/State agencies are to assume liability responsibility for trail users and are to take all actions possible to mitigate potential claims against landowners and neighbours;
9. A policy decision is to be implemented to make the majority of the trail 'no dogs', though certain sections – such as sections close to towns - could be declared 'dogs on leads'; and
10. The proposed Committee of Management give consideration to the appointment of a trail manager so that landowners have a direct point of contact for issue resolution.

14.2 Factors Supporting the Decision

In formulating a decision about the future use of the former railway corridor due consideration has been given to not only the concerns and issues raised by neighbouring landowners, but also the *unique potential* of this rail corridor.

From a trail users' perspective, the former railway corridor between Coolac and Tumblong is very attractive. It offers an uncommon combination of positive factors. When compared to numerous other disused railway lines (both those which have been converted and those which have not) this is an excellent opportunity.

The reasons are as follows:

- The Council has declared its support for the project (subject to it being feasible; there being general community support; that the costs of development come from external sources; and that the ongoing maintenance costs will be incorporated into Council's ongoing budget but would need to be 'topped up' by external funds);
- It is situated in a very scenic landscape, with wonderful views over the mighty Murrumbidgee River (and its floodplain via the wonderful bridge and timber

viaduct), hills and valleys, forested areas, a variety of farmland and of course the spectacular attractions of the railway;

- The railway corridor offers a wonderful trail experience and, coupled with the ideal distance between towns, and the opportunity to connect with other (potential) rail trails of the region in the future, could become one of the premier rail trail experiences in Australia;
- The corridor is easily accessible via the Hume Highway and is within a half day's drive of major population centres (Canberra, Sydney and Melbourne);
- The Coolac to Tumblong railway corridor passes through the major town of Gundagai, and together with possible trailheads at these towns, a variety of rides/walks of different lengths are possible;
- The trail does not have a complicated route through and getting out of the towns, nor does it have any difficult crossings of the Hume Highway;
- The major elements of the railway infrastructure remain (the formation, cuttings, embankments and most of the bridges and culverts);
- The world famous 'Dog on the Tuckerbox' is potentially easily accessible via a reasonably short spur trail;
- Gundagai (being situated approximately half way between Sydney and Melbourne, and immediately alongside the Hume Highway) has an abundance of accommodation options for visitors coming to town to ride/walk the trail;
- The surrounding farmland 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 a huge potential for interpretation along the rail-trail – adding to and enriching the experience of trail users;
- The continuity of the former railway corridor is good – and the occasional discontinuity (such as that portion of the corridor 'consumed' by the Hume Highway at Coolac and at Tumblong) can be overcome by a trail running parallel with the highway; and
- The corridor provides for a variety of lengths of walks and rides and there is great flexibility of use options.

SECTION 15 – AN IMPLEMENTATION PROGRAM

15.1 Who Should Drive the Project?

Any rail trail development program is a substantial – and complex – project. There are many stakeholders, both private and public, all with a strong interest in this project – some are already involved while some will need to be involved in the future.

Gunda BUG (Bicycle User Group) has been a primary initiator of the initial phase of work, with a major role also taken by Gundagai Shire Council which has provided funding, facilitated public discussion and made appropriate Council resolutions. The Riverina Regional Development Board has provided funding for the Feasibility Study, another important contribution. All three stakeholders have taken a pro-active role in facilitating this Feasibility Study and should be commended for being prepared to carry primary responsibility through this process.

As discussed extensively in Section 13, it is critical to understand that, until such time as the issue of legislative and administrative processes to allow conversion of a rail corridor to a rail trail is resolved at the State level, there is limited possibility of the Murrumbidgee Valley Rail Trail proceeding. Further expenditure of resources would not be appropriate unless this issue is addressed and resolved. Advice on a possible implementation program is provided on the understanding that the over-arching issue of conversion will be resolved.

The following discussions and recommendations should be seen in the light of this major unresolved issue. The recommended Project Steering Committee (and any subsequent planning and development studies they might undertake) will need to be certain that this issue will be resolved before committing significant resources.

The legislative and administrative issues need to be resolved in order to provide a clear path for conversion and Gundagai Shire Council needs to commit to undertaking the project. **Only when these conditions have been met**, a Project Steering Committee will need to be formed to take the lead role in the next phase of the project, working in conjunction with relevant State Government agencies. The Committee should consist of the Council, the Riverina Regional Development Board (or its successor), Gunda BUG, relevant State agencies, and representation from adjoining landholders. This Project Steering Committee will need to take the lead role in the next phase of the project, working in conjunction with any other State Government agencies.

15.2 Planning Stages

15.2.1 Trail Development Planning

This project is a feasibility study examining the broad feasibility of the Murrumbidgee Valley Rail Trail. By necessity, indicative costs and possible solutions are included. It does not, however, provide detailed trail development planning that seeks out solutions to all specific issues, clearly articulates design solutions and provides detailed costs estimates and works lists.

With respect to individual trail planning, there are two basic elements:

- Individual Trail Feasibility Study – refines potential trail routes; identifies issues/challenges to trail development; identifies the possible market for the trail; broadly identifies costs; provides feasibility statement on the practicalities of developing the trail; and
- Trail Development Plan – identifies precise route of proposed trail; identifies construction techniques and materials; provides reliable costs estimates and detailed works lists; identifies signage requirements and costs; provides trail inspection and maintenance schedules.

The Murrumbidgee Valley Rail Trail project is at the "feasibility" stage of the trail planning and development spectrum. If proven feasible, further detailed trail planning will be required.

Trail construction can then begin. This process ensures a maximum return on public (and private) investment in trail development work. Far too often, people leap to construct trails without any idea of who uses them, why, when, how much it is going to cost, how to market a trail etc. The result is often trails that are underused and eventually "return to the bush".

The preparation of a detailed trail development plan will deliver a high quality, locally focussed and well managed and maintained trail for use by residents and visitors. The approach has been recognised in North America (through work by the well-respected Rails-to-Trails Conservancy) and Western Australia (through its trail funding under the Lotterywest program overseen by the Department of Sport and Recreation) as one that ensures that trails are well designed and the trail manager will maximise its return on the investment in a trail.

The brief for the project requests that the report "specify the requirements and the process for carrying out of detailed trail design, following acceptance of the project feasibility." The client (Council and the Riverina Regional Development Board) recognises the need for more detailed design work if and when the decision to proceed is taken.

If the decision to proceed is taken, the preparation of a trail development plan is the next logical step. Table 15.1 sets out the likely components and costs of a trail development plan for this project (and includes indicative costs for a number of other necessary planning processes).

Table 15.1 Costs of Trail Development Plan

Component	Detail	Time	Costs
Preliminaries / preparation	○ Details / search of adjoining landowners ○ Arrangements with farmers ○ Other logistics	3 days	3,000
Fieldwork – detailed trail traversing	○ 32km ○ 8km per day = 4 days x 2 people ○ Contingency days	8 days 2 days x 2 people	8,000 4,000
On-site consultation with adjoining landholders	○ 39 rural landholders. Assume 30 want discussions*	5 days x 2 people**	10,000
Additional consultation with key stakeholders	○ Allow 3 days x 2 people	6 days	6,000
Preparation of report	○ Works lists and cost estimates	10 days	10,000
Bridge assessments	○ 4 days (incl. travel) @ $1,000/day ○ Report (allow 4 days at $900) ○ Expenses (*does not include Gundagai Bridge and Viaduct*)		8,000
Mapping; drawings; graphics		40 hours	4,000
Permits	○ $250 x 4 people		1,000
Expenses	○ Air fares; car rental; accommodation; food; report and plan printing, etc		6,000
TOTAL	**TRAIL DEVELOPMENT PLAN**		**60,000**
Business planning	○ Estimate only		20,000
Corridor Management Plan	○ Estimate only		10,000
Corridor Fire Plan	○ Estimate only		10,000
Corridor Maintenance Plan	○ Estimate only		6,000

** Some adjoining landholders vehemently oppose a rail trail. No solution other than no rail trail is acceptable to them. These landowners do not accept any solution put forward to them. Direct on-farm consultation with such landowners is not a wise use of limited resources.*

*** Recent (actual) experience indicates that most landowner discussions can be satisfactorily concluded within 1.5 hrs. The figures are based on that experience.*

15.2.2 Business Planning

Business planning is crucial for every organisation and major project such as this proposed rail-trail. This is recognised in the brief which requests that the report "specify the requirements and the process for carrying out of business planning, following acceptance of the project feasibility." A Business Plan encourages forward planning and helps focus the activities of an organisation. The Victorian Government's Guide for a prospective Committee of Management includes a high level of direction on business planning. It sets out a number of questions to be answered as part of the Business Planning process. These are:

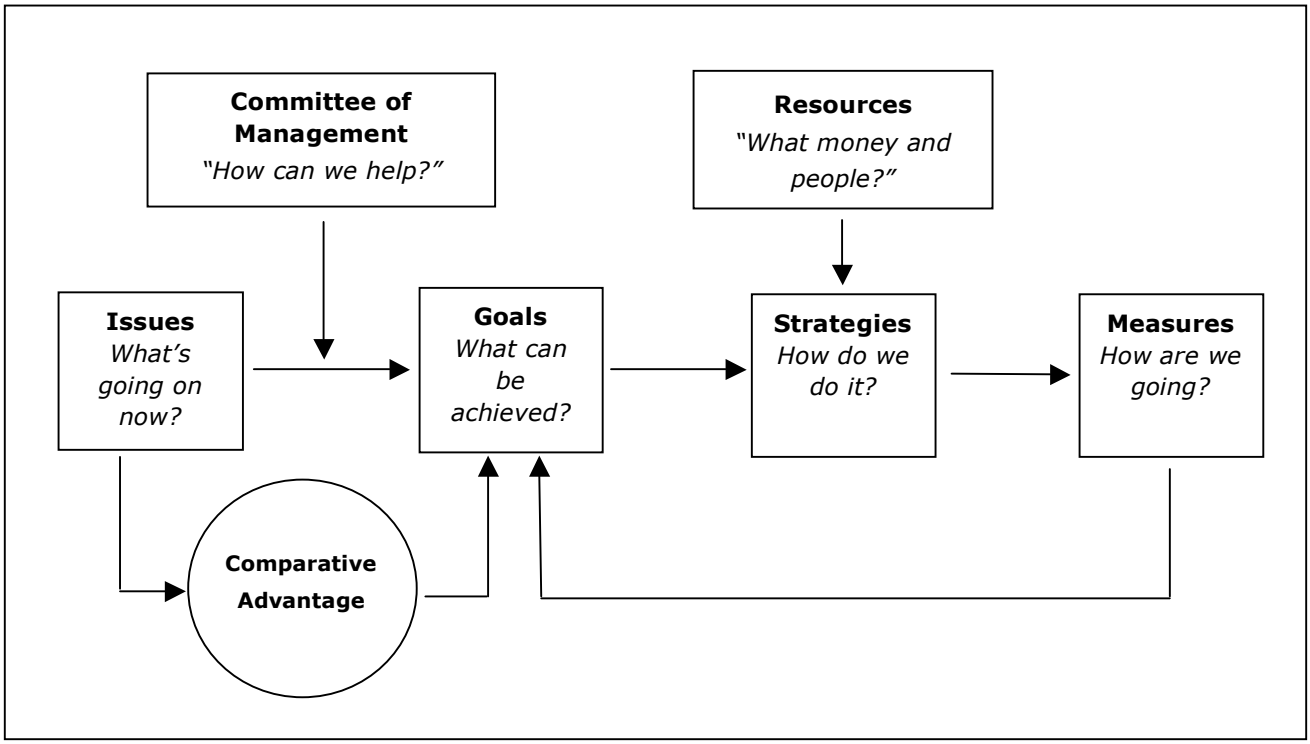
- What is the vision for the rail-trail?
- What services will be supplied?
- What are the expected visitor/use numbers?
- Is the demand expected to change in the future?
- What are the current assets and what repair/maintenance is required?
- What is the nature, extent, age and estimated replacement value of these assets?
- What additional developments/works are required in the future for the development of the rail trail?
- What is the proposed staging of development?
- What are the Committee's financial obligations in the future with development and administration of the Reserve?
- Where will the necessary labour come from and at what expense?
- What funding sources will be available i.e. grants, fundraising, sponsorship, donations, fees rent?
- Where are the shortfalls in this plan and what strategies are needed to address these?

The Guidelines set out an 8 stage process:

- Stage 1 – Define the business
- Stage 2 – Establish objectives
- Stage 3 – Clients needs analysis
- Stage 4 – Establish a financial and asset statement
- Stage 5 – Targets and outcomes
- Stage 6 – Performance Measures
- Stage 7 – Endorsement and implementation
- Stage 8 – Monitor and review

It is a comprehensive statement.

For a different level of detail, the following simple flow chart helps explain the necessary components of the development of a business plan.



Key tasks that need to be asked in undertaking the work in the flow chart include:

- Development of a specific set of goals for the permanent Committee of Management to achieve;
- The identification of necessary skills for execution of Business Plan and the identification of potential members; and
- The development of strategies to achieve the identified goals, specifically:
    - Incorporate capital requirements for development of trail and attractions;
    - Identify capital sources and processes to achieve funding;
    - Incorporate management and maintenance regime into financial model;
    - Prepare operational model (revenues and costs) for Business Plan;
    - Prepare outline marketing plan for the trail; and
    - Prepare implementation plan for Committee of Management.

15.3 Trail Construction Stages

The project brief requested the identification of trail construction stages. Development of trails can often be staged so that parts of trails are developed in line with available funding sources. It is often not possible to open the full length of a trail simultaneously as significant physical, financial, community and institutional work needs to be undertaken. This is the case in many rail trails (and indeed many recreational trails) around Australia. It has not detracted from their utility or the enjoyment of them by users; however there is a need to be conscious of how stages are marketed. Promotional material needs to clearly articulate what sections are open and what this means for users. Opening a trail in stages also allows those who are opposed or undecided about a project to see a clear demonstration of its use and lack of issues (almost inevitably, problems identified by concerned people do not arise).

Stage	Section	Comment
1	Phillip St, Gundagai to northern end of Viaduct	This section of the railway corridor is within Gundagai. Its location will appeal to the greatest amount of local users and user groups, and for this reason should be sealed. This section has an intact corridor, and would appear to have fewer issues relating to adjoining landowners given that it is within the urban environment and Council already has a lease on the corridor from Ann Street to Sheridan Street. It strengthens the economic base of Gundagai, providing a boost for the local businesses. It is also a component of the local cyclists and pedestrian movement network. The major cost in this section is primarily for a sealed surface – this cost is offset by the potential commuter and other local use. Other construction items are the clearing of surface vegetation, and the construction of trail-head facilities at Gundagai Station.
2	Southern end of Viaduct to Big Ben Creek (Snowball Rd)	This section of the railway corridor is within Gundagai or close to it. Its location will appeal to the greatest amount of local users and user groups. The in-town section should be sealed (as far as South St) due to its capacity to attract local users and user groups. This section has a spectacular, and deep, cutting as well as major embankments with spectacular views out over the surrounding landscape. Big Ben Creek is chosen as an 'end' because it is accessible and there is the capacity to provide some limited off-road trailhead facilities (unlike at the southern end of Jessops Lagoon Rd which was the other option considered).

		This section has an intact corridor, and may have fewer issues relating to adjoining landowners. Much of it is within the urban environment, while the corridor to the south of town (the rural area) has a road (Jessops Lagoon Rd and the Hume Highway) as one neighbour for much of its length. It strengthens the economic base of Gundagai, providing a boost for the local businesses. The major cost in this section is primarily for a sealed surface – this cost is offset by the potential commuter and other local use. Other likely construction items are the clearing of surface vegetation, installation of base course and topping for the trail surface (on the non-sealed section), gully and creek crossings (either concrete gully crossings or new bridges), fencing, and road crossing treatments.
3	Bridge and Viaduct	The restoration of the bridge and viaduct on the Murrumbidgee River is a significant undertaking. It has values beyond its functionality for the rail trail (as discussed in Section 10). Restoring the bridge is a major undertaking hence its placement in the implementation program. It will be a high cost project with potentially significant returns. The complete rail trail can proceed without the bridge restoration project, though the rail trail provides a catalyst for the bridge restoration.
4	Coolac to Phillip St	This section is picturesque and contains historic railway artefacts. It provides the essential rural attractiveness of the rail trail proposal. There are existing facilities at Coolac on which a trailhead could build. It strengthens the economic base of Coolac, providing a boost for the local businesses. There is significant organised landowner opposition to the trail through this section (though there is also support). Once the rest of the rail-trail is functioning effectively and without creating the problems many farmers believe will happen, opposition may be reduced (though it is unlikely it will ever completely be removed). Major construction items in this section are the clearing of surface vegetation, installation of base course and topping for the trail surface, construction of new path along sections at the northern end, restored and renovated bridges, trailhead development, fencing, and road crossing treatments.

5	Big Ben Creek (Snowball Rd) to Tumblong	This section is not as picturesque as the section from Coolac to Gundagai, particularly given its route alongside the Hume Highway. Tumblong does not provide an easily developed or attractive trailhead (although there are toilets and a parking bay in place alongside the corridor); the Plan suggests the development of a spur trail connecting the trail end to the Tumblong Tavern. Negotiation with the RTA is also required for use of the highway reserve in this section, a process that may take some time. Major construction items in this section are the clearing of surface vegetation, installation of base course and topping for the rail trail surface, construction of a new trail alongside the Hume Highway, delineation of a spur trail connecting the end of the trail to Tumblong Tavern, restored and renovated bridges, trailhead development, fencing, and road crossing treatments.

SECTION 16 – FUTURE MANAGEMENT

The possible future legislative and administrative arrangements to enable conversion of the disused rail corridor to a rail trail were discussed in Section 13. To reiterate the main conclusion, **the legislative and administrative process in NSW for conversion of a rail corridor to a rail trail is not clear. Until such time as the issue of legislative and administrative processes to allow conversion is resolved at the State level, there is limited possibility of the Murrumbidgee Valley Rail Trail proceeding.**

Advice on potential management models is provided below on the understanding that the over-arching issue of conversion will be resolved.

16.1 Committees of Management

While the legislative framework needs to be clarified, the model of using committees of management made up of community and government stakeholders is the recommended long-term management model. This is discussed in detail in Section 3.5.

Once the lease situation is resolved, an appropriate management structure for the management of the rail trail needs to be developed. The model adopted in Victoria (and in its essence copied by the other States) of a Committee of Management involving Local Government representatives and community representatives is the most logical approach to adopt. This model has worked well. Under the model, the committee of management is an incorporated association and could act as the trustee and/or manager of the rail corridor. Incorporated committees allow lawsuits, contracts, borrowings and tenancy agreements in the name of the committee providing security and greater continuity. Sub-committees would have no power in themselves; recommendations would need to be brought to the full Committee.

16.1.1 Who Would be on a Committee of Management?

The process for deciding committee membership needs to be determined. The Victorian model with representatives of Local Government and the community is appropriate with additional representation from the State Government (perhaps via the Department of Lands and the Riverina Regional Development Board (or its successor)).

Community membership may be sought in a number of ways. In the case of the Riesling Trail in South Australia, membership is invited through public notice and is determined at an annual general meeting. In the Victorian model, the State Government, in conjunction with the local governments, select members from an Expression of Interest process. A third option, often used in partnership-based natural resource management organisations, uses groups rather than individuals as community representatives. In the natural resources management model, the determination of the groups (such as conservation groups, landholder groups, recreation groups) to be represented is made by an interim committee and selected groups are invited to nominate their representatives to the permanent committee.

It is recommended that any on-going committee include representation from adjoining landholders, user groups, business and tourist operators, individuals with unique skill sets (project initiation skills are important in the early stages whereas ongoing management skills are more appropriate once the trail is established), the Rural Fire

Service, the State Government and Gundagai Shire Council. Section 15 outlines the recommended project staging (should the project proceed). There are arguments for seeking representatives of adjoining landholders only from sections as they are constructed; there are also arguments for seeking broader landholder representation beyond the geographical scope of the trail works at any one point in time. This is for the project proponent to determine once the decision to proceed with the trail is made.

Skill sets that would be useful for the committee to have as a whole include:

- Leadership skills – critical to hold the committee together, to inspire and motivate, to advocate to a wider audience and to maintain focus on a long term vision;
- Community skills – the skills to motivate community and volunteer efforts, the skills to 'build bridges' with those opposed to the rail trail;
- Business skills – skills to understand and tap into locally based businesses–the capacity to communicate to businesses in ways that garner their support;
- Entrepreneurial skills – a business-like approach to running a rail trail is critical;
- Administrative skills – expertise and knowledge of government grants, and how to apply for them. General administration skills are also critical;
- Environmental/scientific skills – understanding of native flora and fauna and wider environmental issues. The ability to communicate these to a wider audience is desirable;
- Engineering skills – the capacity to understand design and construction of all manner of trail infrastructure;
- Governmental skills – the ability to liaise with and understand government departments and politicians; and
- Users – it is essential that the Committee understand the needs and requirements of various targeted user groups

These 'selection criteria' need to be considered in selecting Committee members.

16.1.2 What Would a Committee of Management Do?

Under Victorian legislation, committees of management have a number of powers and duties. It is assumed that NSW legislation governing any committees appointed to manage Crown reserves have similar duties.

The committees have traditionally absorbed the responsibility for pursuing the development of a rail trail including the preparation of concept plans and business plans. In the case of the Murray to the Mountains Rail Trail, the committee has responsibility for:

- day to day management and ongoing development of the trail;
- preparation and implementation of a business plan;
- development and achievement of trail objectives;
- developing future budgets; and
- overseeing activities and ensuring active participation of two sub-committees.

16.1.3 Sub-Committees

Sub-committees with specific roles but no specific powers could be explored. The Murray to the Mountains management structure provides an example. The management structure involves two committees. A technical group has three local government representatives (one from each local government), one representative from the Department of Sustainability and Environment and one representative from Vic Roads (a state government agency). Its roles are trail maintenance, weed and vegetation control, and bridge maintenance.

An advisory group has six representatives of user groups/communities, one representative from the Country Fire Authority, three local landholders (one from each local government area) and one representative from the Victorian Farmers Federation. Its roles are representing community and user group interests to the committee of management, and liaison with the committee of management on management and maintenance issues. One representative from the technical group and three from the advisory group sit on the committee of management, ensuring a constant flow of information. This model is best used on a mature trail.

16.1.4 A Full-Time Trail Manager

One of the roles of a Committee of Management is to oversee the ongoing development, maintenance and promotion of the trail. One option is the employment of a full-time trail manager. While this can be a significant cost item, it also reduces on-going costs in other areas such as trail maintenance. The Murray to the Mountains Rail Trail was the only rail trail in Australia with a full-time manager (the incumbent left the job recently). The trail runs through three local governments; each contributes to the costs associated with the employment of the trail manager. The key tasks for the trail manager on this trail are:

- administrative tasks associated with the Trail Management Committee (including dealing with enquiries and preparing meeting agendas, papers and minutes);
- project management of any trail projects – planning, maintenance, funding applications and oversight;
- promotion of the rail trail, both locally and at major events around the country;
- providing trail user support:
    - regularly patrol the rail trail, especially during periods of high usage (notably weekends and school holidays)
    - provide a friendly, helpful and courteous service to trail users
    - offer advice, information and direction
    - maintain trail facilities including the provision of drinking water and route information
    - provide trail-side assistance where practicable in the form of puncture repairs, minor equipment repairs
    - effectively co-ordinate emergency activities (e.g. evacuation of injured users), and emergency communications

- ❖ enforce the provisions of relevant Acts, Regulations and local laws administered by the managing agency
- ❖ observe and report irregularities and offences, and take appropriate action

- managing the maintenance of the rail trail:
  - ❖ ensure that the rail trail is always safe and trafficable to the public
  - ❖ prepare and implement an annual maintenance program
  - ❖ successfully liaise with participating Councils to undertake the maintenance program
  - ❖ successfully manage and supervise various labour scheme personnel and maintenance contractors
  - ❖ perform minor maintenance as required
  - ❖ ensure that appropriate signage is displayed to warn the public of any hazards

It is worth noting these tasks need to be performed by a person or number of persons if a trail is to remain sustainable.

16.2 Management Models – A Summary

The following structure is recommended.

- Committee of management with representation from (at least) landholder representatives, user group representatives, business and tourist operations representatives, the Rural Fire Service, individuals with unique skill sets as appropriate, the State Government and Gundagai Shire Council. Community membership could be via the two advisory groups (as per the Murray to the Mountains Rail Trail management model) and/or via general representation. The decision on landholder representation (either drawn from those whose properties adjoin stages as they are constructed or the general pool of adjoining landholders along the entire trail) needs to be resolved.

Sub-committees could be considered but in a small community (even one with a high rate of volunteerism such as Gundagai Shire) it may be optimistic to seek more people to do more tasks. If sub-committees are not formed, the Committee of Management would need to consider how it might engage and use the services of those not represented on the Committee but with an interest (such as Gundagai Historic Bridges Inc and the Lions). If sub-committees are formed, the Murray to the Mountains Trail provides a good model.

16.3 The Future - Friends of the Murrumbidgee Valley Rail Trail

At some point in the development of the rail trail, consideration needs to be given to the formation of community support networks, usually achieved through a 'Friends of the Trail/s' group/s. Many rail trails (and indeed many recreation trails) draw support from friends' groups.

The best summary of the roles of 'friends of' groups comes from the Rails-to-Trails Conservancy in the USA. From "Designing Rail Trails for the 21st Century" (Flink et al 2001) comes the following advice:

"The single most important function of a Friends organisation is to act as an advocate for the trail, defending it when necessary and promoting it the rest of the time. Funding decisions often depend on public pressure, and money is generally allocated to projects with high public visibility."

Other services of Friends groups include:

- Physical labour for maintenance organised a number of different ways. The Rails-to-Trails Conservancy recommends the use of an adopt-a-trail (or section of trail) program – a good approach for trails of anything over 5 km. The Appalachian Trail, the Bibbulmun Track, and the Great Southern Rail Trail all use this particular approach;
- Eyes and ears surveillance and reporting of any problems, danger or inappropriate activity;
- Fund-raising to pay for trail structures, amenities or to protect threatened environmental areas on or adjacent to the trail;
- Developing maps, newsletters and other publications; and
- Promoting the trail as a tourist attraction.

The Rails-to-Trails Conservancy recommends that the trail managing agency maintain legal separation from a friends group; they should however coordinate activities and programs to avoid duplicating efforts or pursuing divergent goals.

As the needs of trail development change from creation to ongoing support, the skills set of the 'friends' board may need to change (a process to be handled thoughtfully). Tourism, corporate, financial and service agent communities become more important.

It is important to clearly specify the purpose and mission of Friends organisations.

16.3.1 What Do Friends Groups Do?

In Australia, 'friends of' trails groups undertake any number of tasks. A selection of tasks is discussed below. It should be noted that, in the cases cited below and most other cases, the 'friends of' groups are not the trail manager. This responsibility falls to a formal committee of management, a State Government agency or a local government.

The Bellarine Rail Trail (in the City of Greater Geelong, Victoria) has an active friends group. Its primary task is revegetation along the corridor. It aims to develop the environment of the rail trail, rehabilitate flora and fauna, and encourage rail trail users to appreciate the environment

The Munda Biddi Trail Foundation (the Munda Biddi Trail is Western Australia's long distance mountain bike trail) assists with planning, developing, marketing and maintaining the trail. It enlists paid memberships, enrols and manages volunteers, holds trail and community events, and provides information and resources to enhance the quality of the trail experience.

The Friends of the Lilydale to Warburton Rail Trail involves the community in the development and maintenance of the trail, enhances landscape and conservation values of the trail, and promotes the use of the trail. Activities include revegetation, weed eradication, protection of remnant species, and building and restoration work.

16.3.2 Bibbulmun Track Foundation

The Bibbulmun Track is Western Australia's premier long-distance walking track. Completed in 1997, the 962 km track links Perth and Albany. Sections of the track were used by over 137 000 users in 2003 (the most recent figure), a significant increase from 10 000 users in 1997. Part of this success can be put down to the efforts of the Bibbulmun Track Foundation.

The Bibbulmun Track Foundation is probably the most successful 'Friends of' Group in Australia, with a paid-up membership in excess of 2 100 (in a number of categories). The main membership categories are individual and family – at $40 and $65/year, these memberships provide a good income flow for the Foundation.

The Foundation is not the trail manager – this job is done by the Department of Environment and Conservation (DEC). The Foundation is a not-for-profit community based organisation established to provide support for the management, maintenance and marketing of the Bibbulmun Track. The Foundation encourages community participation, ownership and education, develops opportunities for tourism, employment and training, advocates the protection of natural and historical values of the Track, attracts funds and other resources, and promotes the track as accessible to all.

The Foundation is managed by a volunteer ten member Board of Management with seven people elected by general members. Current board members include the Managing Director of Mountain Designs, WA (chair), three representatives from the 'community' (two business people and one educator), two representatives from DEC, one representative from WA Tourist Commission, one representative from the Department of Premier and Cabinet (the Premier is the Patron), and one representative from the Great Southern Development Commission (a statutory authority). It has a full-time paid Executive Director and a large number of volunteer staff.

Corporate sponsorship has made possible its "Eyes on the Ground" maintenance volunteer program – volunteers adopt a section of the track and ensure it remains well-maintained. Approximately 780 km of the Track is "managed" in this way by volunteers – a Herculean effort in this time-poor modern environment. They carry out basic maintenance activities and report major maintenance issues to the track manager (DEC). There are also office and field activity volunteers.

The Foundation has a number of corporate sponsors – Premier (1), Diamond (2), Gold (2), Silver (4), and Bronze (8) - and also receives funding from the Lotterywest Trails Grants Program (WA Lotteries). Importantly, the Foundation has developed a number of paying events on the Track to support its ongoing work. In 2007, the Foundation received a grant of $400,000 from the Australian Tourist Development Program (discussed further in Section 17) to undertake a 'Marketing Trails in WA' project, extending its capacity beyond its traditional role of a 'Friends of' group.

SECTION 17 – CORRIDOR MANAGEMENT PLAN

The following section has been provided in response to the brief. It has been prepared to provide information to the trail proponent should the decision be made by the proponent to proceed with the trail.

17.1 Preparation of a Corridor Management Plan

As the trail development plan moves towards completion (as discussed in Section 16) and the legislative and management issues are resolved (as discussed in Sections 13 and 15), a number of decisions need to be made about the ongoing management, operation and maintenance of the trail.

The best approach to deal with these issues is through a Corridor Management Plan which forms the basis for ongoing trail management, operation and maintenance. A well-prepared and comprehensive corridor management plan (undertaken in close consultation with the community and neighbouring landowners) serves to ensure the trail functions and operate as a high quality experience.

17.2 What is in a Corridor Management Plan?

There are four major components to a Corridor Management Plan:

- A 'Trail Policy' or a set of Guiding Principles which incorporates a set of decisions made about how the trail will operate;
- A Trail Management Plan;
- An Emergency Response Plan (incorporating a Fire Management Plan); and
- A Trail Maintenance Plan.

Bringing all four elements together in one framework (a Corridor Management Plan) makes ongoing trail development and management an efficient process and ensures ongoing seamless transitions as personnel involved with a trail change.

17.2.1 Guiding Principles

The preparation of a set of overarching principles is a useful exercise. Adherence to these principles will serve as a guide to the use, upgrading, maintenance, promotion and management of the trail. The following principles were developed for the Brisbane Valley Rail Trail and provide guidance for the trail proponent once the decision to proceed with the Murrumbidgee Valley Rail Trail is made. The scope of principles indicate the scope of issues considered in the development of that particular rail trail.

- **Accessibility** - the Brisbane Valley Rail Trail is accessible by public and private transport from the major urban centres of Brisbane and Ipswich, and the townships, residential areas and villages of the Brisbane Valley and surrounding districts.
- **Access for all** - where practical and appropriate, the Brisbane Valley Rail Trail will be developed/upgraded so as to enable access by people in wheelchairs, people with disabilities, family groups and the elderly.

- **Providing enhanced outdoor recreational opportunities** - the Brisbane Valley Rail Trail will be promoted as an additional component to the range of low cost outdoor recreational opportunities within the Brisbane Valley.
- **Minimal conflict between trail users** – the Brisbane Valley Rail Trail will cater for non-motorised trail users (walkers, cyclists and horse riders) with minimal conflict. Monitoring of use over time will determine whether there is a need for the progressive development of a separate horse trail off the main trail formation.
- **Providing access to, and an enhanced understanding of, the natural attributes of the Brisbane Valley** - the Brisbane Valley has a diverse and outstanding range of physical attributes, and the Brisbane Valley Rail Trail will enable greater opportunities to access these natural features.
- **Providing access to and an enhanced understanding of the history of the Brisbane Valley** - the many physical reminders of past land uses and activities can be a major component of interpretive information available on the Brisbane Valley Rail Trail, and a greater inducement for visitors to use the trail.
- **Quality promotion** - the trail manager will give significant emphasis to promoting the Brisbane Valley Rail Trail as part of a broader visitor experience of the Brisbane Valley.
- **Effective and ongoing maintenance** - the Brisbane Valley Rail Trail will be the subject of a regular maintenance regime, and a detailed audit every 2–3 years, ensuring that all defects along the trail receive quick attention, thereby keeping the trail up to the requisite standard and quality.
- **Quality construction** – the trail will be built to appropriate standards, and to a high quality, thereby minimising the need for maintenance, and giving users a quality experience.
- **Quality information**, including brochures and mapping - the Brisbane Valley Rail Trail will have quality on-trail information, as well as a professionally produced and widely available trail brochure and map. All means of distribution of these products need to be utilised.
- **Outstanding interpretive material** - the Brisbane Valley Rail Trail will have on-trail interpretive material, and will be included within other trail and publicity brochures, providing trail users with a greater appreciation of the more interesting features to be found along the trail.
- **Consistency and uniformity of signage** - signage is recognised as an essential element of a quality trail, and all signage erected at trailheads, along nearby and adjoining roads and along the Brisbane Valley Rail Trail will conform to accepted standards, and will maintain a consistent theme along the entire trail.
- **Adherence to recognised standards** - trail construction, signage and trail markers, and trail classification will comply with recognised Australian Standards, thereby ensuring a high quality and safe experience for all trail users.

- **Community involvement** – the management and maintenance of the Brisbane Valley Rail Trail will consistently seek to involve the local communities along the corridor on an on-going basis and in the formulation of critical decisions. This on-going involvement with adjoining landowners and the community will ensure that the use of the rail trail does not impinge on private operations and that disputes are resolved wherever possible to the satisfaction of both the trail manager and the landowner. The on-going involvement with other sectors of the community will ensure that the trail is meeting their expectations.
- **Trail user survey** – trail users will be surveyed on a bi-annual basis to ensure the trail is meeting their needs and expectations, and a survey of adjoining landowners and businesses will be undertaken to ensure the trail is meeting their expectations.
- **Regularly policed** – the Brisbane Valley Rail Trail will be regularly policed by trail manager or ranger and an ongoing effort be maintained to deter and police unauthorised motor vehicle use (notably trail bikes).

In preparing the principles, the manager of the Brisbane Valley Rail Trail also requested the preparation of a **trail protection policy**. Again, this information is provided for use by the trail proponent should the trail proceed. Due to the nature of a rail trail (a 20 m wide corridor surrounded by a range of activities), it can be vulnerable to the negative impacts of surrounding development. The Rails-to-Trails Conservancy (USA) suggests that trail planning include the development of a trail protection policy to prevent damage to the trail corridor. The policy sets out primary uses of the corridor – recreation, transportation, and historic preservation. Any use deemed incompatible with this primary use will be denied; those uses compatible with the primary use will be considered and carefully regulated.

A comprehensive trail protection policy provides the trail manager with the authority to do the following:

- Regulate all secondary uses of the trail corridor in a fair and consistent manner;
- Minimise inconvenience to trail patrons, and assure protection of wildlife habitat and natural and historic resources within the trail corridor;
- Minimise damage to the trail corridor at all times;
- Establish uniform standards for construction and restoration of the trail corridor if it is damaged by a secondary use;
- Ensure that the managing agency recovers all its administrative costs and receives appropriate compensation for use of, and damage to, the trail corridor by secondary uses;
- Inform all public and private interests of the expectations and intentions of the trail managing agency with respect to secondary uses;
- Issue permits and licences for secondary uses; and
- Prohibit the transfer of ownership rights through the use of easements or other mechanisms.

17.2.2 The Initial Decisions

Some basic initial questions need to be answered, and some crucial decisions made. These inform the management decisions about the ongoing management of the trail. These issues include:

- Will the trail be closed at night?
- What enforcement procedures will be in place?
- Will dogs be allowed? If they are allowed, in what sections should they be allowed? Will they be permitted to be off-leash or will they be required to be on-leash?
- Will horses be allowed? If they are allowed, on what sections should they be allowed?
- What will be the weed eradication and/or long term control program? Grazing, slashing, poisons?
- How will vegetation replanting be managed?
- Will fencing be relocated and/or built to achieve a narrower trail corridor?
- Will sections of the corridor be leased to farmers? The trail corridor is 20 metres wide in most places – not all of this will be required for the actual trail.
- What will be the fire hazard reduction approach (this informs and is informed by the Bush Fire Risk Management Plan)?
- Strategies for the protection of native vegetation.
- Strategies for vermin and feral animal control (night closures to allow graziers to patrol and shoot for example).
- Strategies for plant disease control.
- Vehicle access issues – along and across the trail (including emergency vehicles, landholder vehicles and maintenance vehicles). Who will have access and how will this be managed?
- Complaints/communications – procedures and responsibilities.
- On-trail events – approach and management. Allied to this is the determination of group use policy.
- Camping and fireplaces on trail. This feasibility study has outlined a series of options in this regard.
- Trail construction and infrastructure standards – the Trail Development Plan (the next step in the process should the trail proceed) will recommend a range of infrastructure. Included in this will the level of development of parking at trailheads, user information, on-trial signposting, facilities etc. Decisions need to be made as to whether a high or low standard of infrastructure will feature on the trail (or differing standards depending on location). This may also include timetables for ongoing enhancements of infrastructure. A decision on standards to be adopted on a permanent basis has implications for ongoing trail maintenance.
- Target user groups need to be identified.

- A promotion and marketing plan will need to be included in the set of initial decisions.
- Will on-trail advertising be allowed? (Trail manager needs to be aware that advertising can be an advantage to users and commercial operators, it should be controlled, it is a source of funding for ongoing maintenance/upgrades, it should be to a standard, and style guides should be determined including rail trail logo).
- How will the trail manager treat any requests by utilities (such as gas pipelines and phone cable providers) to utilise the trail corridor (reference to the Trail Protection Policy would be required)?
- How will risks be managed?
- Consideration and amelioration of impacts on adjoining landholders. This covers issues such as fencing, privacy issues, trespassing, the rights to graze, who will pay for construction works that allow farmers to continue activities etc. The Corridor Management Plan needs to set a basis for how these are dealt with on an on-going basis.

While, at this point in the process, decisions will have been made about the Committee structure, it will be useful to ensure these decisions, timetables for change and the reasons for decisions are included in this section of the Corridor Management Plan.

17.2.3 A Trail Management Plan

A Trail Management Plan is essential to setting both the long-term and day-to-day management objectives for the trail and provides a framework against which a range of decisions can be made. Such a document - as with all management plans - should be both flexible and responsive to change, yet set a clear management framework for future directions and priorities. Trails which do not have a Management Plan suffer from decisions taken on the run, out of context or as knee-jerk responses to critical situations.

The trail manager for the Railway Reserves Heritage Trail (RRHT) in Western Australia recently prepared a Trail Management Plan. It is a useful model to consider the issues that need to be dealt with by a Trail Management Plan. The issues covered were:

- Philosophical background to RRHT development;
- A statement of guiding principles;
- Review of how RRHT is, and can be further linked to other trails, especially the Munda Biddi Trail, the Bibbulmun Track, the Kep Track, the Farming Heritage Trail and those in the eastern portion of the City of Swan.
- Clarification of management roles and responsibilities for the various trail sections;
- Risk management policy;
- Group and commercial usage policy and guidelines;
- Provision of essential services for trail users, such as water points, toilets, rubbish bin, lighting and other desirable trail furniture;

- Identification of any outstanding access /egress works for the RRHT, including disability works;
- Fire management and emergency evacuation procedures;
- Preparation of a promotional and interpretation management sub-plans, including specifications for signage and suggestions for interpretation along the trail between the townsites;
- Mapping and brochures – guiding principles;
- Formation of a Friends of the RRH Trail Group; and
- Timetable for reviewing and updating the Management Plan

Some of the initial decisions mentioned in 17.2.2 flow into a trail management plan and should be included.

A timetable for reviewing and updating this Plan should be set, with annual reviews and three (or five) year updates recommended. The Plan must outline a professional program of management, designed to ensure that there is no lapse into a belief that trails, once built, will manage themselves.

Further, this plan *must* clearly define who is responsible for what – it is crucial that everyone knows what their role and responsibility is. Without this, it is all too easy for everyone to sit back expecting someone else to do the work. Trail management plans need to be specific about roles in management and maintenance.

A Trail Management Plan recently prepared for the Brisbane Valley Rail Trail also has addressed a number of these issues and is broadly divided up into the guiding principles, a trail protection policy and management decisions (such as dogs on the trail, fire and risk management).

17.2.4 An Emergency Response Plan

Events in Victoria in February 2009 have thrown the need for emergency planning and management into sharp focus. Trail managers need to be very conscious of the need to prepare emergency response plans and work out how to deal with emergencies on trails (this is not limited to fires).

The key elements of an emergency response plan are:

- general risk management;
- fire risk and fire management;
- the provision of appropriate signage;
- trail access for emergency service vehicles;
- the provision of helicopter landing zones;
- emergency responses – how and who;
- the provision of adequate information and mapping to the services' communications centres;
- the need for special agreements between emergency service providers and the trail manager; and
- the provision of on-trail communication systems.

17.2.4.1 General risk management

A risk is the chance of something happening as a result of a hazard or threat that will impact on an activity or planned event. Risk arises out of uncertainty. It is measured in terms of the likelihood of it happening and the consequences if it does happen. Risk therefore, even on trails, needs to be managed. Ignoring the risks that apply to a recreation trail or events planned along a trail could impact on:

- the health and safety of trail users, staff, volunteers and event participants;
- the reputation, credibility and status of the trail and its manager (or trail association);
- public and customer confidence in the trail manager;
- the trail manager's financial position; and
- plant, equipment and the environment.

A systematic approach to managing risk is now regarded as good management practice. Risk management is a process consisting of well-defined steps which, when taken in sequence, support better decision making by contributing to a greater insight into risks and their impacts. It is as much about identifying opportunities as it is about avoiding losses. By adopting effective risk management techniques the trail manager can help to improve the safety of trail users, the quality of experience for trail users and business performance of the trail organisation. With recent significant increases in the cost of public liability insurance and its decreased availability, the issues of risk and critical incident management have never been more important for organisations involved in the tourism/visitor industry, including trail managers. Sound risk management can prevent injuries from occurring, and help to reduce insurance claims and costs. Risk management is of particular importance to nature based and adventure tourism operations, and requires careful consideration in how it is planned for and dealt with. The courts expect that a business (including local governments) will exercise due diligence in carrying out hazard assessment, risk management planning and emergency response planning. There are many benefits in implementing risk management procedures. Some of these include:

- more effective strategic planning;
- better cost control;
- increased knowledge and understanding of exposure to risk;
- a systematic, well-informed and thorough method of decision making;
- increased preparedness for outside review;
- minimised disruptions;
- better utilisation of resources;
- strengthening culture for continued improvement; and
- creating a best practice and quality organisation.

Though the trail would be located on a reasonably flat grade, and is wide enough to accommodate several user groups, there will be risks associated with use of the trail.

Some of the risks involved are:

- encountering motor vehicles at the (numerous) road crossings;
- conflict between user groups (especially horses and walkers, horses and cyclists, cyclists and walkers);
- encountering illegal trail users such as cars/4WD and trail bikes;
- falling from unprotected bridge crossings (though handrails on all bridges over 1 metre high would be required);
- falling from high embankments (where there are no barriers);
- being caught in a bush fire; and
- being bitten by a snake.

Good design and construction address some of these risk elements. Many trail projects have in place a maintenance plan which sets out clearly the items which require regular inspection, the frequency of that inspection and assessment, the actions to take in response to degraded surface conditions or infrastructure, and remedial action to rectify a problem or fault (this is discussed in detail in Section 17.2.5 below).

The threat of bush fires is always present (see 17.2.4.2). Though snakes are rarely encountered, it may be prudent for trail promotional material to carry a warning about possible encounters.

17.2.4.2 Fire risk and management

The trail manager will be responsible for implementing fire protection and management along the rail trail corridor to protect life, property, public assets and natural and cultural values from fire, reduce the incidence of fire, reduce the severity and restrict the spread of fire. The aim of fire management is to ensure trail users and adjoining landholders are protected from fire commencing on or travelling along the rail trail corridor. To reduce the incidence of fire starting from the rail trail all open or solid fuel fires should be prohibited. Any grazing licences issued to adjoining landholders along the rail trail corridor need to include the requirement for fire management works in the licensed area. At visitor facilities, and other large grass areas that are not grazed, slashing will be used to reduce fuel loads. Where the corridor has tree cover or where revegetation is to occur, there will be a need to provide a buffer zone along the boundary or alternatively seasonal grazing of the vegetated area to reduce fuel loads will be permitted. Relevant signage at trailheads (discussed in Section 10) needs to include fire warnings.

Fire management issues include:

- Fire risk factors in the area – risk profile is influenced by a number of factors including slope of the land (hilly terrain and north and west facing slopes increase risk), response time for emergency vehicles (the closer in to towns a place, the less time for emergency vehicles to get there), proximity of roads and how heavily trafficked they are (highways and major arterials increase risk due to higher numbers of passing motorists), and closeness of refuges including fire-proof buildings and roads.

- Ideally, trail design should allow for fire vehicle passing bays (15 metres long by 6 metres wide) every 2 kilometres.
- Fire management responses for the trail. These included closure on days of total fire ban (and consequential policing). On a previous project in this region, the Rural Fire Service has indicated that current mapping technology provided good indicators as to fire paths which would allow parts of the trail to be ranked in terms of fire risk (recognising that nothing can be absolutely precise). Possible management responses in zones of highest fire risk may include provision of on-trail shelters, reconstruction and/or strengthening of bridges to carry fire vehicles (around 13.5 tonnes), appropriate warnings, and possible longer closures on these sections (rather than just on days of total fire bans). Sections of trail in zones of lower fire risk could have a lower level of fire management response.
- The possibility of banning smoking on the rail trail under NSW legislation governing smoking in outdoor areas. It is acknowledged that this is difficult to enforce except by having a constant presence; it is however a possible 'tool in the toolbox' for managing fire risk.

It is of major importance to develop a Bush Fire Risk Management Plan early in the planning process in consultation with the Rural Fire Service. This is an issue with many rail trails (and in fact with any activity that takes people out into the bush in significant numbers). It has been successfully tackled elsewhere.

For example, the Lilydale to Warburton Trail has developed a Wildfire Risk Management Plan. The Plan includes a number of objectives and relevant actions. The objectives are:

- Providing a safe recreation trail for walkers, cyclists and horse riding;
- Providing a safe access onto and along the trail for all emergency vehicles;
- Minimising the risks of fires spreading from or onto the rail trail; and
- Developing annual maintenance works and maintenance programs (with an accent on fire hazard reduction).

The Rural Fire Service provides assistance on a cost-recovery basis to authorities to prepare fire management plans – it is recommended that this service be used. The formal presence of Rural Fire Service representatives on any ongoing management structure would also be a positive step.

Any fire management plan needs to take into account the recently developed Bush Fire Risk Management Plan, a draft of which has been prepared (January 2009) by the Riverina Highlands Bush Fire Management Committee.

17.2.4.3 Appropriate signage

Emergency signage is discussed extensively in Section 10.6.8. In summary, the emergency signage that should be erected on a trail consists of:

- Distance signs at regular intervals showing distances to next trailhead (double-sided);

- GPS identifiers at all road crossings (attached to the Give Way sign posts); and
- Trailhead signage specifying what to do in an emergency, the numbers to call, the location of public phones, and the capacity for a flip-down sign indicating trail closure (due primarily to fire, flooding or maintenance work).

17.2.4.4 Trail access for emergency vehicles

The main design elements are:

- Passing opportunities for emergency service vehicles are required. Parts of the corridor may be leased to adjoining landholders and they may choose to fence the sections they use reducing trail width to 5 m. However, all other sections of the corridor will be in the order of 20 m wide, providing sufficient passing opportunities for emergency vehicles. As a rule, vehicle passing bays (15 metres long by 6 metres wide) should be allowed for every 2 kilometres.
- Bridges should also be able to carry the weight of a 4WD ambulance vehicle (4 tonne). Some bridges should also be able to carry the weight of a rural fire appliance (13 tonne), though this will depend on where the bridge is and where the major fire zones are.
- Emergency vehicles will need to have access to the trail. The simplest option is to ensure that all locked management gates along the trail have the same locking system, either key or combination locks. The preferred option is a combination lock. A single combination for an entire trail is recommended; this can be registered with the communications centres of each of the emergency services, who dispatch vehicles to emergencies.

17.2.4.5 Emergency responses – who and how

In an emergency situation, one of the key issues that arise is how an emergency is communicated. As noted in Section 10.6.8, the emergency number from a landline is 000, while the emergency number that works best from a mobile phone is 112. Once a call is made by a trail user, the communications centre for the appropriate service dispatches the required personnel and vehicles. The trail manager would only likely to be involved after the emergency situation is resolved, to review and record the incident, and to review the response.

It is a different situation when the emergency is a slowly emerging situation, such as a period of total fire ban (or very high fire risk) or the likelihood of flooding. The trail manager needs the vested authority to close the trail under such circumstances (under relevant state government legislation). Once the trail manager advises police that the trail (or part of the trail) is closed, police have the powers to ensure that people do not go onto the trail or can be removed from the trail if they are on it (an administrative trespass) though most people accept the advice of police. In an emergency such as a fire or flood (as opposed to trail closure because of a fire risk for example), emergency services have 'command and control' powers which allow them to remove people from a situation considered to be dangerous. In such circumstances, emergency service personnel are 'out and about' and see people and move them to an appropriate place.

At times when the trail needs to be closed (such as a very high fire risk), police would be able to travel to trailheads in their area and 'flip down' the Trail Closed sign (as discussed in Sections 10.6.8).

17.2.4.6 Provision of adequate information for communications centres

As the trail develops, mapping data should be provided to the communications centres for each of the emergency services. The data that should be entered into their system covers maps with the location of trail distance markers (and their reference points), and road crossings (and their GPS coordinates) marked on the maps. One set of data should be developed and given to all the communications centres.

17.2.4.7 Special agreements

There is usually no need for special formal arrangements between the trail manager and the emergency services for a trail. It is a resource and an activity that the emergency services need to deal with as part of their everyday activities. Any major events on the trail should trigger early involvement by police and ambulance in particular – this is good practice and ensures good relationships.

17.2.4.8 On-trail communications systems

The placement of emergency phones on the trail as a way of ensuring that emergencies could be managed could be considered. However, this is a significant cost item to install, replace and maintain. In addition, most trail users would have some form of mobile phone. In addition, placing phones on the trail possibly increases the trail manager's liability – if a phone does not work (for instance it is broken), an aggrieved person may look for recompense from the trail manager. Public phones are often quite accessible from trailheads and their locations should be shown on all trail mapping (brochures, trailheads, Web sites etc.)

17.2.5 A Trail Maintenance Plan

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. Depending on a swathe of conditions – weather, soil types, construction standards, usage patterns and more – trail maintenance can cost up to 10% of total construction costs – or more - *every year.* Recent work for Crows Nest Shire (in Queensland) on a package of ten walk trails and two canoe trails (with significantly less lengths that involved in the rail trail) set maintenance costs at around 5.5% of the trail development budget of over $500,000. This can be a daunting prospect, particularly for cash-strapped Government Departments, Local Governments and not-for-profit community organisations.

It is always difficult to quantify maintenance costs in their totality (given that some work can be done by volunteers and some done as part of a Council's ongoing maintenance program). As a general rule, trail maintenance costs (at full commercial rates) are as follows:

- $5/metre/year for sealed path maintenance.
- $20/metre/year for bridge maintenance.
- $2/metre/year for non-hardened surface (a decomposed granite or similar) maintenance.

The opportunity exists to minimise future maintenance demands through careful planning and construction. Too often initial costs are cut in the belief that all trails require maintenance anyway, and something not done properly today can be fixed in the future. 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 (as discussed above) 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.

Erosion (caused by weather and unauthorised users), regrowth of vegetation, fallen trees and branches and damage to signage and fences are likely to be the greatest maintenance activities on the trail. Providing these effects are attended to early, they 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. It would be short sighted to go ahead and build the trail and then baulk at the demands of managing and maintaining it.

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.

17.2.5.1 Public Liability and Risk Management

It is prudent that the trail manager is aware that – whether or not visitors are actively encouraged to come to the trail – they carry a significant duty of care towards those visitors accessing the trail. The maintenance of a quality trail is therefore critical from this perspective. Recent legislative changes across Australia have reduced the number of small claims against land managers. However, liability generally rests with the land managers and hence, every attempt should be made to minimise the risk of accident or injury to trail users (and therefore the risk of legal action).

While public liability is certainly an issue for all land managers, it is not a reason to turn away from providing safe, sustainable and enjoyable resources. It is simply a mechanism by which to recognise the responsibilities inherent in managing natural and built resources. Dealing with a perceived liability threat is not about totally removing that threat – it is about doing all that is manifestly possible to provide *safe* access opportunities for visitors, thereby minimising the risk of liability claims.

A formal Hazard Inspection process is crucial in the ongoing maintenance plan. Not only will this define maintenance required and/or management decisions to be addressed, it is 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.

17.2.5.2 Trail Maintenance Activities

The discussion that follows provides general guidance for the development of maintenance plans should the trail proceed. It is not a substitute for specific maintenance plans for the trail.

Maintenance on trails 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.

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. 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. Table 17.1 gives a suggested schedule for general maintenance activities to achieve acceptable maintenance levels. Explanatory notes pertaining to each Activity follow the table below.

Table 17.1: General Maintenance Activities

Activity	***Site***	***Frequency***
Undertake full inspection of the trail	Entire trail	Every second month
Check signage and clean, replace or repair as required esp. road crossing signage and directional markers	All locations	Every second month - at each trail inspection
Check trail surface and arrange repair as required	Entire trail	Every second month. Check for erosion at each inspection.

		Arrange repairs immediately if acute, or schedule maintenance for six monthly work sessions if not
Maintenance of trail surface	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	Entire trail	Every six months
Cut back regrowth, intruding and overhanging vegetation	Entire trail	Every six months, unless obviously requiring attention at regular inspections
Check structural stability of interpretive signage, and interpretive shelters	Various locations	Every six months
Undertake Hazard Inspection and prepare Hazard Inspection Report	Entire trail	Annually
Check structural integrity of bridges	Various locations	Every 3 years
Major repairs and replacements	Entire trail	Every 5 years
Major repairs and replacements	Entire trail	Every 10 years

(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).

Trail signage

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.

Each trailhead should be carefully checked to ensure that all signage is present, and that all signs are clearly visible and legible.

An inventory of locations needs to be prepared to assist in regular maintenance.

Vegetation

Undergrowth vegetation grows quickly, and over time will continue to intrude into the trail 'corridor'. Such intruding vegetation will be cut back to provide clear and safe passage - a minimum clear space 2.5 m wide by 3.5 m high should be provided at all times. Care will be taken to ensure that sharp ends are not left protruding into the trail as these can harm trail users. It should be noted that trailside vegetation hangs lower when wet, and allowances should be made for this when assessing whether or

not to prune. "Blow-downs" - trees or limbs which have fallen across the trail - will be cleared as a part of this process. Sight lines must be kept clear either side of road crossings as a part of this process, to ensure that users can clearly see a safe distance either way at road crossings.

Trail surfaces

Many of the trail sections will require regular surface maintenance. Primary focus will be on erosion damage caused by water flowing down or across the trail and by illegal motor vehicle use. This must be repaired as soon as it is noted, or it will get worse, quickly.

Interpretive signage

Once interpretive panels have been installed along the trails, these 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.

By way of illustrative example, the Railway Reserves Heritage Trail's Trail Maintenance Plan includes:

- Prepare infrastructure inventory identifying and showing the location of existing and proposed trail elements, such as directional and information signage, boom gates, information shelters, drinking fountains, etc.;
- Hazard inventory and inspection timetable;
- Control of vegetation overgrowth;
- Maintenance of the trail surface;
- Inspection and repair of fencing and gates;
- Deferred maintenance program;
- Appraisal of capital costs, labour hours and/ or dollar value for annual maintenance requirements;
- Responding to customer requests, including trail users; and
- Review of current environmental conservation and rehabilitation projects and suggestions of location and requirements of new ones.

SECTION 18 – RESOURCES & FUNDING OPPORTUNITIES

18.1 Introduction

Facing an ambitious project that encompasses significant trail development can be daunting indeed. Proponents may well ask: "Where are the funds going to come from for trail development, promotion and the range of other matters necessary for the creation and upgrade of this trail?" Members of the community have asked these questions during consultation, and Gundagai Shire Council has its position clear - capital costs for construction will need to be found from external sources and the ongoing maintenance costs will be incorporated into Council's ongoing budget but will need to be 'topped up' by external funds.

Resourcing trail construction and promotion programs can certainly be challenging, as can resourcing ongoing maintenance. It must be recognised that projects such as this are an investment in the future. Well planned and built, well interpreted and appropriately promoted, the trail will bring tourists and money into the area. It will create employment, and significantly assist in the conservation and preservation of heritage sites along its route. The trail will also benefit the local communities. But where will the money come from?

A range of funding sources and other resources are currently available, and some of the better known are summarised below. This list should NOT be taken to be full and final.

There can be significant time lags in taking this project from this stage (feasibility stage) to construction. It is important to note that, in that time, funding programs can change dramatically. For example, significant development of the East Gippsland Rail Trail (Victoria), the Murray to the Mountains Rail Trail (Victoria) and the Coast to Vines Rail Trail (SA) was funded under the Commonwealth Government's Regional Partnerships Program. When the Government changed in 2007, this funding program was closed. The tables presented below are correct at the time of report preparation, but should not be relied upon to detail future funding options if the trail construction does not proceed for some time.

18.2 Commonwealth Government

Dept	Program	Contact details	Available funds	Criteria including program aims	Closing date	Relevant Component of trail development
TQUAL Grants will be delivered by AusIndustry in the Department of Innovation, Industry, Science and Research on behalf of the Department of Resources, Energy and Tourism.	TQUAL (formerly known as the Australian Tourism Development Program)	www.ret.gov.au/tourism or at www.ausindustry.gov.au/tourism and follow the links to TQUAL Grants. Alternatively, contact the AusIndustry Hotline on 13 28 46	Category 1 $5,000 - $100,000 Category 2 $100,000 - $500,000 Category 3 $25,000 - $500,000.	Category 1 grants of between $5,000 and $100,000 for Innovative Tourism Projects. Category 1 projects should aim to stimulate the development of innovative tourism product, service(s) or system(s). Category 2 grants of between $100,000 and $500,000 for Integrated Tourism Development Projects. Category 2 projects should aim to enhance the overall tourism appeal of a large area by encouraging inter-regional collaboration to achieve greater tourism benefits. Projects funded under this category will be large scale, collaborative, multi-faceted activities that involve a number of regions. Category 3—grants of between $25,000 and $500,000 for National or Sectoral Tourism Initiatives	Applications for funding opened on 15 April 2009 and will close on 11 June 2009.	Trail construction Business planning Interpretation

The aim of TQUAL Grants is to stimulate sustainable growth in the Australian tourism industry. It will do this by supporting innovative, high-quality tourism products that contribute to the long-term economic development of Australia.

Note

(a) Trails have been successfully funded under the forerunner of this program (the Australian Tourism Development Program) in the four years of its operation.

2004 Development of the Nannup to Jarrahwood Rail Trail in Western Australia ($98,000), the Swan Valley Bike Trail ($83,650) and the development of a concept design and business plan for Stage 1 of the Mitchell-Murrundindi-Mansfield Rail Trail in Victoria ($100,000) are trails that benefited from this program. A number of drive trail and cultural trail projects also attracted funding (over $100,000).

2005 Development of the Oberon to Tarana Rail Corridor as a rail trail and heritage rail in NSW ($100,000), construction of the Six Springs Mountain Bike Trail in South Australia as part of a larger project ($61,000), and upgrading and sealing of a part of the Cape to Cape Track in Western Australia ($96,000) are trails that benefited from this program. Interpretation projects also received significant funding. For example, Tales from the Port of Echuca – Stories through Interpretation and Imagery in Victoria received a grant of $50,000. A number of drive trail and cultural trail projects also attracted funding (over $100,000).

2006 Development of the Illawarra Fly Tree Top Walk in NSW ($100,000) and the Three Huts Walk in the Mt Hotham Alpine Resort in Victoria ($100,000) were trails and walkways that benefited from ATDP funds. One drive trail also attracted funding over $100,000.

Additional notes

1. *On 13 February 2009, the Australian Government announced an additional $500 million to the previous $300 million Regional and Local Community Infrastructure Program (RLCIP) announced on 18 November 2008. The funding is for local government to stimulate growth and economic activity across Australia and support national productivity and community well-being. This program was announced as a one-off program and it is not known whether it will continue to be available in subsequent years. A number of factors were worth noting:*
    - *The applications were limited to local governments, and only one application per council was allowed;*
    - *projects must be ready to go and able to proceed within six months of signing a contract;*
    - *projects must be seeking a Commonwealth contribution of at least $2 million; and*
    - *turn-around time for applications was extremely short – the additional funds were announced on 13 February 2009 and applications closed on 6 March 2009. This emphasises the need to have all documents and plans in place to take advantage of such one-off funding opportunities should the Council decide to proceed with this project*

    Ongoing funding under this program will be determined as part of the 2009/2010 Commonwealth budget.
2. *During the 2007 election, the Australian Government made a significant commitment to fund projects that had been identified by local communities across Regional Australia as priority investments for their region. These projects are now being implemented under the $176m Better Regions Program and will provide important community infrastructure which will significantly enhance the liveability of regions and regional towns. This program is not open to new applications. However, from 2009-10, the Australian Government will commence a new regional and local community infrastructure program to fund community infrastructure projects and make sure that investments in regional Australia promote sustainable economic growth and benefit the community as a whole. In addition, the House Standing Committee on Infrastructure, Transport, Regional Development and Local Government is holding a public inquiry into the development of the new program and will provide advice as well. (see www.infrastructure.gov.au/regional/better_regions)*
3. *The Commonwealth Government's recently announced $42 billion economic stimulus package includes an allocation of $50 million for investment in specialist bicycle infrastructure. Details of this element are not available at this time.*

18.3 NSW Government

Dept	Program	Contact details	Available funds	Criteria including program aims	Closing date	Relevant Component of trail development
NSW Sport and Recreation	Regional Sports Facilities Program	Web: www.dsr.nsw.gov.au/grants/cap.asp	Projects between $30,000 and $300,000 Projects are funded on a matching contribution basis	Aims to assist with the construction or upgrading of facilities that will increase participation in sport, recreation and physical activity Local Governments and not for profit recreational organisations are eligible to apply	2009/10 round not yet opened. Previous round closed on 20 July 2008	Trail construction and facilities
NSW Sport and Recreation	Capital Assistance Program	Web: www.dsr.nsw.gov.au/grants/cap.asp	Projects are funded on a matching contribution basis up to $30,000.	Aims to assist in the development of community oriented local sporting and recreational facilities Projects must improve access for the general public to participate in recreation and/or physical projects. Projects that improve safety for users and participants are considered. Local Governments and not for profit recreational organisations are eligible to apply	2009/10 round not yet opened. 2008/09 round closed on 28 November 2008.	Trail construction and facilities

Dept	Program	Contact details	Available funds	Criteria including program aims	Closing date	Relevant Component of trail development
Heritage Branch, Dept of Planning	Special program for major cultural and community heritage buildings	Web: www.heritage.nsw.gov.au	Projects between $12,500 and $75,000. Projects are funded on a matching contribution basis (for projects up to $150,000)	Program designed for the conservation, maintenance, works to meet Building Code Australia upgrades for the ongoing and adaptive reuse of major cultural and community heritage activities, that are heritage items listed on the State Heritage Register, or state or local heritage items listed in a Local Environment Plan.	2009/10 round not yet opened. Previous round closed on 28 November 2008	Gundagai Bridge refurbishment and reuse

18.4 Corporate Sponsors

Sponsorship is big business – and very competitive. Two main options exist: either negotiate with local corporate entities which have a geographical and social connection with the area or go after the 'big' players for big projects. Many large companies have formalised sponsorship programs.

Elsewhere in Australia, funding for trail development has been received from a number of major (and minor local) companies. Significant sums can be gained if benefits can be proven. Any company with an operation within the region would appear to be a potential sponsor. Alcoa has been a major contributor to Western Australia's two premier long distance tracks – the Bibbulmun Track (walk) and the Munda Biddi Trail (mountain bike). In the case of the Munda Biddi Trail, Alcoa funded major parts of track construction and interpretation. In March 2006, BHP Billiton announced it would provide over $200,000 for the Coast to Crater Rail Trail in western Victoria to help construct the trail from Camperdown to Timboon and fund a design study for further trail extensions.

Companies are looking to be good local citizens and being associated with a positive asset such as a trail can be good for business. Companies should be approached with the message that such a project will bring a number of benefits to the region. Any approaches to corporate sponsors should focus on a main message that trails and the company products provide an alliance of healthy sustainable living and healthy sustainable products (if such a link exists).

GlaskoSmithKline Australia has donated $10,000 to the development of the Warrnambool to Port Fairy rail trail project to encourage employees to combine their physical exercise with commuting to work. GSK has stated "We are proud to contribute to the establishment of the Port Fairy rail trail through our Community Partnerships Program. We see this project as being of benefit not only to our own employees, but also to the local community as a whole."

Corporate entities are looking to make community commitments in a number of ways other than direct funding. The Macquarie Bank Foundation (discussed further below) looks to supply time and expertise as well as funding. Many other banks have both a competitive grants program and a volunteer scheme which provides paid volunteer leave to every employee. Organisations such as the ANZ and National Banks also look for community development options for their staff e.g. corporate team building days are held on a trail.

What is important in dealing with potential corporate sponsors is to have a clear trail development plan (the next stage of work should the trail proponent determine to proceed), a well-developed message to send to them, clear pointers as to what and where their engagement might be, and a clear indication of how they might benefit from their involvement. Going to companies on a frequent basis with no clear structured approach, no idea of what their involvement might be (beyond direct financial grants) and no clear message as to what benefits their involvement will have for them almost guarantees failure.

18.5 Other Trail Resourcing Opportunities

18.5.1 Defence Assistance to the Civil Community

On a previous local project (Riverina Highlands Rail Trails Feasibility Study), the RAAF Base Commander at Forest Hill indicated that she has discretion to provide other resources to projects she determines as suitable. At that time, the base Commander indicated the base does not have significant resources available other than people, but she indicated a willingness to consider requests. The Kapooka Army Base may have both human and non-human resources that the Base Commander would have some discretion to commit. It is understood that a bridge on the Hume and Hovell Track near Tumut was constructed with significant technical and construction input from Army engineers, who supplied labour at a minimal cost. This is a potential source of labour for any project.

18.5.2 Heart Foundation

The Heart Foundation Kellogg Local Government Awards are held each year to acknowledge projects and initiatives that local councils and organisations are delivering in their communities to promote and improve heart health. While not a significant source of funds, there is a $10,000 prize for the overall winner and a $1,000 prize for each State winner. The award also offers positive promotional opportunities. The award is for Local Governments rather than community-based organisations; this does provide a "hook" for councils to become involved in a trail project.

The Murray to the Mountains Rail Trail has won the Best Overall project. Lake Fred Tritton, an artificial lake in Richmond Shire (Qld) with a significant walk trail constructed around its edges, won the Best Overall project and the Recreation Infrastructure Project in 2004. The Peninsular Pathlinks Program, a program to develop 77 kilometres of new trails and walkways in the 42 communities in the Mornington Peninsula Shire (Victoria) won the Best Overall project and the Recreation Infrastructure Project in 2005. For further details, the Heart Foundation's website is www.heartfoundation.com.au.

18.5.3 Green Corps

Green Corps is a federally funded "Young Australians for the Environment" program. A major project provides a host partner agency with 10 trainees and a supervisor for 14 weeks within a 26 week program. All materials, tools and technical supervision, accommodation and some other basic requirements must be provided.

18.5.4 Work-for-the-Dole

Schemes to provide meaningful work experience and some training for long-term unemployed are provided under the Work for the dole scheme. The program generally only supplies labour – the host agency is responsible for tools, materials, technical supervision etc.

18.5.5 Conservation Volunteers Australia

Conservation Volunteers Australia provides small crews of volunteers, with a supervisor, to undertake environmental activities. Teams of between five and eight people work for one to two weeks. An administration fee is imposed by CVA – currently $500 per day. Materials, tools and technical supervision need to be provided by the host agency. CVA has been involved in trails project elsewhere in Australia –

they were heavily involved in construction of a new walking track around the base of Mt Tibrogargan in the Glasshouse Mountains in South East Queensland. This trail is of the highest quality and is a testimony to their skills as trail builders.

18.5.6 Prison Crews

Crews of minimum security inmates have worked extensively in trail construction in Western Australia in the last ten years. This has proven a hugely beneficial program - to host agencies, to the Ministry of Justice and to the inmates themselves. A prison officer and transport is usually provided, but materials, tools, and technical supervision are required. In addition the Ministry may require host agencies to cover the Ministry's costs (staff etc).

It is anticipated that prisoner crews have been used in NSW on a variety of programs, though their deployment in trails projects is not known. Mannus prison labour is used regularly by Tumbarumba Shire Council on a range of community infrastructure projects; the Council has recently signed a long-term agreement with the prison farm (which houses low risk offenders) to provide labour for the maintenance of the relevant part of the Riverina Highlands Rail Trail should it proceed.

Above left and right: trails and trailside facilities in Western Australia have been constructed AND maintained by prisoners on day-release crews. These low-risk offenders have been deployed to numerous trail and community projects throughout Western Australia. The Mannus prison affords a similar option for trails in the Riverina region.

18.5.7 Volunteers

Volunteers are often the last thought-of resource but are often the most effective. Many trails are only built – and then kept alive – by volunteer input. The way forward is to either establish a specific local 'Trail Volunteers' or 'Friends of…' group, or tap into existing community organisations such as service clubs, progress associations, schools, scouts etc. There is also a growing network of trail advocates whose experience is extremely worthwhile. Concerns have been expressed in a number of forums (including popular media) about getting volunteers in a time when people have very busy lifestyles. This is acknowledged, however the Bibbulmun Track in Western Australia provides an encouraging lesson. Some 780 kilometres of the Track (total length of 962 kilometres) is maintained by volunteers five years after opening. It is worth noting that Gundagai Shire has a higher than State average portion of volunteers within its community.

Volunteer labour can also be used in innovative ways to benefit a number of community sectors. One rail trail in Victoria needed bridge construction and put out a

public tender for the work. The tender was won by the local branch of the Country Fire Authority, which needed a new fire engine. Labour in bridge construction was "swapped" for a new fire engine.

18.5.8 Philanthropy

There are a number of philanthropic organisations in Australia (though not in the same numbers as the USA). The brief has not permitted time to extensively research all these. The Macquarie Bank Foundation currently contributes more than $2.5 million a year in community grants. Its core areas include the health care and research, the environment and the arts (trails can address each of these core areas). Macquarie looks for opportunities that are innovative, genuinely responsive to the community's needs and that also enable Macquarie to contribute time and expertise, as well as financial support. The Ian Potter Foundation has a number of interests, including environment and conservation (details can be found at www.ianpotter.org.au and

Above left and right: On the Lilydale to Warburton Rail Trail in Victoria: a "win-win" situation – trail users get two new rail-trail bridges while the Country Fire Authority gets a new engine.

follow the links). The information on the Foundation indicates that, under its Environment and Conservation program, it supports small projects that combine elements of biodiversity and ecology preservation, volunteerism and community education. A trail development could fall within this mandate.

The Foundation for Rural and Regional Renewal (FRRR) is Australia's only national foundation dedicated to the needs of rural and regional Australia. The FRRR was established through the support of the Sidney Myer Fund ($1 million) and the Australian Government. The FRRR is a philanthropic foundation, with an independent board, to help provide a viable social and economic future for Australia rural and regional communities. It aims to encourage innovative collaboration between business, community and government in philanthropic endeavours that will boost the economic and social well-being of regional Australia. The Foundation sets out to achieve its objectives in a variety of ways including funding projects that have the potential to achieve significant results for people within rural and regional Australia. The Foundation also administers a number of small grants programmes, which have developed to help rural and remote communities with small, well-targeted grants. This Programme is aimed at (but not limited to) communities with a population of 10,000 or less and provides grants up to $5,000 or $10,000.

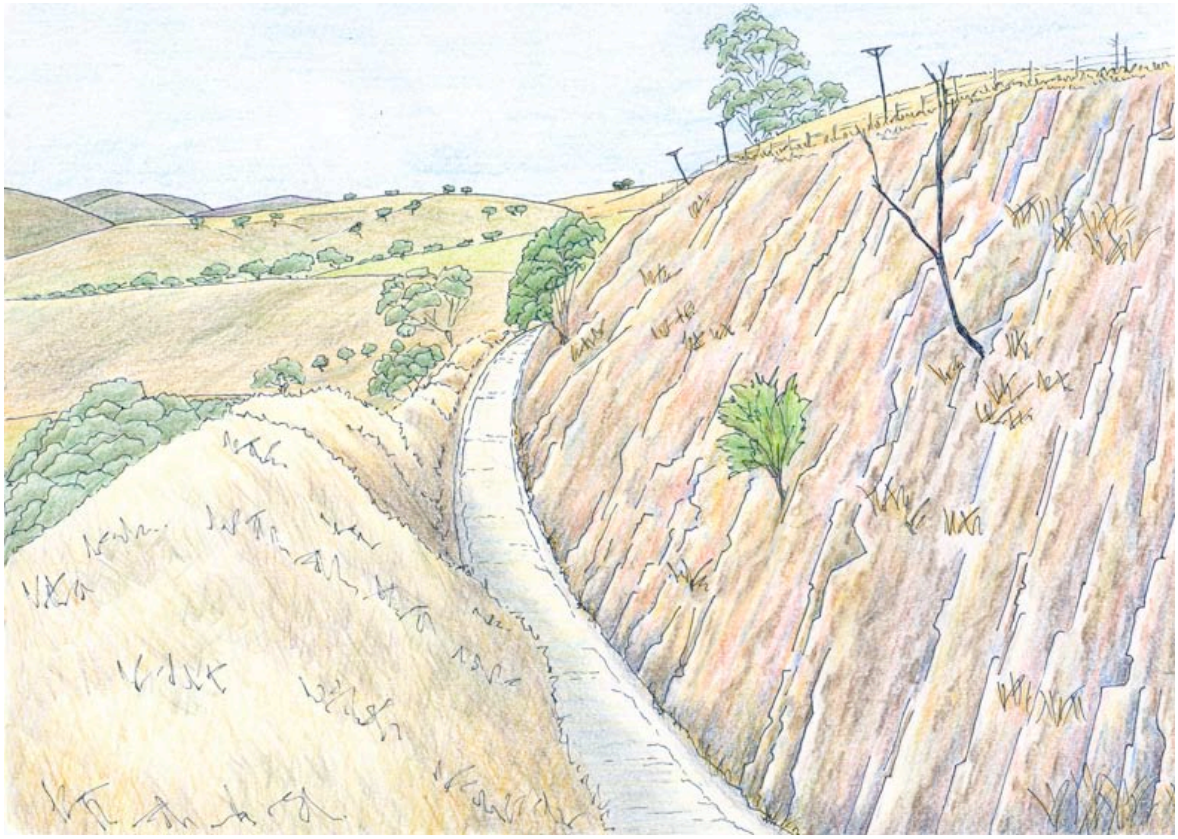
APPENDICES

APPENDIX 1 – "Before" and "Afters"

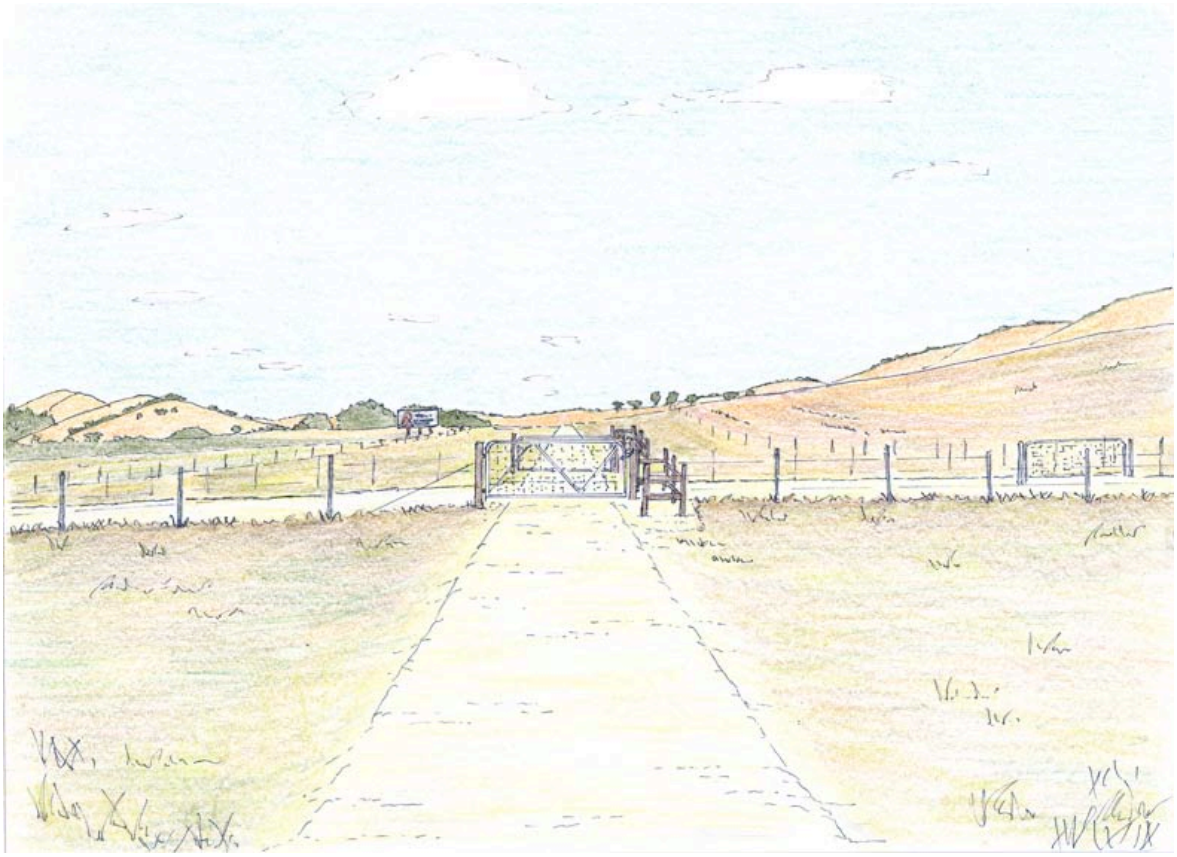
Above: Sleepers remain along most of the formation. This section of the corridor is unfenced now, although during operation of the trains it would have been fenced. (Photo taken from road reserve which crosses railway). Below: Cyclists and walkers will be able to enjoy the scenic attractions of the area.

Above: Most bridges remain in very good condition, some with the steep railway track still in place. Below: Re-decking and handrails will be required on all bridges.

Above: The original cuttings provide a point of interest along the proposed rail-trail route. Below: Trail construction in cuttings involves clearing, trail surfacing and attention to drainage.



Above: Road crossings require special attention. Below: To prevent unauthorised users (such as 4WD and motorised trail bikes) a gating system and fencing is highly recommended.



Above: One of the special qualities of using rail trails is the constant reminder of the history of the region, and the railway – as is the case at each bridge. Below: Construction of the trail will enable users to enjoy a peaceful walk or ride away from motorised traffic.

Above: Rail trails typically enable users to ride/walk along embankments and through cuttings, on a flat graded trail surface. Below: Construction of the trail will provide users with spectacular views out over the surrounding landscape.

Above: The new alignment of the Hume Highway has been constructed over the old railway formation.
Below: Several kilometres of new trail will need to be constructed alongside the Highway.

APPENDIX 2 – TESTIMONIALS FROM PEOPLE LIVING ALONGSIDE RAIL TRAILS

Otago Central Rail Trail, New Zealand

Graham Duncan – A farmer:

"I was really against the whole idea of a rail trail but I'm pleased to admit that I was wrong. It's worked wonderfully well here. It's bringing a lot of people through Central. They appreciate it and I think that DOC have shown a lot of foresight in developing this rail trail and they should be congratulated for it."

"Most of the objections were pest and weed control and who was going to look after that. And also fire. There's always a great danger of fire in this part of the country, and particularly in rough land."

"They were saying that people would be interested in the history. I said, 'What history?'. I didn't think we had any history here until people started asking questions about my family and forebears. … Then we realised, of course we've got a history. We've got families here in this area that have been here for over 100 years, since the land was settled."

Alison Duncan – The Lodge, Wedderburn:

"I could see that it had possibilities and it has. It's been fantastic, but it did take a wee bit of believing that it would work. It seemed just unreal to just rip up a railway line and then say, what, are you going to bike up there and everyone will love it."

Leo Cleveland:

"Quite a few ladies said to me, look we can see an advantage in this and tourism and putting life back into our communities, and they were miles ahead of the blokes in seeing all this."

Annette Mills – Crows Nest Backpackers:

"There's a lot more people staying at the pub and having meals at the pub, and the shop too has noticed an increase in visitors, and we're hoping that we'll be able to develop this further and it'll help to support the shop which has really only been kept going in the last few years by the mail run."

Joy Broadwith – Broadhaven Backpackers:

"When we started off we didn't expect to get many at all and it's been quite surprising. Sometimes you have to turn people away."

Peter Andrews – Peter's Farm Hostel:

"Most people right through Central that live in the area, don't realise the beauty that's here. They farm it all their life and they just take it for granted. And so many said, 'Who would want to do the rail trail, who will want to cycle through this barren land?', and people are coming from all over New Zealand and all over the world and doing it and loving it."

Lilydale to Warburton Rail Trail, Victoria

(Discussions with landholders adjacent to rail trail.)

Patricia and Christopher – have lived beside the trail for about 30 years conducting their floristry business and flower growing business:

Q - In the early days before the trail, what was it like?

"Difficult. We had a lot of arson and a lot of people using our property as a thoroughfare because the railway was too stony for their horses to ride on and we had lots of animals dumped on our property and we had all sorts of problems."

Q - Since usage has increased with the rail trail open?

"It's been marvellous. We've had lots of lovely people walking up and down. They often say hello to us as we're walking down the drive and a lot of them buy from our little flower stand which is on the end of the property and we've got to know quite a few people through it."

Q - What about vandalism?

"No, it's reduced. We've not had any vandalism whatsoever since it's been opened and we haven't had any problems at all as far as that goes."

Ron and Denise – 19 years farming 200 acres:

Q - What changes have there been since the trail came?

"I was really concerned about the walking track when we were first approached because we used to graze our cattle here, but it really hasn't made any difference to us, in fact we actually enjoy using the walking track now. We ride our bikes on it and that type of thing. Denise walks the dogs so we get use out of it as well so it's not a problem to us any more."

Q - What about the uses? Any problems there?

"Originally we had problems with people being a bit impatient with us when we were using it. … We'd have the gate shut while we were bringing cattle across the track and some people got a bit impatient with us. … People seem to be a bit more understanding now. They realise that it's got a dual purpose. We have to use it to get our cattle across. Most people I've struck lately have been pretty patient and wait back."

Q - What about trail users dogs?

"No we haven't had any problem with dogs. We've got two dogs ourselves and we take them down on the track and walk them ourselves. Our dogs run around here without leads and if we see another dog coming we just put them on leads. No, we haven't had any problems with dogs that way."

Q - Are there the issues you thought there would be initially?

"No, that's what I said before. Denise and I quite enjoy using the walking track and we believe it's an advantage to the property because it gives you another option. We can just ride our bike down the hill and we are on the walking track. And we can go either way and it's a nice little ride either way."

Keryn and Brian Dynes – 9 years living beside the trail. Their property straddles the reserve and they lease a section for agistment and grazing of horses:

"I find it fantastic actually. We were a bit reserved when we first came here because we were worried about losing our privacy, but we've really got used to it and it's fantastic. The amount of people that come past. And we use it ourselves all the time – walking the dogs, riding the horses, riding my bike. I just think it's fantastic; it's a fantastic thing to have."

Q - Are there any issues?

"We haven't had any issues at all. We were expecting to have issues. We thought that people might become a little bit intrusive but we've had no problems and I was a bit worried about people leaving their rubbish and all that sort of thing. We get a little bit of rubbish left every now and then but it's nothing to what I was expecting. So no, I really have no issues whatsoever. People are always very friendly. I think it's great."

Q - What about the security of the animals and passers by?

"It's really good for the animals actually. It gets them used to traffic and people so we can go out on a ride. Even with the dogs, they get used to people as well. I've had no problem with people opening gates or anything like that. Occasionally with my agistors, I give them the opportunity to have a lock on the gate if they're on that side of the trail and most of the time they won't have one. We've never had a problem with anybody with their animals."

Q - What about visitors asking for water or that type of thing?

"It's good to communicate with people and feel that you've helped someone. We've never had any trouble. No-one's ever come here while we're not home, that we've noticed. Nothing missing. That could've been a problem if we'd had something missing. Other than that we've been very happy with the trail."

(All above quotes: Source: Railtrails Australia DVD – August 2004)

Brendon Maloney – Koroit (near Port Fairy, western Victoria). Third generation farmer has been running beef on his 220-acre property for the past 40 years. Talks about the Port Fairy to Warrnambool Rail Trail currently being built. Mr Maloney has 2.2 kilometres of rail corridor passing through his property:

"We are excited about the concept. We think it will do great things for the district and benefit the surrounding communities."

"There is a huge volume of traffic using the Southern Cross Road and I think that traffic will now be encouraged to stop along the rail trail and visit Koroit." He remarks that the rail trail will create huge opportunities for the area.

"In many ways Koroit has played the poor bridesmaid to Warrnambool and Port Fairy, but this rail trail will really put Koroit on the map.

"There is huge potential for growth in the town, with gift shops and other retail outlets sure to be in demand.

"This rail trail is going to be one of the best in Victoria and will bring city visitors to Warrnambool, who will then visit Koroit.

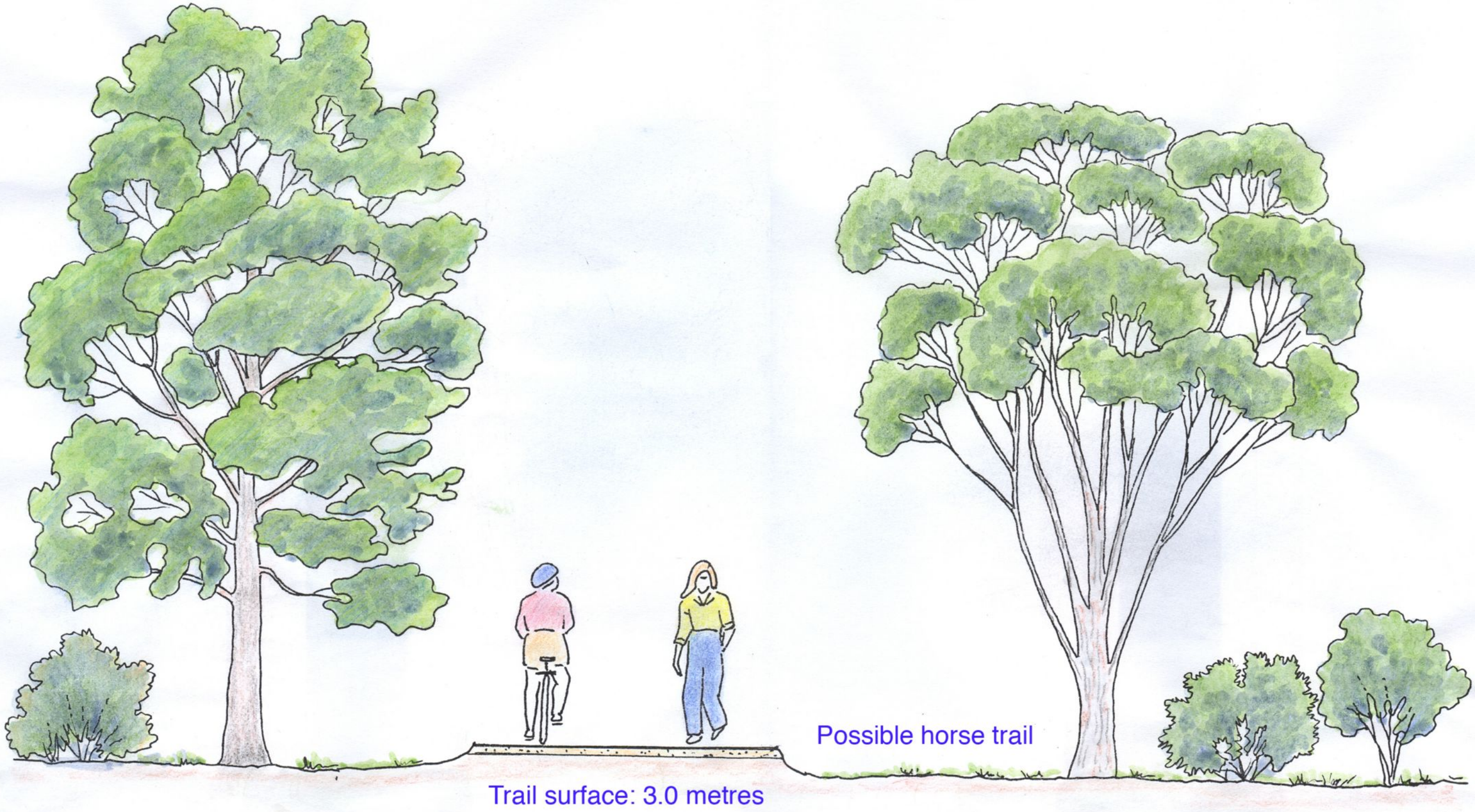
"It will increase the safety of people wanting to explore the natural beauty of the area and increase tourism to the area. Koroit is going to boom."

(Source: The Railtrail Express – newsletter of the Port Fairy to Warrnambool Rail Trail - Moyne Shire Council, Victoria, Issue 5, June 2008)

APPENDIX 3 – DRAWINGS AND CROSS-SECTIONS

1. Typical Cross Section
2. Typical Cross Section – including horse trail
3. Viewshed Obscured by Planting
4. Typical Scene Through Grazing Land with Relocated Fencing
5. Techniques for Maintaining and Enhancing Security and Privacy of Adjoining Properties
6. Typical Major Road Crossing Treatment
7. Typical Major Road Crossing
8. Typical Minor Road Crossing
9. Typical 'Chicane' Arrangement
10. Cavaletti gate system

Appendix 4 – Plans of the Proposed Rail Trail Route

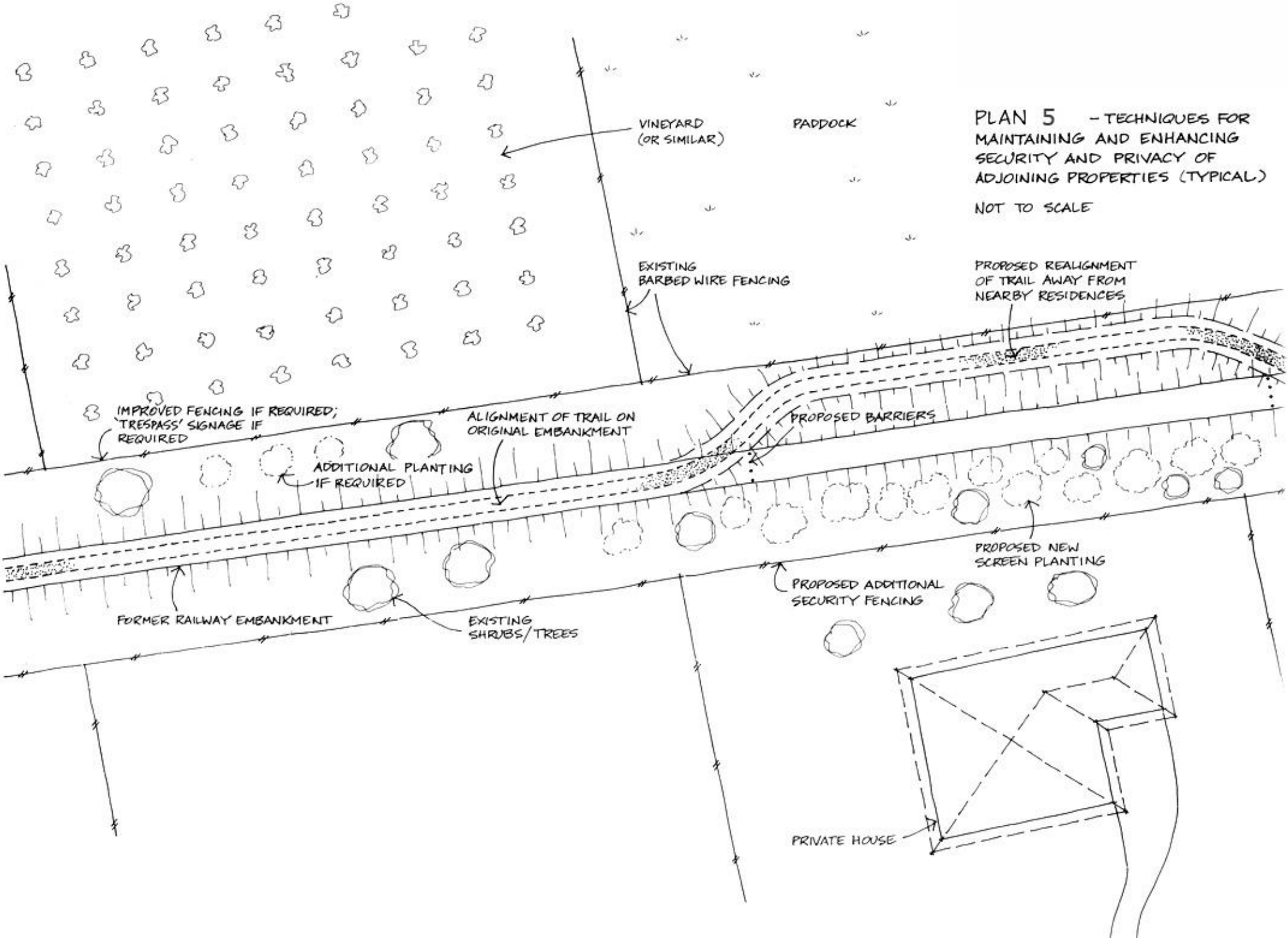


Drawing 1 - Typical Cross Section

Drawing 2 - Cross Section with Horse Trail

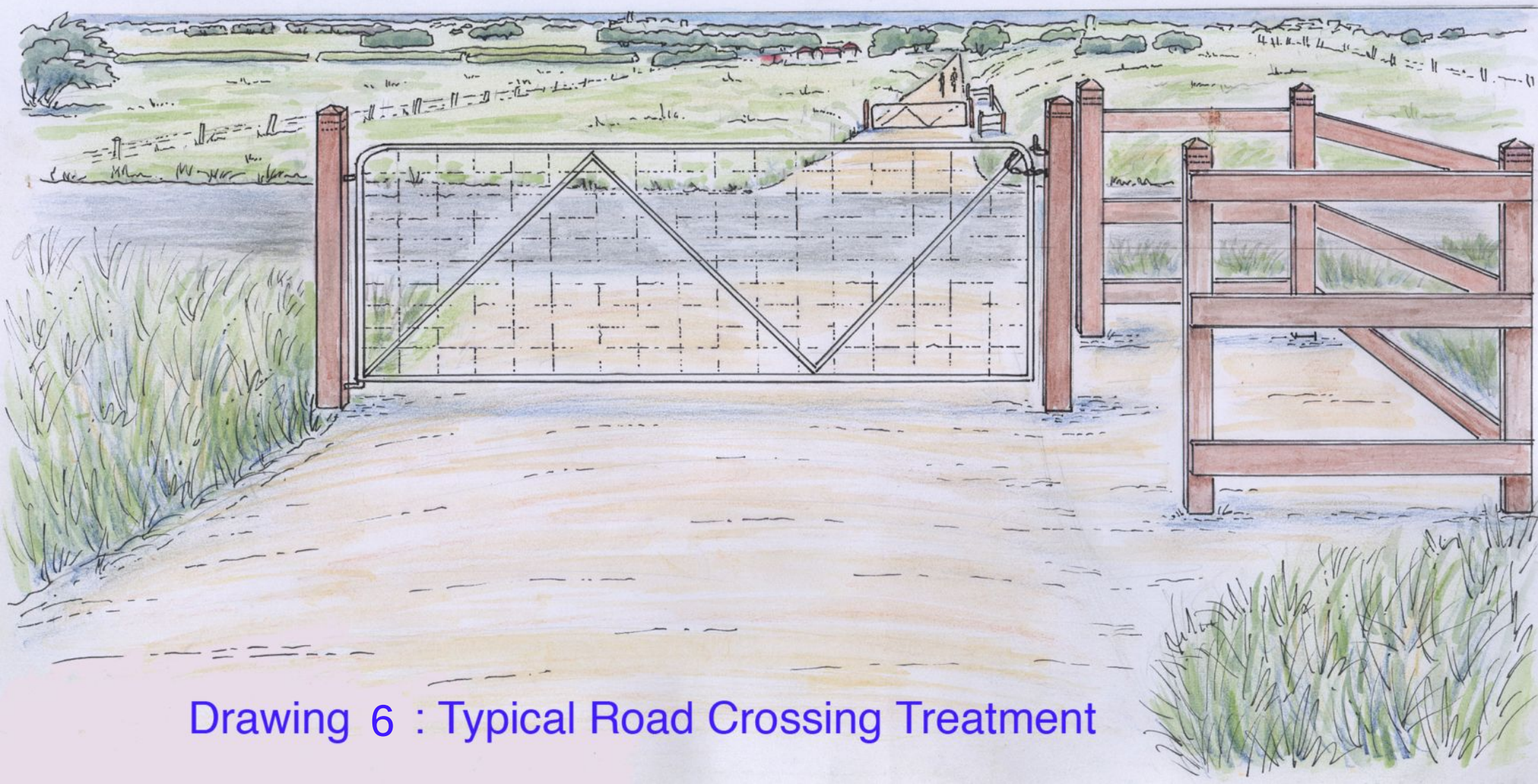
Drawing 3 : Viewshed Obscured by Plantings

Drawing 4 : Typical Scene Through Grazing Land With Relocated Fencing

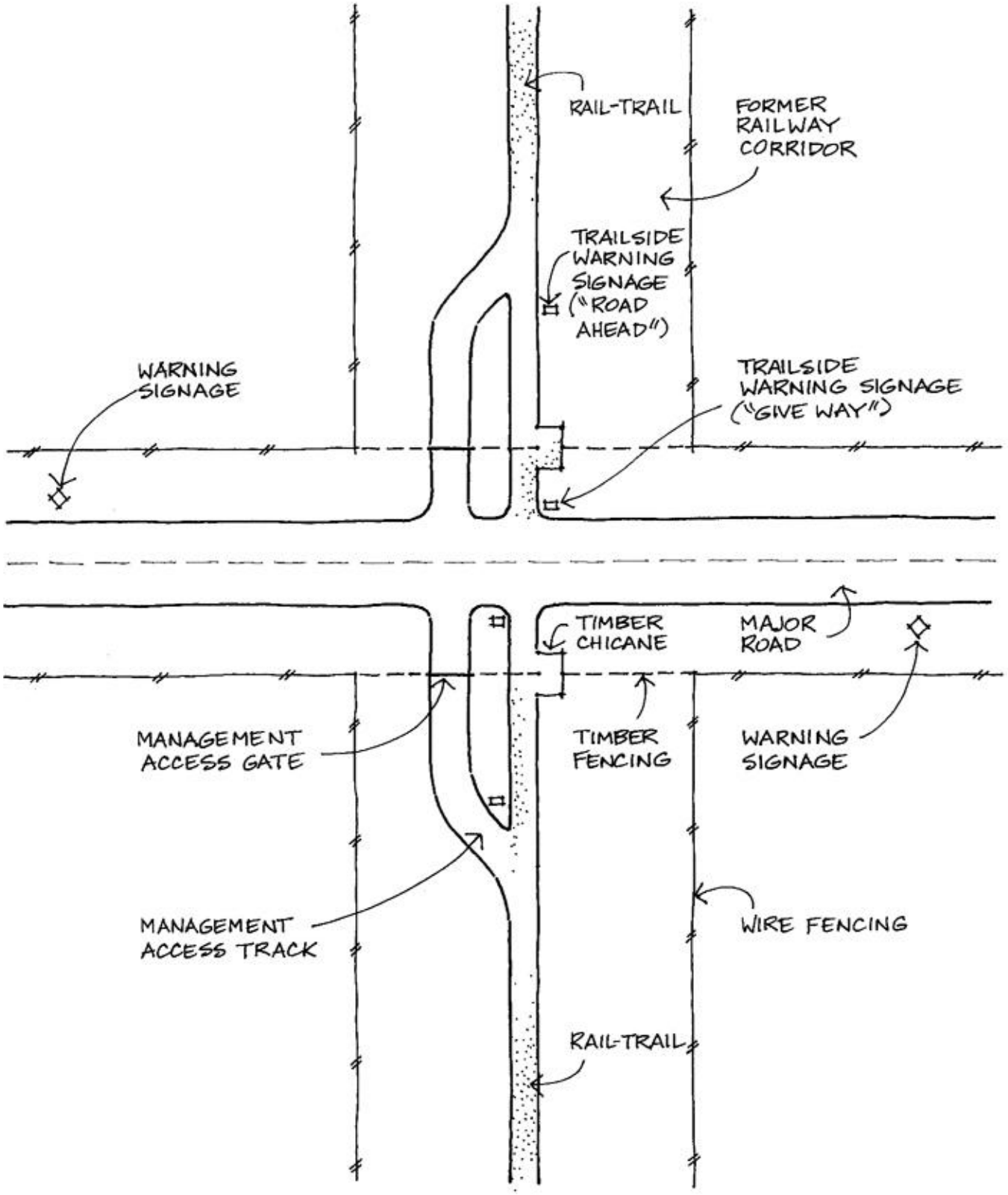


PLAN 5 – TECHNIQUES FOR MAINTAINING AND ENHANCING SECURITY AND PRIVACY OF ADJOINING PROPERTIES (TYPICAL)

NOT TO SCALE



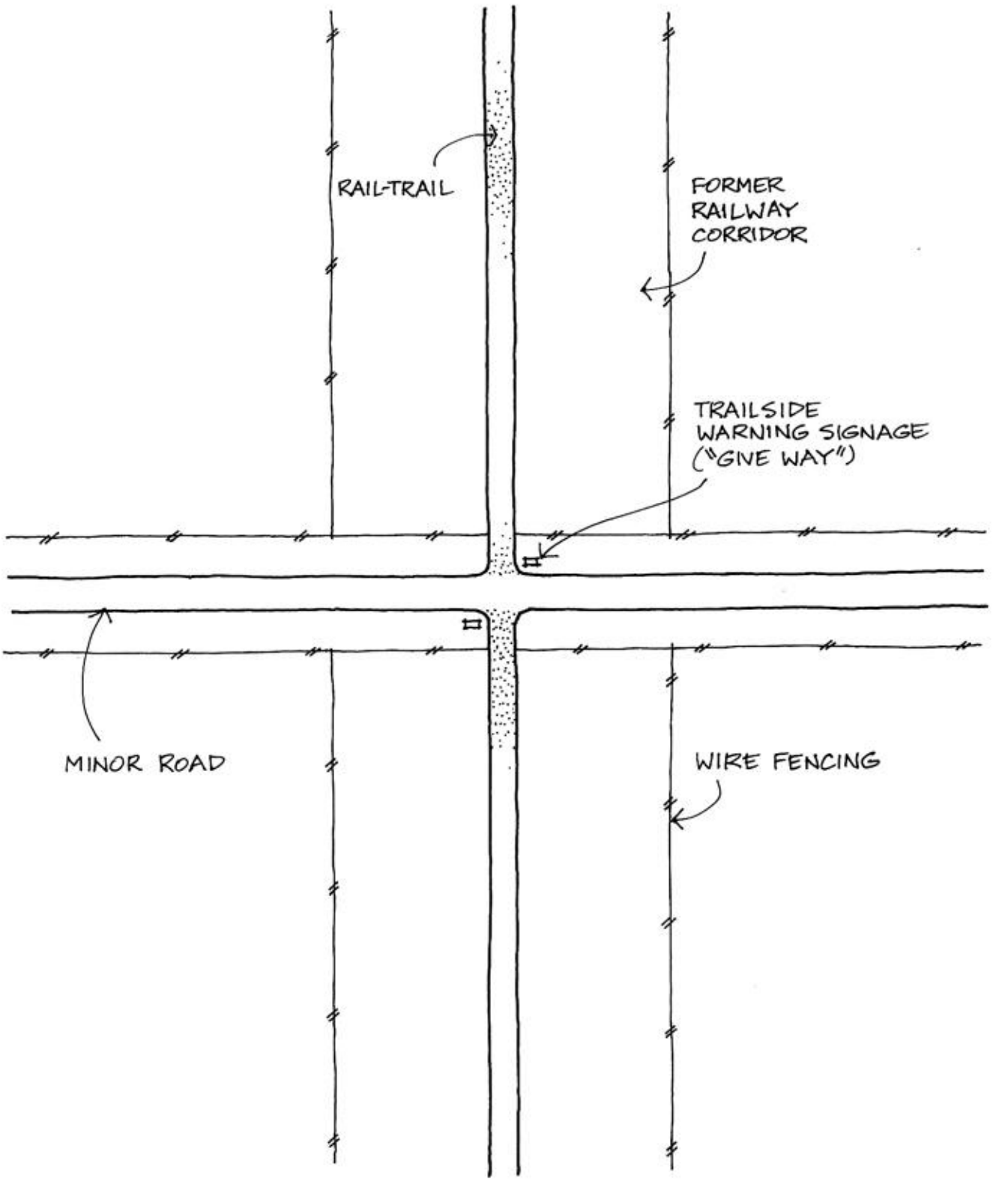
Drawing 6 : Typical Road Crossing Treatment



Drawing 7

MAJOR ROAD CROSSING
– TYPICAL

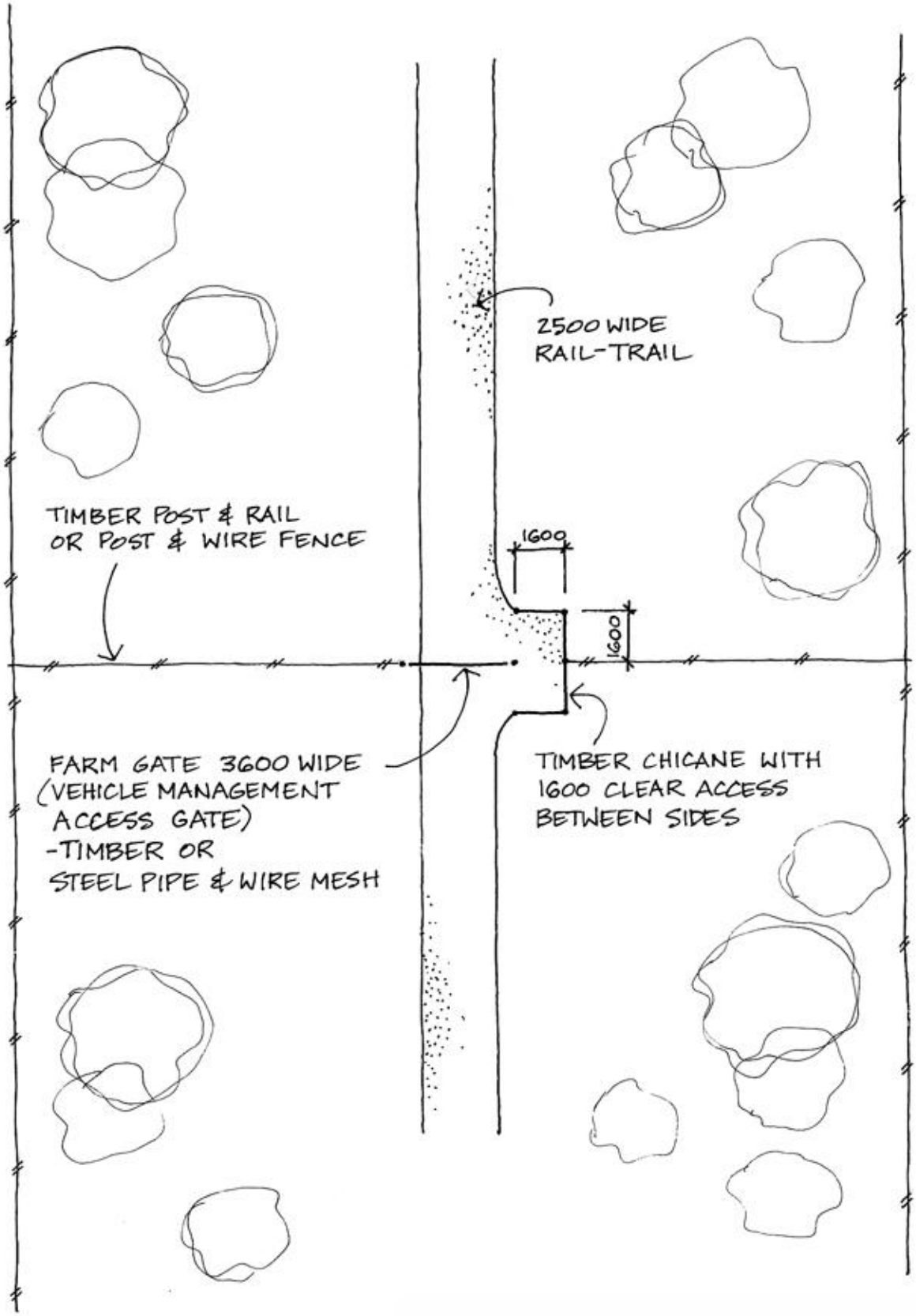
SCALE 1:500



Drawing 8

MINOR ROAD CROSSING
-TYPICAL

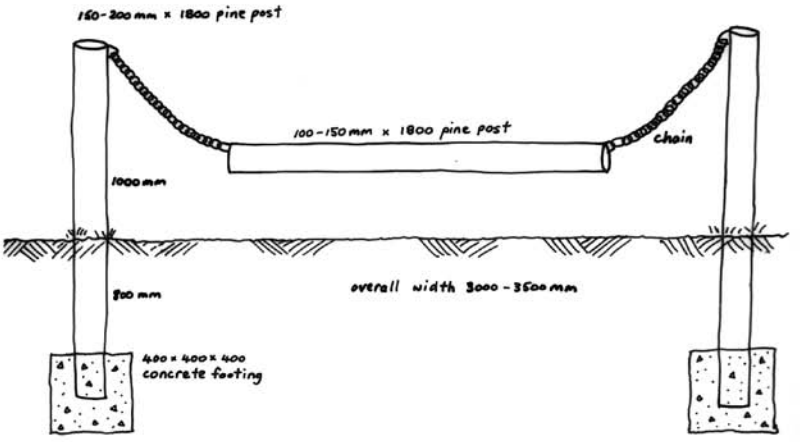
SCALE 1:500

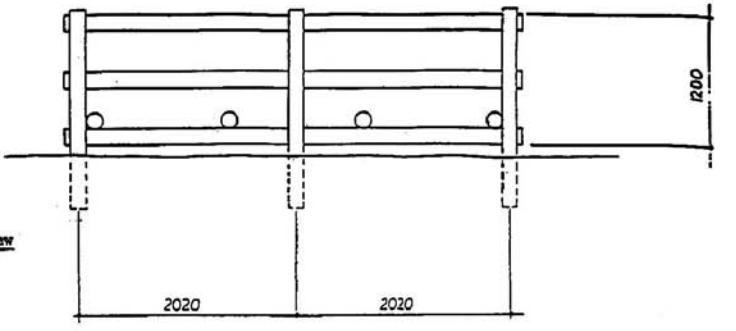


Drawing 9

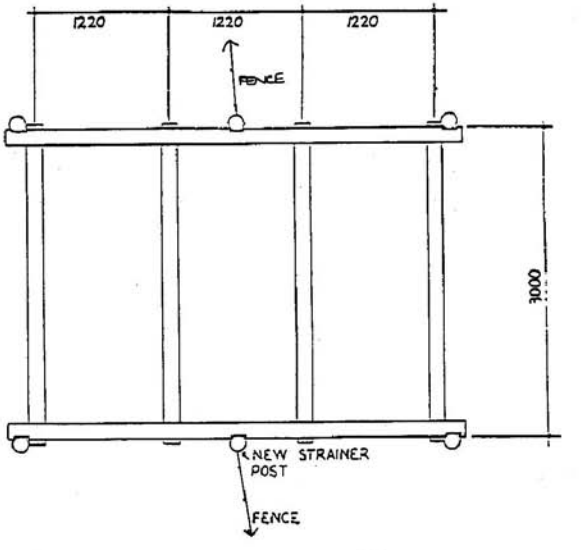
CHICANE ARRANGEMENT
-TYPICAL

SCALE 1:200

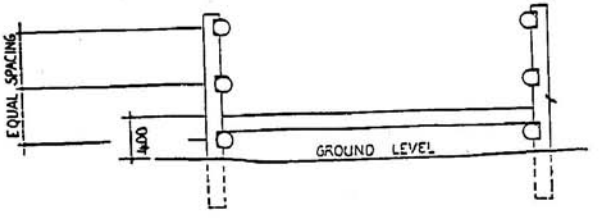




A. Side View



B. Top View



C. Front View

BIBLIOGRAPHY

American Trails *Property Values and Landowner Concerns* www.americantrails.org/resources/adjacent/BandOproperty.html

Australian Bicycle Council *Benefits of Cycling* www.abc.dotars.gov.au/Publications_Resources

Australian Bureau of Statistics *2006 Census QuickStats: Cootamundra* www.censusdata.abs.gov.au

Australian Bureau of Statistics *2006 Census QuickStats: Tumut* www.censusdata.abs.gov.au

Australian Bureau of Statistics *2006 Census QuickStats: Wagga* www.censusdata.abs.gov.au

Australian Government, Australian Sports Commission and Department of Health and Aging (2007) *Participation in Exercise, Recreation and Sport Annual Report 2007*

Australian Heritage Commission *Australia: our national stories – Linking a Nation* www.ahc.gov.au/publications/national-stories/transport

Australian Railway Historical Society (1991) *The Rise and Fall of the Cootamundra to Tumut Branch Line* ARHS Bulletins October, November and December 1991

Beeton, S. (2003) *An Economic analysis of rail-trails in Victoria*. La Trobe University, Bendigo

Beeton, S. (2006) *Regional Communities and Cycling: the Case of the Murray to the Mountains Rail Trail, Victoria, Australia* La Trobe University, Bendigo

Bibbulmun Track Foundation (2004) *"Survey Results confirm Bibbulmun Track's increasing overseas profile"* Bibbulmun News Issue 35 Autumn 2004

Bicycle NSW website www.bicyclensw.org.au

City of Greater Geelong (2003) *Walking More*

Colmar Brunton (2004) *Bibbulmun Track User Short Research Project* Report to the Department of Conservation and Land Management and the Bibbulmun Track Foundation

Commonwealth Department of Environment, Water, Heritage, and the Arts *Australian Heritage Database* www.environment.gov.au

Della Penna, C. *Home Sales near Two Massachusetts Rail Trails* www.americantrails.org/resources/adjacent/dellapennasales.html

Department of Conservation and Natural Resources (Victoria) *Rail Trails Victoria – A Guide for prospective Committees of Management*

Department of Natural Resources and Department of Emergency Services – Queensland (1998) *The South East Queensland Outdoor Recreation Demand Study*

Department of Natural Resources and Mines and the Environmental Protection Agency - Queensland (2001) *A Regional Trails Network for South East Queensland: Discussion Paper*

Eppley Institute for Parks & Public Lands (2001) *Summary Report: Indiana Trails Study- A Study of Trails in 6 Indiana Cities 2 rail trails* Indiana Department of Transportation Indiana Department of Natural Resources National Park Service Rivers, Trails and Conservation Assistance Program.

Fix, P. and J Loomis *The Economic Benefits of Mountain Biking At One of its Meccas: An Application of the Travel Cost Method to Mountain Biking in Moab, Utah*, Colorado State University, www.imba.com/resources/science/economic_moab.html

Flink, CA, K Olka and RM Searns 2001 *Trails for the Twenty-first century; 2nd Edition* Rails-to-Trails Conservancy. Washington DC

Gundagai Shire Council *Tourism attractions in Gundagai* www.gundagai.nsw.gov.au

Gunda BUG (2007) *Murrumbidgee Valley Rail Trail Proposal: Discussion paper*

Institute of Transport Economics (2002) *Profitable Walking and Cycling Track networks* Nordic Road and Transport Research No.2 www.vti.se/nordic/2-02mapp

Jessop, M. and Bruce, D. (2001) *Research Summary, Attitudes of Users towards the Mundaring Recreation Trails.* Sport and Recreation WA, Western Australian Government, Perth Western Australia.

Jopson, D. (2009) "Battle for the Long Paddock" *The Land newspaper* 16/2/09

Karadeniz, D (2008) *The Impact of the Little Miami Scenic Trail on Single Family Residential Property Values* University of Cincinnati Masters Thesis

Livestock Health and Pest Authorities *Travelling Stock Reserves* www.lhpa.org.au/travelling-stock-routes

Maher Brampton Associates (2003) *Cradle Coast Tracks Strategy*, Cradle Coast Authority

Market Equity Pty Ltd (2004) *Trails Research Project* A report for the Office of Sport and Recreation in association with Planning SA, Transport Planning and South Australia Tourism Commission

McRostie, H. (2004) *Access to trails promotes healthy communities: fact or urban myth* Paper to 3rd National Tracks and Trails Conference, Hahndorf, October 18 – 20, 2004

Merom, D. (2004) *Public health perspective of tracks and trails – towards evidence-based practice* Paper to 3rd National Tracks and Trails Conference, Hahndorf, October 18 – 20, 2004

National Bicycle and Pedestrian Clearinghouse (1995) *Technical Brief*, Technical Assistance Series, Number 2, September 1995

NSW Department of Planning *NSW Heritage Database* www.heritage.nsw.gov.au

NSW Tourism *Heart of Country region: Gundagai* www.visitnsw.com

Otago Central Rail-Trail Trust (2005) *The Otago Central Rail-trail means business*

Perrigo, T. (2004) *Interpreting trails – the need for standards* Paper to 3rd National Tracks and Trails Conference, Hahndorf, October 18 – 20, 2004

PriceWaterhouseCoopers *Economic Benefits of the Trans Canada Trail*

PublicPractice.com.au (2007) *2007 Gundagai Community Portrait* prepared for Riverina Eastern Regional Organisation of Councils

Qld Outdoor Recreation Federation (2002) *South East Queensland Outdoor Recreation Demand Study*

Qld Outdoor Recreation Federation (2006) *Active Trails: A Strategy for Regional Trails in South East Queensland*

Qld Government, SEQ Water and Griffith University (2007) *South East Queensland Outdoor Recreation Demand Study*

Railcorp *Rail history* www.trackingtrains.com.au

Rails-to-Trails Conservancy (USA) www.railstotrails.org

Rails-to-Trails Conservancy (USA) *Railbanking: What and Why* www.railstotrails.org/whatwedo/trailbuilding/technicalassistance/toolbox/20070910_railbanking_whatandwhy.html

Rails-to-Trails Conservancy (USA) www.railstotrails.org/whatwedo/railtrailinfo/trailstats

Rails-to-Trails Conservancy (USA) www.railstotrails.org/whatwedo/railtrailinfo/trailstats

Rails-to-Trails Conservancy (USA) www.railstotrails.org/whatwedo/railtrailinfo/trailstats

Rails-to-Trails Conservancy (USA) www.railstotrails.org/whatwedo/railtrailinfo/trailstats

Rail-Trails Australia *State Descriptions (NSW)* www.railtrails.org.au/states/trails

RailTrails Australia (2007) *Rail Trails of Victoria and South Australia 3rd Edition*

Rissell, C *Health benefits of increased physical activity and the relationship with current Government policy* www.itls.usyd.edu.au/johnp/MelbourneSydneyCyclingSydney

South Australian Office of Sport and Recreation (2002) *The Recreational Trails Strategy for South Australia 2002 – 2010*

South Australian Tourism Commission (1999) *Cycling Tourism – A Background Research Paper*

St Leger, L. (2004) *Keeping our parks, trails and our people healthy* Paper to 3rd National Tracks and Trails Conference, Hahndorf, October 18 – 20, 2004

Tourism Research Australia *Regional Tourism Profiles 2007; NSW; Riverina region* www.tra.australia.com

Urban Enterprises (2006) *Goulburn River High Country Rail Trail –Concept Design and Business Plan* Prepared for Mitchell Shire Council, Murrundindi Shire Council and Mansfield Shire Council

U.S. Department of Health and Human Services (1996) *Physical activity and health: report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human

Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

Victorian Trails Coordinating Committee (2005) *Victorian Trails Strategy (2005-2010)*

Vogt, C, Van der Woud, A, Lynch, J and Nelson, C (2002) *Pere Marquette Rail-Trail Midland County Nearby Businesses and Adjacent Residential Landowners' Attitudes Towards and Use of the Pere Marquette Rail-Trail in Michigan* Department of Park, Recreation and Tourism Resources, Michigan State University

Wang, G., Maccera CA, Scudder-Soucie B,Schmid T, Pratt M, and Buchner D (2005) *A cost-benefit analysis of physical activity using bike/pedestrian trails* Health Promot Pract 2005 Apr; 6 (2): 174-79