# Upper Hunter Country Rail Trail

## FEASIBILITY STUDY

## Upper Hunter Country Raíl Traíl Feasíbílíty Study



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## Executive Summary

The Upper Hunter Shire Council, in conjunction with the Muswellbrook Shire Council, commissioned Mike Halliburton Associates to prepare a Feasibility Study for a possible rail trail from Merriwa to Sandy Hollow (and a possible trail route extension through to Denman). The two local governments jointly funded the project.

The Feasibility Study addresses the development of a 38km shared pathway (a rail trail) from Merriwa to Sandy Hollow (with a possible trail extension to Denman), utilising the now-disused NSW Government railway corridor. The disused railway corridor lies mainly in the Upper Hunter Shire Council local government area but also traverses a section of the Muswellbrook Shire Council area. Although only a comparatively short section of the disused railway is actually within the Muswellbrook Shire Council area, many of the landowners whose properties abut or straddle the railway corridor are located within the Muswellbrook Shire Council area. The options for a trail extension through to Denman are all within Muswellbrook Shire.

The study was commissioned to ascertain whether it is a worthwhile project, and whether the trail will deliver the anticipated and desired benefits.

This Feasibility Study sought to answer a number of critical questions:

- Is there a viable trail route (is a trail route physically possible)?
- Are there alternative uses for the corridor that will provide more value to the community? Are these alternative uses viable?
- Will the rail trail provide a quality user experience (terrain / landscape / history)?
- Is there a market for the proposed trail (local people and visitors who will be attracted to use it)?
- Will the rail trail create any unmanageable or unmitigated impacts on adjoining landholders' farming practices and lifestyles?
- Are the local government and key stakeholders supportive of the concept?
- Are there supportive/strong advocates (in the community)?
- Is there a supportive community?
- Would the trail be value for money?
- Is there a commitment to the ongoing maintenance of the trail ("friends of ..." group or support network)?
- Will the trail provide a unique experience?
- Is there a demonstrated benefit to trail users and, especially, the host communities?

The feasibility statement set out in Section 10 answers these questions. Generally, the answer to most of these questions is "Yes".

Following consideration of the major issues pertaining to the development of a trail between Merriwa and Sandy Hollow and taking into account the views of key stakeholders, groups and individuals consulted (and background information obtained during the course of the project), this Study recommends that the proposed rail trail proceed.

The connecting on-road (signposted) cycle route between Sandy Hollow and Denman should also be a component of the overall project, although the expected usage levels will be nowhere near those that may use the rail trail.

## What is a Rail Trail?

Rail trails have become very popular with over 100 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.
- A common feature is community and adjacent landholders' level of support for the project to



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

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 or special attractions (such as bridges and possibly the Merriwa Railway Museum).
- 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.
- $\circ$   $\;$  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 fulltime trail manager.

#### In addition, all rail trails



Rail trails often are routed along river valleys, where it was easy to build railways. This is the case for the Row River Rail Trail in Oregon USA, above. Similarly, the proposed Upper Hunter Country Rail Trail will follow the flat grades along several creeks in the region.

have a number of positive features which mark them out as uniquely rail trails (as opposed to other recreational trails or roadside paths). 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.

- Rail trails are trails for people of all abilities and all types of bicycles (cyclists being traditionally the main users of rail trails). 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 the top of 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.

#### Issues

A project of this magnitude is not without a number of issues. None of these are insurmountable, but consideration has been given to these issues.

 Unfenced Railways and the Need for Fencing. The Sandy Hollow to Merriwa branch line was constructed as an unfenced line. The majority of the corridor remains unfenced.

Farmers have adopted their practices to suit, utilising unlimited access to and across Crown land. They regularly move livestock, machinery and vehicles across the corridor. They have developed watering points on one or both sides of the corridor. Farmers often believe fencing will cause problems with farming practices and not fencing will create havoc with livestock/trail user interactions, liability etc. They also express a concern that a



A fully restored and fully operational turntable at the Merriwa railway yard, one of many projects proposed by the Merriwa Railway Society, would be an attraction to rail trail users.

rail trail project will result in them needing to pay for the new fencing. Fencing of the corridor is one of the most important, and expensive, components to the future success of any rail trail. As a general rule, rail trails pass through a considerable amount of farmland, and it is critical that the entire rail trail corridor be fenced on both sides where it passes through farms – for public liability insurance and risk reasons.

Consultation with each adjoining landowner will be required to tailor specific solutions. The cost of fencing, where required, should be negotiated with each individual landowner during the one-on-one consultation process.

 Merriwa Railway Society Inc proposals. The Merriwa Railway Society Inc. currently runs an informal museum at the Merriwa Railway Station (which is open by appointment only). Since commencing operations in 2008, the Merriwa Railway Society has renovated and painted the Station Building and has assembled various historic railway-related artifacts. The Society has intentions of fully restoring the station platform (with grant money) and also has ambitions to restore the goods shed, the turntable, renovate sections of the railway tracks (by replacement of sleepers) and to erect replicas of some of the original station outbuildings. Of crucial importance to the establishment of the proposed rail trail

is the Society's goal of one day operating railway vehicles on the original track for up to 2km out of the Merriwa Station Ground.

Given the considerable costs in refurbishing railway track (including replacing sleepers, repairing/replacing bridges, etc), the cost of acquiring and restoring suitable railcars, the considerable cost in operating a train service and the cost of maintaining the train and the track, it is highly unlikely that the Group's ambition of running an



The spacious grounds at Merriwa Station provide ample opportunity for the development of a trailhead, with parking areas, picnic tables, shelters and interpretation.

extensive heritage train service to Wappinguy and Gungal (and beyond) will be realised.

 Unauthorised and Informal Use of the Corridor. The railway corridor is currently managed by the John Holland Group (a subsidiary of The China Communications Construction Company) and owned by the NSW Government. The John Holland Group has the responsibility for access to the disused railway corridors of NSW. Any person or entity wanting to access the corridor needs to go through an administrative process (including rather onerous workplace health and safety processes) before permission is granted.

During fieldwork associated with this Feasibility Study, it was noticed that adjoining landowners have unrestricted access to the disused corridor, using it for general farming practices (including storage of equipment and cattle grazing). If the trail proceeds, the trail manager (whichever entity is enacted) is likely to be given an overall lease for the corridor and will be required to deal with these unauthorised and informal activities. There is scope within the rail corridor to provide access for landholders so negotiated solutions are possible.  Operating Railway between Sandy Hollow and Denman. The railway corridor between Sandy Hollow and Denman is an active railway, with regular coal trains using the line.

The corridor in which the trains run cannot support the development of a trail beside the operating railway due to its narrowness, the undulating topography, the extent of vegetation and the lack of a maintenance track.

*River and Creek Crossings*. 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.

Reinstatement and refurbishment of the bridges (notably re-decking and installing handrails)

will be a major component of the cost of establishing the rail trail.

Two major bridges exist along the corridor: an intact 32m timber bridge to the south east of the former Wappinguy Station and the remains of the concrete, steel and timber bridge over Halls Creek, to the north of the former Sandy Hollow station site. Numerous other shorter timber bridges (3–4m) and timber culverts exist along the line.



Much of the bridge over Halls Creek, near Sandy Hollow, has been dismantled. However, the re-building and refurbishment of the bridge will be a highlight of the proposed Upper Hunter Country Rail Trail.

The bridges are likely to have some prospect of re-use, but will require a detailed examination to confirm their true condition should the decision be made to proceed into the next phase (that is, the preparation of a detailed trail development plan).

Unless there is an obvious reason for not doing so, all bridges should be retained.

The bridge over Halls Creek near Sandy Hollow is an outstanding example. This bridge in particular is a significant component of the local landscape and its historical and aesthetic value should not be under-estimated. In addition to its heritage and community values, the bridge would have significant appeal as a tourist attraction, once the missing components are reconstructed.

 Trailhead locations. A trailhead is a location where a (short or long) trail walk or ride can begin or end. Given that much of the usage of the trail is likely to come from walkers and cyclists (and possibly horse riders) from other regions, formal 'trail-heads' are important.

The best location in Merriwa would be within the Merriwa Station area which is ideally situated and in close proximity to the town. The planned improvements and developments at the Merriwa station by the Merriwa Railway Society Inc. will be an added attraction to future rail trail users and development of the trailhead within the station grounds will be complementary to the activities and aspirations of the Merriwa Railway Society.

In Sandy Hollow, the obvious site for a trailhead is the park at the corner of Goulburn Drive and Golden Highway. The park has some picnic facilities and car parking (on-street) and ample space for establishment of additional facilities (such as trailhead signage and map panel). It is located only a short distance from the other amenities and facilities of the town (shops, toilets etc).

It is recommended that three additional intermediate trailheads be developed that will provide access to the trail for shorter journeys. These will not have the features usually associated with a trailhead as they will not be in a town or village but will have most of the other facilities – toilet, trailhead mapping, parking, water, shelter - and will be easily accessible from adjoining roads. These sites are:

- Wappinguy (within the former siding area approximately 12km from Merriwa);
- The existing rest area at the corner of Golden Highway and Westwood Road (approximately 8km from Wappinguy); and
- Gungal (the existing rest area approximately 7km from Westwood Road).
- Clearing. As the corridor has been disused since 1988, there has been some regrowth of vegetation – especially where the corridor has not been grazed by stock from adjoining farms. While most of it is light, some significant regrowth has occurred. This will influence the cost of developing the trail.
- Drainage. Construction of the railway involved the cutting and filling of the landscape to create a surface that was relatively flat to enable the passage of 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).

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.

 Removal of Rail. The steel railway track is still intact and will need to be removed to allow the trail to be constructed, though it may be left intact within the Merriwa Station area and perhaps some distance to the east of the station (a distance to be determined) to allow the Merriwa Railway Society to establish a heritage rail service in the future should it find the necessary resources. Removal of the steel track and sleepers will be a project cost (the cost of which will be influenced by the price of steel at the time of removal). The trail proponent/manager will need to, at the time of trail development, seek tenders for the removal of the

steel track and sleepers.

• Ongoing Legislative *Issues*. There is currently no clear legislative or administrative process to follow in NSW to convert a disused railway into a rail trail. The NSW Government has recently committed \$5 million funding to the proposed Tumbarumba Rosewood Rail Trail (part of the Wagga Wagga to Tumbarumba line) as a 'pilot' project – part of the pilot project will address the legislative barriers.



The Merriwa Branch Line was built as an unfenced railway corridor. Though some fencing exists, the rail trail will need to be fenced on both sides where it passes through farmland.

 Connection Between Sandy Hollow and Denman. Ideally it would be beneficial if the proposed rail trail connected Merriwa with Denman. However, the railway between Sandy Hollow and Denman is still in active use with regular coal trains servicing the Ulan mine. Consequently it was necessary to investigate options for continuing the proposed rail trail beyond Sandy Hollow (towards Denman).

Several options were examined.

- $_{\odot}$   $\,$  Option 1. Using the corridor of the active railway line (18km).
- Option 2. Following the Golden Highway as far as Rosemount Road, then along Rosemount Rd into Denman (24km).
- Option 3. Following the Golden Highway as far as Bylong Valley Road, then along Bylong Valley Road as far as Yarrawa Rd, then along Yarrawa Rd into Denman (28.2km).

Although it is the longest, Option 3 is the preferred route between Sandy Hollow and Denman. Apart from a short section along the Golden Highway, this route uses low traffic volume roads. As a signposted cycle route it will appeal to a section of the market likely to be drawn to the proposed rail trail. However, even though the route uses low traffic volume roads, it is likely that only a limited number of rail trail users will opt to ride the additional 28 kilometres into Denman (though it is likely that more cyclists will use this option than Option 2). A trail beside the roads is not practical given the long length and high construction costs.

It should be developed as a signposted cycle touring route only (that is, no segregated trail beside the road).

Landowner Concerns. As is the case with virtually all rail trail projects, adjacent landowners are, understandably, apprehensive about trails close to their properties. It is important that these concerns are seriously addressed before any trail conversion takes place. 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. (Issues that have been raised already during this project and others that may be raised in the future are included in an extensive discussion in Section 4).

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.

It is important to note that virtually all issues raised by adjoining landowners have been raised many times elsewhere (in the 2,000 rail trails operating in the USA and the 100+ rail trails in Australia) and appropriate and successful solutions have been devised.

#### Opportunities

There are a number of specific elements within the area encompassed by the proposed trail route that provide opportunities and reasons for why a trail should be built.

- Appealing Landscape and Infrastructure. The Upper Hunter Country Rail Trail would pass through some very attractive scenery. Much of the trail from Merriwa to Gungal will pass through farming country, as this was where rail lines historically ran. Views of gently undulating countryside, containing water bodies and trees are the most attractive and relaxing for many people. Attractive creek and riverside vistas are available around Wappinguy. Between Gungal and Sandy Hollow, users will be able to look at spectacular rocky escarpments on either side of the rail trail.
- Connections Between Towns. Taking trail users through towns will provide new business opportunities for service providers. Presently, there are a relatively limited number of services that would appeal to trail users in these two settlements. Development of the rail trail will provide a range of new business opportunities (or allow existing businesses to expand).

The trail will make an actual connection between Merriwa and Sandy Hollow – one that reinforces historic connections.

Connecting the towns via a trail will also provide an opportunity for local residents to choose a non-motorised connection for visiting friends or undertaking some exercise. A non-motorised trail provides another psychological link between the towns on the route.

- Topography of the Preferred Route. One of the major appeals of rail trails is the gentle gradient, suitable for all types of cyclists, and walkers (gradient is typically less of an issue for horse riders). This is the market that would be attracted to the trail. Their demands are paramount in considering trail feasibility.
- A Trail with Anchors. One-way trails (or out-and-back trails) need an anchor at both ends to be attractive to users. The best one-way trails (including many rail trails) have natural terminuses in major centres or towns, or pass through major towns. While neither Merriwa nor Sandy Hollow are major towns, the attraction of towns at either end is an incentive for trail users.
- Broadening the Recreation Offerings. Provision of an additional off-road trail adds to the list of tourist offerings in the region and encourages visitors to stay a little longer to go for a pleasant walk or ride. A new nature-based attraction has the power to retain those visitors for longer, spending money and generating business opportunities. The Upper Hunter Country Destination Management Plan (DMP) identifies a number of significant gaps in the key market of nature tourism and outdoor recreation. Natural assets that are utilised for outdoor recreation are found in the region; adding a rail trail to that list will encourage more visitors looking for that type of experience.

While the rail trail may not take users all the way to Denman (some bike riders in particular may use a signposted road route connecting Sandy Hollow to Denman), provision of a rail trail within the Upper Hunter region will increase the attractiveness of the region for those people who like outdoor recreation combined with food and wine opportunities (a feature of Denman in particular).



The disused railway corridor passes through a variety of scenic landscapes including creek valleys (above left, north of Wappinguy). It also enables distant and close-up views of the magnificent sandstone hills and escarpments south of Gungal (above right).

- Providing a Momentum for Merriwa Station Project. The Merriwa Railway Society Inc has plans to significantly redevelop the Merriwa Station Ground. Such projects cannot be done cheaply. Development of a rail trail will provide an opportunity to make progress on this work. Construction funds for the rail trail (should it proceed) may include provision for upgrading the station grounds. The opportunity to run commercial enterprises (such as a bike hire business or a café) from within an existing station building could supplement the income for the Society.
- Revegetation Benefits. Development of the trail provides a good communitybased opportunity for revegetation of the corridor. The Hunter Valley Partnership runs an innovative project called Stepping Stones, which seeks to reconnect some of the 4,350 isolated patches of bushland occurring on private lands in the Hunter Valley to the Great Eastern Ranges. By creating a series of "Stepping Stones" the Partnership will strengthen connections between local areas of habitat and the GER corridor, enabling species movement across the landscape. The disused rail corridor provides one opportunity for the development of a vegetated corridor to allow such movement.

#### Costs

The costs of construction of the proposed Upper Hunter Country Rail Trail are an estimate of probable costs only. Accurate costs can only be determined, firstly, by the compilation of more detailed works lists accomplished through individual, detailed trail development plans for each section of the proposed rail trail and, secondly, via a tendering process.

The indicative costs for each section are as follows:

Table 1: Costs Per Section

Section	Cost
Section 1: Merriwa Railway Station to Wappinguy Station (12.3km)	\$2,212,500
Section 2: Wappinguy Station to Westwood Road (8.0km)	\$1,707,190
Section 3: Westwood Road to Gungal Station (7.1km)	\$1,312,920
Section 4: Gungal Station to Sandy Hollow (11.0km)	\$2,197,420
Total (excluding GST)	\$7,430,030

In addition to the cost of the proposed rail trail on the disused railway between Merriwa and Sandy Hollow, the proposed on-road, signposted cycle route between Sandy Hollow and Denman would cost an additional **\$80,500** (which includes an allowance for some improvements to the road surface).

## Business Case

It is always difficult to predict the economic impact of a new trail. Visitor numbers on the Bibbulmun Track (in WA) grew from 10,000 when the new alignment was first opened in 1997 to 137,000 in 2004 (*Colmar Brunton 2004*) to over 167,000 in 2008 (*Colmar Brunton 2009*). 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 proposed Upper Hunter Country Rail Trail is primarily dependent on the extent to which the trail is marketed and promoted (if it proceeds).

A trail such as the Upper Hunter Country Rail Trail will have attraction to visitors – daytrippers and overnight visitors. However, it will also provide for local residents of Merriwa, Sandy Hollow and Denman. Some of these people will use the trail for exercise – these 'back gate' users may not be significant in terms of expenditure but they are significant in terms of numbers as they would use the trail many times a year.

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 (in terms of the percentage of the local population using the rail trail) almost 4,000 local trips/year is a reasonable expectation. This will result in an economic injection of \$8,184/year;
- Expansion of the existing day-tripper market to the region. **7,000 day-trippers/year will yield an injection of \$679,630/year.**
- With a new significant recreation attraction, some day-trippers may stay overnight, generating a new income stream. If the trail converted 1,500 daytrippers into overnight visitors, this would inject an additional \$247,500/year into the economy.
- If 1,500 visitors stay an extra day to use the trail (or use a package of trails including the Upper Hunter Country Rail Trail), this would represent less than 1% of existing overnight visitors. Attracting this number of users would see an additional \$247,500/year injected into the economy.

The total injection of dollars into the local economies from local, day trip and overnight visitors may be of the order of **\$1,182,814 per year** (under a range of conservative scenarios). Complex economic analysis (beyond the scope of this project) is needed to determine how many jobs are likely to be created by such expenditure.

It should be emphasised that user numbers will not necessarily be realised in the first years of operation if the trail proceeds (particularly if the trail is constructed in sections). The Bibbulmun Track took ten years to reach 167,000 trips from an initial base of 10,000.

The trail offers a range of new business opportunities and the opportunity for existing businesses to extend their offerings. The trail has the potential to improve the sustainability of businesses reliant on tourism. The completion of a trail would not simply provide an injection of funds to stabilise and grow existing and new businesses.

The psychological impact on businesses can also be very important; businesses operating around other rail trails believe the trails have contributed to their businesses as well as helping to position their area as an authentic leisure holiday destination.

The trail provides a number of less quantifiable benefits. These include:

- Health-related 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. The trail will encourage people to exercise the economic benefit to society of getting an inactive person to walk or cycle is between \$5,000 and \$7,000/year. Medical research has shown that 1 hour of moderate exercise can add more than 1 extra hour of high quality life to an individual.
- Rail trails are an accessible form of recreation. Trail-based recreation is generally free, self-directed and available to all people, all day, every day. Good quality, accessible trails encourage physical activity and improved health. Increasing recreational options for local communities will aid overall community wellbeing. The psychological health benefits of trails remain under-estimated.
- Quality recreational facilities, such as trail networks, can help create attractive places to live and visit. Walking and cycling are relatively cheap modes of transport. Trails also provide a low impact means of travelling through the landscape and play an important role in connecting people with nature.
- Trails present a unique opportunity for education. People of all ages can learn more about nature, culture or history along trails. Trails have the power to connect users to their heritage by preserving historic places and by providing access to them. They can give people a sense of place and an understanding of the enormity of past events. The railway museum at Merriwa would add to this sense of history if it was accessed by rail trail users.
- Trails provide a number of environmental and cultural benefits including opportunities for the community to experience natural and cultural environments, increased community ownership which helps to preserve natural and cultural values, and opportunities for community participation in conservation and revegetation work.
- The opportunity for local schoolchildren to ride bikes on a safe off-road facility is a wise use of community resources. The benefit of providing a safe off-road facility within easy access of schools for use by the schools for activities is another benefit of trail development. The trail could be used for school activities such as fun runs, cross country events and general sporting activities.

## Feasibility Statement

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

The conditions upon which the rail trail should proceed are:

- 1. 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 another entity;
- Both Councils (or a Committee of Management) being prepared to accept vesting of the entire former railway corridor between Merriwa and Sandy Hollow, with an acknowledgement that sub-leases may be required to permit other activities (if appropriate) such the possible future activities of the Merriwa Railway Society Inc;
- 3. A cooperative approach with the Merriwa Railway Society Inc. be forged with regard to the shared use of the former railway station precinct at Merriwa;
- 4. The project proponents pursue discussions with the Merriwa Railway Society Inc to foster the development of complementary activities at the Merriwa Railway Station, including the refurbishment of the infrastructure at the railway yards and the establishment of a short tourist rail service (if it can be proven feasible) on track that will be retained within the station grounds;
- 5. Detailed design development plans for the rail trail being prepared, which will involve a thorough examination of the entire corridor, the preparation of detailed works lists and cost estimates;
- A comprehensive program of one-on-one discussions on-site with affected adjoining landowners be undertaken to ascertain their individual concerns and to work out together solutions to each issue raised;
- The project proponents (the two Councils) seek funding from external sources (notably the NSW Government and Commonwealth Government) for the construction of the proposed trail (and the detailed trail development plan that will need to be prepared prior to construction);
- 8. A Committee of Management, comprising (at least) representatives of both Councils, the Merriwa Railway Society Inc, 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);
- The preparation of a Corridor Management Plan before construction, including a comprehensive maintenance program (detailing the ongoing maintenance) for the trail and corridor;
- 10. The preparation of a Bush Fire Risk Management Plan for the corridor;

- 11. 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;
- 12. The Trail Manager to assume liability responsibility for trail users and are to take all actions possible to mitigate potential claims against landowners and neighbours;
- 13. A commitment to ongoing maintenance of the trail being given by both Councils, a Committee of Management and volunteers;
- 14. 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; and
- 15. The Councils lead a conversation in the communities about whether to permit horses on the rail trail. There are positive and negative aspects associated with horse use of the trail. This issue needs resolution prior to a trail being constructed (should it proceed).

In regard to the proposed extension of the trail beyond Sandy Hollow to Denman, this Feasibility Study recommends the promotion of a signposted on-road cycle route utilising quiet 'backroads' (Bylong Valley Road and Yarrawa Road). The development of a signposted on-road trail will add to the general appeal of both the rail trail and the general destination of Denman-Sandy Hollow-Merriwa (at relatively low cost); however, it needs to be acknowledged that user numbers are likely to decrease once trail users have finished riding from Merriwa to Sandy Hollow – due to both cumulative distance and user desires for safe off-road environments.

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

- 1. Undertake a series of more detailed investigations into various elements, notably detailed bridge testing.
- 2. Undertake consultation and negotiation with a range of stakeholders as noted in the feasibility statement.
- 3. Actively seek funding for the trail planning and development.
- 4. Prepare a detailed design development plan for the trail, which will involve a thorough examination of the entire corridor, the preparation of detailed works lists and cost estimates.
- 5. Proceed with a staged development of the trail. The recommended stages are:
  - Stage 1 of construction: Merriwa to Wappinguy (12.3 kms).
  - Stage 2 of construction: Wappinguy to Westwood Road (8 kms).
  - Stage 3 of construction: Westwood Road to Gungal (7.1 kms).
  - Stage 4 of construction: Gungal to Sandy Hollow (11 kms).

## SECTION 1 - THE STUDY

## 1.1 The Brief

The Feasibility Study addresses the development of a trail from Merriwa to Denman, utilising the former rail corridor wherever possible, and minor roads and other available routes where use of the rail corridor is no longer feasible (or is difficult due to present uses of the rail corridor).

The objectives of the Feasibility Study are to:

- identify and evaluate the social, economic and environmental benefits associated with the trail including opportunities for community involvement;
- identify opportunities and constraints impacting the feasibility of rail trail construction along the proposed alignment and detail the works necessary to establish the rail trail for optimum route alignment, including restoration of existing bridge infrastructure and use of existing roads where the rail corridor is not available;
- identify any relevant regulations and/or legislation pertaining to the ownership, construction, use and maintenance of the rail trail;
- identify rail trail design requirements most suited to the target audience, and route alignment in accordance with applicable standards; and
- estimate project development costs including associated bridge structures along the route with recommendations for staging of construction.

The Feasibility Study should allow the NSW and local governments (Upper Hunter and Muswellbrook Shire Councils) to make an informed decision for funding and commencement of all or part of the rail trail.

## 1.2 The Study Approach

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 study, the approach taken defines the community not just as the local community (i.e. people living and working alongside the railway corridor), but also all of those people living in the wider region encompassing residents of Upper Hunter Shire Council and Muswellbrook Shire Council. The approach has also encompassed visitors to the region in its scope, as these numbers may be 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 a perception of 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, and local businesses. This is a typical pattern for the impacts of most public infrastructure projects. It is important that such a project be cognisant of all these interests and concerns.

Feasibility is determined by an analysis of numerous factors. It is not just the cost of the project, but a combination of all the factors. In considering trail feasibility, the costs of construction need to be weighed against the benefits (direct and indirect) that such a trail brings.

The Feasibility Study posed these questions:

- Is there a viable trail route (that is, is a trail route physically possible)?
- Are there alternative and potentially competing uses for the corridor that will provide more value to the community? Are these alternative uses viable?
- Will the trail provide a quality user experience (terrain/landscape/history)?
- Is there a market for the proposed trail (that is, local people and visitors who will be attracted to use it)?
- Will the rail trail create any unmanageable or unmitigated impacts on adjoining landholders' farming practices and lifestyles?
- Are the local governments and key stakeholders supportive of the concept?
- Is there supportive/strong advocates (in the community)?
- Is there a supportive community?
- Would the trail be value for money?
- Is there a commitment to the ongoing maintenance of the trail ("friends of ..." group or support network)?
- Will the trail provide a unique experience?
- Is there a demonstrated benefit to trail users and, especially, the host communities?

Section 10 provides answers to these questions.

## SECTION 2 - THE CURRENT SITUATION

## 2.1 History of the Railway

The Merriwa line is in northern New South Wales, Australia. The line branches from the Main North line at Muswellbrook and travels north through Sandy Hollow to the town of Merriwa, a distance of approximately 80 kilometres. There were stations at Gungal and Wappinguy (nothing of either remain). The line opened after 30 years of discussion and planning on 29 October 1917. Steam engines were used initially and these were eventually replaced by railmotors.

The section of railway north of Sandy Hollow closed in 1988. The section between Muswellbrook and Sandy Hollow, combined with the Sandy Hollow – Gulgong railway line forms the Australian Rail Track Corporation's Ulan line between Muswellbrook and Gulgong on the Gwabegar railway line. (*Source:* 

https://en.wikipedia.org/wiki/Merriwa\_railway\_line#Restoration\_of\_Sandy\_Hollow\_to\_Merriwa\_section)

Up to 32 services a week were run at its peak along the Merriwa line. A variety of freight and passenger workings were conducted over the branch line. Goods carried into the area and out were local fruits, wheat, timber, farming machinery, caravans, varied livestock, etc. (*Source: https://sandyhollowrailway.wordpress.com/*)

Since its closure in 1988 the rail yard at Merriwa has remained relatively intact. The engine shed, barrack building, coal stage and water tower were removed in 1970s. However, the railway station, goods shed, gantry crane, water column and turntable remain in place, as does the entire railway track.

There have been several attempts to launch a rail preservation group to restore and maintain the Merriwa rail precinct and the section of line between Sandy Hollow and Merriwa.

A small group tried to form a preservation society (which was to be called Merriwa Railway Museum) to restore the station and goods shed to their original condition, as well as the railway yard including the historic steam era turntable and steam locomotive water column. The aim was to restore the line and have a steam locomotive run on it again using historic New South Wales Government Railways rolling stock. It was intended for tourists and train enthusiasts alike. This group was started in early 2002 but failed to progress.

Another attempt was made in 2007, but also failed to proceed.

A new group, the Merriwa Railway Society Incorporated (MRS), was officially launched in Merriwa on 24 October 2009. (*Source:* 

https://en.wikipedia.org/wiki/Merriwa\_railway\_line#Restoration\_of\_Sandy\_Hollow\_to\_Merriwa\_section)

The objectives of the Society include the restoration of the station building at Merriwa, making repairs to the goods shed, loading bank and gantry crane, making repairs to the station platform barge wall, restoring the railway yard, turntable and sidings within the station precinct to an operational condition and, in the future, display a selection of locomotives and rolling stock.

In the long term the MRS hopes to gain permission to restore a section of the Merriwa Line in order to return trains to the line. (*Source: http://www.merriwarailwaysocietyinc.org/*)

In August 2010 another group, the Sandy Hollow Railway Group, was established with the intention of acquiring and maintaining access to the former station precinct, the restoration and display of railway infrastructure, rebuilding the Sandy Hollow railway yard, acquiring access to the Sandy Hollow railway branch line section, restoring the Sandy Hollow station building and, in the long term, rebuilding the Halls Creek bridge, acquiring the lease to access the track towards the Gungal road crossing, and rebuilding sections of the rail line to run rolling stock for tourism purposes.

The SHRG project terminated in October 2010 (after only a few months of existence). (*Source: https://sandyhollowrailway.wordpress.com/*)

## 2.2 The Corridor's Condition

The Sandy Hollow to Merriwa branch line was constructed as an unfenced line. As it stands the majority of railway corridor remains unfenced and farmers have adopted their practices to suit – moving livestock and machinery across the corridor, moving vehicles across the corridor, developing watering points on both sides etc. The majority of the corridor is in good condition, with stock in most locations attaining unrestricted access to the corridor and grazing on the grasses within the unfenced corridor.

The vast majority of the steel track and sleepers remain in place. Some has been removed.

Numerous short bridges (2-5m) and two lengthy bridges (one 32m and the remnants of the Halls Creek Bridge) remain in place, although many have deteriorated badly and will require significant refurbishment if a trail is to be built utilising the bridges.

Numerous 'cattle stops' or grids still exist in the fencing at property boundaries and at the road crossings along the route. Numerous pipe and/or timber culverts under the railway embankment handled drainage along the railway corridor, and side drains were developed within cuttings. These appear to still function but would require cleaning to restore them back to their functional best. Some may need repair or replacement.

Some vegetation has regrown where the railway corridor has not been actively used by adjoining landowners (allowing their stock to graze within the government owned corridor). However, because of the relatively recent closure of the line (compared to some disused railways) the extent of regrowth vegetation is minimal.

Most parts of the rail corridor remain a remarkable resource: the cuttings, embankments and the original formation appear to be in good condition (noting the limited inspections that were undertaken). The bridges and other railway artefacts are a remarkable resource and lend themselves to interpretation; the bridge over Halls Creek near Sandy Hollow may become an attraction in its own right.

## 2.3 Potential Future Uses of the Corridor

An important component of the preparation of a Feasibility Study for a rail trail on a disused railway corridor is assessing the viability of potentially competing uses of the corridor.

There are a number of potentially competing uses for a rail corridor. The first key question to ask is whether the State Government has clearly ruled out any of the proposed options for the railway corridor. The two key options generally ruled out (or

in) by the State Government are reinstating operating passenger and/or freight services, and selling land within the corridor to private interests.

Once this position has been established (and if these two options are ruled out), options for the re-use of the corridor are relatively limited. One of the key and emerging proposed uses is the operation of heritage rail services

#### 2.3.1 Return of Rail Services

Train services on the Merriwa ceased in 1988 and in the intervening 27 years considerable deterioration of the railway infrastructure has occurred. The most notable evidence of this deterioration is the rotting of the timber sleepers, the degradation of the majority of the small (2-5m) bridges and the removal of segments of the bridge over Halls Creek. In addition, sections of the embankment have collapsed, drains have become overgrown or blocked and tracks across roads have been removed. Stations infrastructure has been removed, apart from some buildings within the Merriwa station yard. In some locations the steel railway track has been removed.

When the railway was originally planned and built it was designed for relatively slow moving steam trains. Routes were chosen partly on the basis of servicing numerous farms and accordingly landowners strove to have the railway pass close by to their properties resulting often in fairly circuitous routes.

Should it ever be contemplated to return train services to this area – for whatever reason – it is highly likely that a completely different railway route will be surveyed to cater for faster trains travelling over a much more direct route.

It is reasonably certain that Government train services will not be restored in the near future.

#### 2.3.2 Heritage Rail Services

The Merriwa line has, like many other rail lines in NSW, a heritage group with aspirations of one day operating a heritage rail service. The Society has produced a 1 page document that includes the strategic plan outcome stating that the Society will "*Obtain rolling stock. A mix of static displays and used for short (1 to 2kms) rail trips.*" This statement is less ambitious than the Society's website which states that it wants to obtain approval to restore and use the section from the Merriwa Station to Wappinguy (some 12 kilometres from Merriwa). The website also indicates that subsequent stages might see a tourist rail service run to Gungal.

When evaluating the aspirations of heritage rail organisations, the following factors need to be considered to establish the viability of alternative uses and bona fides of the group:

- Is there a recently completed Feasibility Study, Strategic Plan or Business Plan for the proposed use?
- *4* Does the proponent have a Licence to Operate?
- Does the proponent have a Management Plan for the Station (or the railway corridor)?
- *4* Does the proponent have a current SWMS (Safe Work Method Statement)?
- Does the proponent have a current Safety Plan (assessing the risks) for the corridor?

- What are the membership levels, skills sets and available resources?
- Does the proponent have a clear understanding of the financial resources required to run and maintain an operating heritage rail operation, based clearly on examination of other such operations?
- What financial resources does the proponent have for repairs to (or reinstatement of) bridges, track and sleepers, culverts and other drainage devices, earthworks and signalling etc?
- What financial resources does the proponent have for ongoing running and maintenance of rolling stock and track?
- Does the proponent have sufficient skills and accreditation?
- *Is the current (or proposed) operation licensed by the Independent Transport Safety Regulator? If so, what conditions for use of the line have been imposed?*
- Does the proponent have a lease, licence, permit or Local Government approval to occupy station sites and/or the railway corridor?
- Does the proponent have any other relevant plans such as landscaping plans for station ground improvements?

How realistic is a plan to run a heritage rail service? Other existing services point to the financial requirements of such an undertaking.

In February 2015, a restored steam locomotive - "The City of Canberra" - made its first commercial run. The City of Canberra engine consumes 18 tonnes of coal and some 40,000 litres of water on average each day, costing around \$10,000 a day to operate. The president of the Australian Railway Historical Society ACT branch stated that "*Ticket sales to the general public just do not cover the cost of restoration*." Further, he said that it cost about \$3 million every year just to maintain the status quo at the museum. To bring in more revenue, the heritage railway charity has formed a separate commercial rail business. According to the president, ticket sales are of importance to pay for the general operation of the railway but this commercial work is underpinning the restoration of the heritage fleet (http://www.abc.net.au/news/2015-02-25/recently-restored-steam-locomotive-named-city-of-canberra/6262504).

The Puffing Billy in the Dandenong Ranges is one of the most popular heritage railway journeys in Australia. Since 1995-96, the Puffing Billy has attracted over 200,000 users per year (with over 300,000 using the service in 2014). The 2014 annual report of the Emerald Tourist Railway Board (which runs the Puffing Billy) makes sobering reading for advocates of heritage railways. Both years resulted in operating losses – over \$1 million in 2013 and almost \$600,000 in 2014, on the back of fare revenue of \$6.2 million (2013) and \$7.17 million (2014). The balance sheets reflect the value of the railway and stock.

In the case of the Merriwa Railway Society Inc, the group has an already ambitious plan to complete renovations of the railway station building, repairs to the station platform and barge wall, repairs and refurbishment of the good shed, reinstatement of replica outbuildings in the station grounds, as well as ongoing need for maintaining all structures and grounds within the station yard.

Other potential projects could include restoring the historic turntable to an operational condition, restoring the gantry crane, repairing and restoring all sidings within the

railway station yard and the acquisition, restoration and display of a selection of locomotives, carriages and assorted rolling stock.

Given the considerable costs in refurbishing railway track (including replacing sleepers, repairing/replacing bridges, etc), the cost of acquiring and restoring suitable railcars, the considerable cost in operating a train service and the cost of maintaining the train and the track, it is highly unlikely that the Group's ambition of running an extensive heritage train service to Wappinguy and Gungal (and beyond) will be realised.

Funding programs for such projects are rare. Details are not available for the actual costs involved in setting up an operational heritage rail service along this corridor – the Canberra and Dandenong experiences provides some recent figures for running costs only. Setting up an operational heritage rail service is likely to cost many hundreds of thousands of dollars – funds which railway heritage groups are rarely able to source.

At no time during conversations with representatives of the Society were documents tabled showing how such projects may be funded – there was a verbal indication that some funds had been secured from John Holland to restore the platform retaining wall.

#### 2.3.3 Raíl Traíl

This entire report is devoted to establishing the viability/feasibility of developing a rail trail along the disused railway corridor.

The success of rail trails in other locations in Australia and elsewhere in the world is well known. Already there are almost 2,000 rail trails in the United States totalling over 22,000 miles (35,000 kilometres). Throughout Australia there are over 100 existing rail trails – with many more waiting to be developed.

Various studies, as reported on elsewhere within this Feasibility Study, have documented the financial success of rail trails and their contribution to local economies and the health of communities.

Should the Upper Hunter Country Rail Trail proceed to construction, its development will complement the activities of the Merriwa Railway Society Inc. by bringing large numbers of tourists to Merriwa and the Railway Museum.

The configuration of the station ground and surrounding roads would enable a one kilometre section of existing railway track to be retained (from the turntable at the eastern end of the railway yard to an existing gravel track crossing of the railway track to the east of the station) while still enabling the rail trail to be developed eastwards of the station grounds (the obvious choice for the rail trail's Merriwa trailhead). The rail trail could run parallel with the train track (on its south side) as far as the existing gravel road crossing (perhaps even using the gravel road as far as the crossing) and then enter the railway embankment at the crossing.

All tracks and sidings within the station yard could be retained, to be used as part of the services that the Merriwa Railway Society hopes one day to provide.

The NSW Government has signalled its intention to commence on a program of rail trail development throughout the state and has committed funding to a pilot rail trail project between Tumbarumba and Rosewood in the Riverina. Based on the future success of that pilot project, the Government is highly likely to provide additional funding for other rail trail projects.

As indicated elsewhere in this Feasibility Study, it is highly likely that the Government will hand over control of a railway corridor to a single tenant, such as a local government.

This is likely to be a critical element for this project if sharing the corridor (or at least part of the corridor) with the Merriwa Railway Society is contemplated. Whilst the NSW Government has yet to make any decisions or provide guidance on how corridor vesting and management will occur, it may be that it will be looking for one organisation to take the head lease on the rail corridor (as occurs in other States). This could either be a Committee of Management (as occurs in Victoria) or a Local Government (as has occurred in Queensland, South Australia and Western Australia on some rail trails). This model could be modified to allow two Councils to share the lease (which would make sense on a corridor such as the Merriwa to Sandy Hollow rail corridor that passes through two Council areas). If this is the process followed, the head lessee (the Councils if that is the way the Government chooses to go) will be in a position to issue sub-leases or licences over sections of the corridor. This may include requests from the Merriwa Railway Society Inc., commercial enterprises and/or adjoining landholders for access to, and use of, the corridor.

## 2.4 Ownership and Management of the Corridor

The NSW Government owns the rail corridor, but much of it is used informally by adjoining landowners given that the majority of the corridor is unfenced.

Until recently the John Holland Group was responsible for maintenance of various railway corridors throughout NSW. Earlier this year the Commonwealth Government approved the sale by Leighton Holdings' John Holland contracting division to China Communications Construction Company (CCCC).

It is assumed that all maintenance and management of this and other disused and active railway corridors will henceforth be undertaken by CCCC.

## SECTION 3 - RAIL TRAILS EXPLAINED

A rail trail is a multi-use recreation trail running on a disused rail corridor (public land) for non-motorised recreation. There are over 100 established rail trails in Australia, the majority of which are in Victoria. South Australia, Western Australia, Queensland, Tasmania and the Northern Territory also have rail trails. There are at least three public rail trails in NSW, with a number under consideration (the Rail Trails Australia website lists several rail trails in NSW; however consideration of what constitutes an open and operating rail trail yields a very small number of trails that could be classified as rail trails). It is worth noting that none of the NSW rail trails are on government-owned rail corridors as the process for converting a rail corridor to a recreation trail is extremely difficult, requiring an Act of Parliament to close a railway line. The NSW rail trails have all been developed on privately owned rail lines.

#### 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 places to eat and drink, explore and stay.
- Good rail trails have some heritage infrastructure in place such as historic stations, bridges, tunnels, goods sheds, sidings, platforms, turntables, switches, signals, and mile posts. Rail trails elsewhere have utilised their railway history as part of their attraction. Remaining major elements of the railway infrastructure (formations, deep cuttings, high embankments, bridges, culverts) add significantly to the user's experience. Built and social heritage values are a critical part of the rail trail experience not often experienced on other types of recreational trails.
- 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. 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.
- $_{\odot}$   $\,$  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 the number of 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 50 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 50 years later, rail trails have made a significant mark in America, with around 100 million users per year travelling on 22,101 miles (over 35,000 kms) of trail on 1,919 rail trails. There is another 715 rail trail projects being planned and/or developed for a total of 8,167 miles (almost 13,000 kms) (Rails-to-Trails Conservancy website:

http://www.railstotrails.org/ our-work/research-and-



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.

information/national-and-state-trail-stats/). The longest trail is the John Wayne Pioneer Trail in Washington State (253 miles) while 13 other trails are longer than 100 miles. All American states have a rail trail network. Missouri has the most rail trail miles (2,320 miles on 113 trails), while Pennsylvania has the most trails (169 rail trails covering 1,753 miles). Wisconsin is the home of the first rail trail in America – the Elroy Sparta State Trail opened in 1965.

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 Rail Trails in the UK

In the UK, a number of disused rail corridors form part of the Sustrans long trail cycle network across mainland Britain – the rail trail movement is not as clearly articulated in the UK as it is in the USA or Australia. The Bristol to Bath rail trail is one of Sustrans' first dismantled railway paths and now carries over a million visits a year. It runs 13 miles from the heart of Bristol to the outskirts of Bath, passing old steam trains at Bitton Station. The High Peak Trail and the Tissington Trail in the Peak District are two of the best known and most popular routes in the country offering a superb challenge in the heart of the Peak District. The High Peak Trail runs for 17.5 miles (with a flat section of 12 miles) while the Tissington Trail is shorter, running for 13 miles. The Camel Trail in Cornwall is the most popular recreational ride in the country, running 16 miles from Poley's Bridge and the wooded countryside of the upper Camel Valley down to Wadebridge and alongside the picturesque Camel Estuary as far as Padstow.

## 3.4 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 2014-2024 reports that there are currently over 800 kilometres of rail trail in Victoria, while the Rail Trails Australia website lists over 30 rail trails throughout Victoria. Some listed are still under construction or require signage and/or publicity materials, though they are in use.

One of the best known of Victoria's rail trails is the Lilydale Warburton Rail Trail which is situated some 40km east of Melbourne (at the end of



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.

the suburban train line). This trail caters for all types of bikes, walking, horse riding and wheelchairs (for some segments) due to the outstanding surface material used. The trail passes 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.

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 35

kilometre long 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. In November 2009, this already popular trail was extended another 8 kilometres north to Barinia Siding, the "geographic" northern end of the Clare Valley.

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

#### Feasibility Study



Above: The Lilydale 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 winegrowing 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 is part of the Munda Biddi Trail – the long distance mountain bike trail between Perth and Albany.



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



Above: The Fernleigh Track in Newcastle is exceedingly popular with a range of users. One of its key attractions is the Fernleigh Tunnel.



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

## 3.5 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.

#### 3.6 How Do Rail Trails Function and Operate?

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.

#### 3.6.1 Víctoría

#### 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 Environment and Primary Industries 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;
- o 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 that provides the basis for the Business Plan.

#### 3.6.2 South Australía

In South Australia trail management is usually 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 earlier, the Riesling Trail is perhaps the best known rail trail. Located in the Clare Valley, the 35 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 Shiraz Trail (formerly the Coast to 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.

#### 3.6.3 Western Australía

#### Mundaring Railway Reserves Herítage Traíl

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.

#### 3.6.4 Overview

While legislative regimes differ, the operations of



of the Railway Reserves Heritage Trail, the Shire of Mundaring continues to expend funds on improving the trail.

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 - COMMUNITY CONSULTATION

# 4.1 Introduction

It is important to consider the issues that may be raised by adjoining landowners and investigate what options are available for resolving some of these concerns. Adjacent landowners are traditionally – and understandably – apprehensive about trails close to their properties. It is important that these concerns are seriously addressed before any trail conversion takes place. Many landowners resent having things imposed on them, or feeling as if they have no say in what is happening around them. Many landowners are resistant to change of any sort, let alone one they perceive will have detrimental impacts on their lifestyle as well as on their farming operations. It needs to be appreciated that opposition will never completely cease – some people will never be convinced, despite a plethora of testimonials (indicating nothing but positive results from the trail) from people in very similar situations.

Conversely, adjacent landowners who understand and support the reasons behind a trail, and who see that the trail is going to be well organised and efficiently managed, will prove to be extremely valuable partners in years to come. Indeed, some of them will take advantage of business opportunities offered by the rail trail project.

It is also important to establish levels of community support for the project. This is often more difficult to do as supporters of any project do not often voice their support.

# 4.2 "Open Houses"

As part of the preparation of this Feasibility Study three 'Open Houses' (or 'drop in sessions') were held in Sandy Hollow, Merriwa and Denman. The consultants conducted these Open Houses, with the attendance of representatives of the Upper Hunter and Muswellbrook Shire Councils. The purpose of these sessions was to inform the community of the project, to provide an opportunity to provide further information and for community members to ask questions and to receive feedback.

Static display material was available for people to peruse which showed a series of artist's impressions to convey "before" and "after" scenes of the trail alignment, as well as material on rail trails generally – including fact sheets and photos of other operating rail trails. (Artists impressions are included in Appendix 1).

Open Houses were held in

- Sandy Hollow Tuesday 11 August. 11 people registered their attendance; at least 2 others came but did not register their attendance.
- Merriwa Tuesday 11 August. 27 people registered their attendance.
- Denman Wednesday 12 August. 10 people registered their attendance.

Of the 50 people who attended, there were 13 adjoining landholders. Some of these landholders had properties that straddled the corridor (the others had properties where the rail corridor was one side boundary). This is important because many of the farm management issues (as opposed to other issues such as lifestyle issues) arise where properties straddle a rail corridor.

There were a number of conversations between Open House attendees and the consultants. The conversations were with both supporters and opponents of the rail trail

proposal. There were a number of adjoining landholders who raised issues with the proposal but were not necessarily opposed to the project. Many of these concerns are what might be termed generic concerns – they have been raised in association with the many rail trails proposals across Australia. In many cases, satisfactory solutions have been found. The generic problems and solutions are discussed in 4.3 below.

There were some issues raised in conversations that are unique to this particular corridor.

- An operating quarry exists alongside the railway corridor north of Wappinguy. Concerns were expressed about the interactions between the quarry and trail users when blasting occurs. As blasting occurs regularly but infrequently and for relatively short periods, the way to deal with this is similar to the way blasting is dealt with alongside roads in the region. Appropriate signage is erected on the trail (and it could also be included in trail promotional material) warning that blasting will occur. On-trail signage would indicate when it will occur and precautions that must be observed (such as no users on the trail section when blasting is scheduled).
- The potential for other uses of the corridor for public utilities such as gas mains. The rail trail was seen as opening the possibility of putting in a significant gas main. Elsewhere, utilities such as gas lines, water mains and phone cables have been buried underneath rail trails as the rail trail provides easy access in the event of maintenance and emergencies. However, the railway corridor is owned by the State Government, which could determine to put such utilities along the corridor now – a rail trail development is neither an impediment or an opportunity to install utility infrastructure.
- Several landholders raised concerns over camping (one attendee raised it in a positive sense wondering whether such a facility could be provided). Camping is generally not provided within the rail corridor as it is too narrow, creates too many maintenance issues and creates concerns for adjoining landholders. Adjoining landholders may wish to provide such a facility as a commercial venture on their own land adjacent to the rail trail should it proceed.
- Landholders expressed concerns about liability (a general issue covered in 4.3 below). However, one landholder asked how would it be known who is on the rail trail in case of an insurance event occurring e.g. if someone stated they had been attacked by an animal, there would be no proof they were on or not on the trail at the time of the incident. This has not been an issue on other rail trails and it would be very difficult to manage some form of real time register.
- One landholder expressed a desire to see a land survey of the rail corridor done if the project proceeds to determine the exact centerline particularly where it crosses Worondi Creek Road. If the trail proceeds, establishing precise locations where necessary would be done.

The conversations during the Open Houses were also held with supporters of the proposal who highlighted economic and tourism benefits and exercise and recreational benefits for local residents (including those people living within the two shires but not along or near the corridor).

#### Feedback forms

A feedback form was provided at the Open Houses for community members to provide comments. 14 feedback forms were filled in. Another 4 written responses were set to the Upper Hunter Shire Council – a total of 18 written responses to the Open Houses.

11 submissions were in favour of the proposal, while 6 were against the proposal. 1 submission noted that there were both merits and concerns with the proposal. Submissions from adjoining landholders were mostly opposed to the project (or had some concerns – not all expressed outright opposition) while those who were potential users (but not adjoining landholders) expressed support. Two submissions opposed to the project were not from adjoining landholders. A summary of comments follows (note that it does not include all specific comments).

Submissions in favour of the proposal raised a number of points:

- The trail will be used by different groups of people cyclists, walkers, horse riders, people pushing prams, people in wheelchairs. Some submissions identified cycling groups both in the immediate vicinity of the trail, further afield locally (Scone, Muswellbrook) and from outside the sub-region (Newcastle, Sydney) as potential trail users. One submission contended that overseas visitors might be attracted.
- The trail will attract tourists from beyond the local area who will visit and spend money in a range of other commercial facilities.
- The trail provides opportunities for a range of new business enterprises including the possibility of new businesses from landholders alongside the corridor. Identified opportunities included bike hire, accommodation, food and wine.
- The trail provides a safe and relaxing off-road cycling environment for many users. This was a quite strong element in the submissions.
- The trail will be good for individuals and groups to use for exercise, recreational use and "dreaming" (one submission identified the need for a place to look, see and think and dream in a safe environment).
- The trail will provide a facility for schools to use for a range of physical events fun runs, cross country, sports days.
- 2 submissions thought that the trail would be of benefit to the rail museum at Merriwa. One suggested that one benefit to the Museum Group would be by providing simple catering when cycling groups are visiting.
- 2 submissions noted there would likely be objections from adjoining landholders. One suggested that the farmers worries would be improved with many eyes and ears on the lookout for bad behaviour, while the other noted that they had recently returned from cycling in France and UK and noted no evidence of litter or people wandering onto adjoining private land on all the riding and walking tracks they used.
- Extra employment through construction and maintenance was identified as a project benefit.
- 1 submission made the pertinent point that taxpayers' funds were used to develop the railway, and so it seems totally appropriate that the taxpayers will get a benefit from the rail trail.

Submissions against the proposal raised a number of points:

- There may be biosecurity issues if horses and dogs are permitted on trails. Horses may carry strangles (equine distemper), other bacterial diseases such as salmonella, and viral diseases transmitted by respiration. Quite a few dog diseases that could be transmitted from users' dogs to working dogs.
- Strange horses may agitate landholders' horses.
- $_{\odot}$   $\,$  Property security was raised by 4 of the 6 submissions.
- Splitting properties and the resultant impact on farm practices (particularly getting stock to watering points) was raised by 3 submissions.
- 2 submissions stated that the proposal conflicted with the Merriwa Railway Society's proposed use of the corridor.
- 4 submissions stated that the costs would be high and the money could be better spent elsewhere (3 of these nominated other activities where the money could be spent).
- Increased fire hazards were raised by 3 submissions.
- $\circ~$  1 submission raised the issue of possible increased public liability insurance for landholders.

It should also be noted that some adjoining landholders who attended the Open Houses and some who made written submissions were concerned with the processes used. There were strong views that insufficient notice provided about the Open Houses and that they were not held on the weekend rather than during the week. Some landholders spend their weekdays on the Central Coast and only come to their properties on the weekend and thus could not attend Open Houses held during the week. One attendee wanted a series of public meetings (as opposed to Open Houses) and suggested that these be held continually until a reasonable number of community members had attended one.

### 4.3 Issues and Solutions

As noted above, a number of what might be called generic issues and concerns were raised in both written feedback and in conversations at the Open Houses. It is likely that there are a number of other issues and concerns adjoining landholders in particular have that were not raised.

Table 2 presents a range of problems generally raised (most were raised in the three Open Houses) and some generic solutions (a photographic essay follows on page 53 showing some of these solutions on other rail trails). The table and photos are provided as guidance; they do not substitute for detailed discussions with adjoining landholders over problems and specific tailored solutions – this should be part of the next phase of work (preparation of a detailed development plan) if the project proceeds.

Table 2: Issues and Solutions			
IMPACT / ISSUE / PROBLEM	SOLUTIONS SUCCESSFULLY USED ELSEWHERE/COMMENTS FROM EXPERIENCE ELSEWHERE		
Impacts on adjoinin	g land owners lifestyles		
Crime - Trespassing, vandalism and theft.	Comments Crime		
express a range of concerns in regard to the issue of trespassing on to farmland, especially where the	<ul> <li>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.</li> </ul>		
remote from farm buildings and public roads	<ul> <li>There have been no reports of trespassing, theft or vandalism on the Murray to the Mountains Rail Trail (Victoria) since the establishment of the trail.</li> </ul>		
	<ul> <li>Similarly, the Collie to Darkan Rail Trail (Western Australia) has had no incidents of crime.</li> </ul>		
	<ul> <li>The Clare Valley (South Australia) Riesling Trail has had 2 incidents along the trail in over 20 years of operation. One of these, a burglary, would have occurred regardless of whether the trail existed at the rear of the property. The other, an incident involving an unrestrained dog attacking stock in an adjoining paddock, is one that can be avoided by trail users following trail rules.</li> </ul>		
	<ul> <li>The Linville-Blackbutt Rail Trail (part of the Brisbane Valley Rail Trail in South East Queensland) had 2 incidents with trail bike access in almost 10 years, but these were easily dealt with by the local police.</li> </ul>		
	<ul> <li>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.</li> </ul>		
	Possible solutions		
	Crime prevention		
	<ul> <li>Design solutions to minimise theft include installation of security (and additional) fencing and planting.</li> </ul>		
	<ul> <li>Trail design can eliminate overgrown vegetation and tall shrubs that minimises hiding places and creates long sight lines.</li> </ul>		

	<ul> <li>Security lighting at trail heads and parking areas adds security.</li> </ul>
	<ul> <li>Emergency phone boxes and emergency vehicle access helps increase user security.</li> </ul>
	<ul> <li>Keeping trail corridors clean and well maintained increases sense of community ownership and 'passive surveillance' reducing minor crime such as litter, graffiti and vandalism.</li> </ul>
	<ul> <li>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.</li> </ul>
	<ul> <li>Many trails have a signposted Code of Conduct as a means of reinforcing what is expected of trail users and highlighting inappropriate behaviour.</li> </ul>
	<ul> <li>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.</li> </ul>
	<ul> <li>Volunteer or professional trail patrols ranging from informal monthly clean-ups and maintenance crews to daily patrols.</li> </ul>
Loss of privacy for	Possible solutions
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.	<ul> <li>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.</li> </ul>
	• Re-routing the trail off the formation away from the affected residence onto an adjacent road reserve or elsewhere in the rail corridor.
	<ul> <li>Substantial additional vegetation planting to provide a visual barrier between the trail and the residence (while minimising 'hiding' places).</li> </ul>
	<ul> <li>Installation of screen fencing to obscure views of houses from the trail.</li> </ul>
Land value	Comment
devaluation	• What empirical evidence exists comes from the USA <i>(American Trails website)</i> . The evidence is that rail trails positively add value to properties along their route. Research and anecdotal evidence 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 (Ohio) were positively impacted by proximity to the trail <i>(Karadeniz 2008)</i> . Properties along the Minuteman Bikeway and Nashua River Rail Trail (Massachusetts) sell for a higher proportion of the asking price and in about half the time that it took for houses in the general inventory <i>(Della Penna)</i> . Properties near, but not immediately adjacent to the Burke Gilman Trail (Seattle) sold for an average premium of 6% while those immediately next to the trail sold for a minimal premium (around 0.5%). Neutral-to-positive expectations for property values were held by 87% of adjacent neighbours to the Luce Line Trail (Minnesota). In the same 1988 study, 56% of farm neighbours held that same view, as did 61% of suburban neighbours <i>(American Trails website)</i> .
	0	The consultants are not aware of any documented evidence to suggest property values decrease.
Stress and concerns	Comments	
about the impacts of trails on farmers lifestyles and incomes	0	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.
An element of uncertainty in both the short-term (until a decision is made) or the long-term (from rail trail operations)	0	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.
	Po	ssible solutions
	0	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).

E.

Impacts on farming practices		
Threat of fire	Possible solutions	
Landowners are often concerned about the possibility of increased fire risk along a rail trail with fires spreading unimpeded along the corridor and consider that additional fire protection will be required if the reserve is used for a rail trail.	• Development of an effective fire management plan in close consultation with the local Rural Fire Service.	
	<ul> <li>Areas of the trail deemed high fire risk can have more active management controls.</li> </ul>	
	<ul> <li>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.</li> </ul>	
	• 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).	
Weeds	Possible solutions	
There are weeds on the corridor at present – who will remove them and who will keep them under control.	<ul> <li>Preparation of a regularly reviewed Trail Management Plan covering all maintenance issues prepared in advance of construction.</li> </ul>	
	<ul> <li>Focus of maintenance – erosion, vegetation regrowth, weed control and signage damage.</li> </ul>	
	<ul> <li>Division of maintenance into regular inspections and simple repairs and once/twice yearly programs undertaking larger jobs such as vegetation control.</li> </ul>	
Interactions	Comments	
between nervous livestock and trail users with dogs Farmers whose properties adjoin the corridor are often concerned at unrestrained dogs being allowed along the proposed rail trail, and causing difficulties for their livestock.	<ul> <li>It is well recognised that people walking dogs is a pastime with considerable physical and mental health benefits. On other rail trails, some sections of the trail (notably within the urban areas) permit this activity.</li> <li>Possible solutions</li> </ul>	
	<ul> <li>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. However, given the "town areas" (Merriwa and Sandy Hollow) of this proposed trail are very limited, it is recommended that dogs be banned from the rail trail should it proceed.</li> </ul>	
	<ul> <li>If the rail trail is declared 'dog free', Council's rangers could issue infringement notices and the offender can be fined.</li> </ul>	

### Interactions between nervous livestock and trail users on horseback

Farmers whose properties adjoin the corridor are often concerned at horses being allowed along the proposed rail trail, potentially bringing in weeds via faecal matter and a range of bacterial diseases and causing difficulties for their livestock.

#### Comments

- Rail trails around Australia vary on whether they permit horses. Of the trails listed as open on the Rail Trails Australia website, some 75% do not allow horses (for a range of reasons).
- The debate about whether horses carry weeds in faecal matter has been around for a number of years and is particularly topical in discussions about whether horses are allowed into national parks. There appears to be no agreed consensus (though some national parks managers are permitting horses).
- The Destination Management Plan for the Upper Hunter (discussed in Section 6) identifies the lack of long distance horse riding opportunities in the "Horse Capital" of Australia as a shortfall in tourism product.

Possible solutions

- In recognising the two opposite views (concerns with introduction of weeds and disease and negative interactions with livestock on one hand, and the opportunity for filling a gap in the tourism market on the other hand), this draft Feasibility Study makes no recommendations as to whether horses should be allowed on the trail. The impact on feasibility will be relatively low and it is more properly a decision for the community to make.
- On a related matter, one attendee raised the possibility of horse-drawn sulkies being used on the rail trail should it proceed. If horses are permitted, there are two other key issues – potential damage to the trail surface and access (gates at road crossings are designed to keep unauthorised users out). Sulky use is best managed as an event i.e. permitted on special occasions by permit system. This would allow the trail manager to unlock the vehicle access gates for the limited time of an event. It would also allow the trail manager to cancel the event if it is wet (wet weather is likely to leave any trail surface vulnerable to damage by wheeled devices) and to require the event organisers to clean up (particularly the removal of horse faeces) after the event. General biosecurity 0 Advice obtained by the proponents of the Great There are concerns Victorian Rail Trail (in central Victoria) from the Department of Primary Industries (Victoria) was that
- that the use of rail reserve by trail users will increase the risk of contamination of livestock. Department of Primary Industries (Victoria) was that a trail should not jeopardise the landowner's ability to sign the National Vendors Declaration. The rail trail would be considered in the same way as any

	public thoroughfare would be. Farmers have no control over who uses and what is done on adjoining roads so they have 'no knowledge' unless they are notified (the Declaration specifies that "to the best of a farmers knowledge and from information they have control over that their livestock comply with the conditions on the declaration"). Trail users are no different to road users in that people may trespass onto private land but most are unlikely to cause significant damage, unless there is some malicious intent. Again, the farmer has to have some knowledge of this before the declaration is declared false. Cars and particularly tractors moving at high speed would disperse more dirt from roads and tracks than collective effort of numerous bikes (in particular).
Fencing of the corridor	<ul> <li>Comments</li> <li>There will be sections that 'dissect' properties or are used by the adjoining landholder. This was raised by numerous landholders in the open houses.</li> <li>Possible solutions</li> <li>Fencing may be appropriate in some places and not in other places – this depends on a number of factors.</li> </ul>

Splitting of farm paddocks Splitting properties and the resultant impact on farm practices (particularly getting stock to watering points).	<ul> <li>Comments <ul> <li>There will be sections that 'dissect' properties or are used by the adjoining landholder. This was raised by numerous landholders in the Open Houses.</li> </ul> </li> <li>Possible solutions <ul> <li>There are several options for dealing with "paddock splitting". They involve providing fenced and gated crossing points for stock and machinery at appropriate locations as determined by the landholder and trail manager.</li> <li>Another option to deal with watering points issue is to provide watering points (new water tanks or similar) on both sides of the corridor for stock (these could be provided by the project construction budget).</li> </ul> </li> </ul>	
Impacts of trail user	rs	
Management of litter and toilet waste	<ul> <li>Comment <ul> <li>Some landowners whose properties adjoin a former railway corridor expect high levels of litter.</li> <li>It has not been a problem elsewhere. The Lilydale Warburton Rail Trail (Victoria) is kept spotless, with little or no visible signs of litter. The Gippsland Plains Rail Trail was involved with Clean Up Australia Day, but their involvement was curtailed because they effectively had nothing to do. There was no litter to clean up. The Clare Valley Riesling Trail (in SA) is also litter-free.</li> </ul> </li> <li>Possible solutions <ul> <li>Thoughtful placement of rubbish bins at trailheads on the trail.</li> <li>Regular maintenance patrols by council staff or volunteers, or the trail manager.</li> <li>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 costings for this project include placement of composting toilets at the proposed Westwood Road trailhead.</li> </ul> </li> </ul>	
Farm safety Adjoining landholders can be concerned that farms are unsafe work places and people are being invited into such unsafe workplaces.	<ul> <li>Possible solutions</li> <li>Good design and appropriate information (as discussed above) will discourage people from going off the trail onto farm property and thus placing themselves in dangerous work environments or in close proximity to unpredictable livestock.</li> </ul>	

	• Particular attention to the trail design issues around sites where agricultural buildings are close to the rail trail (some of these solutions are discussed above in the section on crime prevention).
Trail Management is	sues
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?	<ul> <li>Comment</li> <li>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.</li> <li>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.</li> <li>Volunteers and other low cost resources, including low risk prison crews, can be brought into trail construction and maintenance projects.</li> <li>Entire construction costs for trails are rarely borne by local government, therefore there is minimal</li> </ul>
	impact on ratepayers for construction (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	<ul> <li>Comment</li> <li>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.</li> </ul>
	Possible solutions
	<ul> <li>Primary project partners must take responsibility and ensure that their role is clear and unambiguous.</li> </ul>
	<ul> <li>Management body takes liability responsibility along the full length of the trail regardless of ownership.</li> <li>Farmers do not carry any additional liability.</li> </ul>
	• Effective signposting at trail heads and access points indicating trail regulations and trail use rules and user responsibilities.
	<ul> <li>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</li> </ul>

<b>Unauthorised trail users</b> There are often concerns over whether motor bikes would use the trail	<ul> <li>reports of theft of property have been virtually non-existent (as noted above).</li> <li>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.</li> <li>Comments</li> <li>Unauthorised access to the trail by users of cars, motor bikes, etc, is often stated as one the major concerns of adjoining landowners (it is also a concern of potential trail users).</li> <li>Possible solutions</li> <li>Prohibit motor vehicle and motor bike use through motor vehicle exclusion barriers and effective signage at each road crossing</li> <li>On the Lilydale Warburton Rail Trail, as with other</li> </ul>	
	<ul> <li>rail trails in Victoria, a standard gate configuration has been designed for use at all road crossings and trailheads. The design allows unimpeded access by walkers, cyclists, people in wheelchairs, etc. The design is such that motorbikes cannot squeeze past the gate posts of the narrow maze. Access by authorised vehicles, such as management vehicles, adjoining landowners (where needed) and emergency vehicles is gained through an adjoining (locked) management gate.</li> <li>Encourage reporting of vehicle/bike registration numbers of illegal users. Experience on the Murray to the Mountains Rail Trail was that motorbikes tended to use the same sections at the same time – enforcement was therefore relatively easy.</li> </ul>	
Ongoing maintenance costs Who is responsible, who will pay, what effect will it have on rates?	<ul> <li>Comment</li> <li>There are often concerns about the capacity of Councils to maintain the trail.</li> <li>Possible solutions</li> <li>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.</li> <li>Proper design and construction will minimise ongoing maintenance costs.</li> </ul>	

	<ul> <li>Focus of maintenance – erosion, vegetation regrowth, weed control and signage damage.</li> <li>A clear definition of who is responsible for what.</li> <li>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.</li> <li>Hazard inspection program (to limit liability and to define maintenance activities).</li> </ul>
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.	<ul> <li>Comment</li> <li>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.</li> </ul>
Responsibility for policing trail Adjoining landowners are often concerned about undesirable people using the trail and causing a nuisance	<ul> <li>Comment <ul> <li>Rail trails do not attract undesirable people.</li> <li>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.</li> </ul> </li> <li>Possible solutions <ul> <li>Volunteer or professional trail patrols ranging from informal monthly clean-ups and maintenance crews to daily patrols.</li> <li>Preparation of a regularly reviewed Trail Management Plan contains a clear definition of who is responsible for what.</li> <li>Police and/or Council ranger patrols (including on bikes); or by trail manager on regular patrols.</li> </ul> </li> </ul>

# 4.4 Open Houses - Summary

It is reasonable to state, based on conversations with Open House attendees and taking into account the feedback forms that:

- Most adjoining landholders had concerns with the proposal and raised a number of issues. Some were vehemently opposed to the proposal, whereas others could see that, if it were to proceed, acceptable solutions could be found to their issues (this did not apply to all landholders – some did not accept that the solutions that worked elsewhere would work while some did not believe that the issues would not arise – this applied particularly to issues around security).
- Some other people who attended did not support the proposal, instead stating that the heritage rail proposals should take precedence along the corridor (the heritage rail proposals also had the support of at least two adjoining landholders).
- Others who attended were very supportive of the project and said they would use the trail if it were developed. Many of these could see an economic benefit to Merriwa, Sandy Hollow and Denman if the trail was developed.

It is not possible (nor is it fair to those who attended) to give some definitive comment on numbers opposed and supportive of the project. However, it is reasonable to state that the majority of those who were not adjoining landholders were in favour of the proposal.

# 4.5 Merríwa Raílway Society

Given that the Merriwa Railway Society has a strong interest in the future of the corridor, their input was specifically sought. An informal, on-site meeting was held on 15 July between the consultants, a representative of Upper Hunter Shire Council and a representative of the Society. The meeting was held to discuss the rail trail proposal and the plans of the Merriwa Railway Society and how the two projects may interact.

Key points discussed were:

- Merriwa Railway Society progress since 2008.
- $\circ$   $\;$  Future intentions of restoration and heritage rail services.

The Society's one page strategic plan was given to the consultants. The key actions are:

- Obtain a lease of the railway site (Subsequent investigation showed that such a sub-lease has never been issued by UHSC).
- $\circ$   $\;$  Restore the current infrastructure to its original condition.
- Abide by all Railcorp rules and bylaws.
- Establish a museum of railway memorabilia to be housed in the station rooms and the goods shed.
- Rebuild all previous buildings.
- Obtain rolling stock a mix of static displays and used for short (1-2km) rail trips.
- Provide conducted tours.
   (It should be noted that this list of actions is less ambitious than what appears on the Group's website, particularly in terms of the operating

railway).

- The consultants indicated that with the notable exception of the short rail trips

   this set of actions would complement the use of the corridor as a rail trail.
   (Subsequent investigations showed that an alternative alignment for the rail trail at the Merriwa Station would provide around 1 kilometre of operating track for a rail operation, as well as all the siding tracks within the station yard).
- The consultants also pointed out that operating commercial facilities such as a café or bike hire utilising the station buildings would be one way the rail trail project could complement the Society's operations (either by running the commercial operation themselves or providing the buildings for another commercial operator).

# 4.6 Landholder Consultation - The Next Phase

**Should the trail proceed**, detailed trail development planning is a critical phase of the project. One of the central elements in this phase would be one-on-one consultation with adjoining landholders to determine, in a cooperative manner, solutions to their particular issues. 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 envisage. 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.

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.

#### Some Examples of Successful Solutions from Other Rail Trails



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



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



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



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

Feasibility Study



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).

#### Upper Hunter Country Rail Trail

Feasibility Study



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 reconstructions 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 these signs on the Riesling Trail in the Clare Valley in South Australia).

#### Upper Hunter Country Rail Trail

#### Feasibility Study



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



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



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



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

Mike Halliburton Associates and Transplan Pty Ltd

Feasibility Study



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



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



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



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



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



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



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



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

# SECTION 5 - ISSUES

# 5.1 Unfenced Railways and the Need for Fencing

Most of the railways of NSW were developed in the early 1900s, by authority of a series of Acts of Parliament.

The Muswellbrook to Denman line was opened in April 1915; the Denman to Sandy Hollow line was opened in October 1917 and the Sandy Hollow to Merriwa section was opened also in October 1917. The Sandy Hollow to Merriwa line was constructed by authority of Act No. 11 (1911)

Many NSW railway corridors were fenced and a number were unfenced.

At about the time of construction of the Muswellbrook to Merriwa line the NSW Parliament decided to dispense with the obligation to erect fencing, and when authorising the construction of country lines, to include a Section negating the obligation to fence, which otherwise would have been imposed by the Public Works Act. Lines constructed under the authority of Acts containing this specific exemption, as well as a number of existing lines which were relieved from the obligation by statutory provision, are classified as "unfenced lines", while all other lines remaining subject to the requirements in the

**Reasons for fencing the corridor:** 

- Define the boundary between the trail and private properties.
- Discourage trail users from accessing adjoining properties.
- Prevent unauthorised vehicle and trail bike access to the trail.
- Protect native flora and fauna.
- Control and manage stock access to the trail reserve.

Public Works Act are classified as "fenced lines". It may be noted that for its own purposes the Railways have in fact, constructed boundary fences on certain lines, where by reason of the Construction Act, it was under no obligation to do so. (*Source: Engineering Standard Right of Way CRN CS 510 Boundary Fences, John Holland Rail Pty Ltd, August 2011*)

The Sandy Hollow to Merriwa branch line was constructed as an unfenced line. The majority of the corridor remains unfenced. Farmers have adopted their practices to suit, utilising unlimited access to and across Crown land. They regularly move livestock, machinery and vehicles across the corridor. They have developed watering points on one or both sides of the corridor. Farmers often believe fencing will cause problems with farming practices and not fencing will create havoc with livestock/trail user interactions, liability etc. They also express a concern that a rail trail project will result in them needing to pay for the new fencing.

Fencing of the corridor is one of the most important, and expensive, components to the future success of any rail trail. As a general rule, rail trails pass through a considerable amount of farmland, and it is often critical that the entire rail trail corridor be fenced on both sides where it passes through farms – for public liability insurance and risk reasons. In this project, as most of the corridor is unfenced, the key question is whether it is

desirable to erect the new fencing on the corridor boundary (mostly a 30m corridor, although some parts are 40m wide) or whether to erect the new fencing to create a rail trail corridor of, say, 7 - 10m and lease the remaining corridor to adjoining landowners. It should be noted that there are locations where boundary fencing has been erected (such as alongside roads and in other locations).

In many other rail trail projects, utilising the 'spare capacity' of the former railway corridor in this way for grazing purposes can be a desirable outcome as it enables stock to effectively 'maintain' the unused part of the corridor – saving the future trail manager the task of slashing vast areas of grasslands.

Consultation with each adjoining landowner will be required to tailor specific solutions (in the case of landholders who want to change the present arrangements). The actual process of fencing, where required, should be negotiated with each individual landowner during the one-on-one consultation process. 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 fencing, and for the adjoining landowners to install the fences themselves with the materials supplied to them.

# 5.2 Merríwa Raílway Society Inc

As discussed in Section 2, the Merriwa Railway Society Inc. currently runs an informal museum at the Merriwa Railway Station (which is open by appointment only). Since commencing operations in 2008, the Merriwa Railway Society has renovated and painted the Station Building and has assembled various historic railway-related artifacts.

The Society has applied to the Upper Hunter Shire Council for a licence to operate out of the Station but this evidently has not been acted upon.

# 5.3 Unauthorised and Informal Use of the Corridor

The railway corridor is currently managed by the John Holland Group (a subsidiary of The China Communications Construction Company) and owned by the NSW Government. The John Holland Group has the responsibility for access to the disused railway corridors of NSW. Any person or entity wanting to access the corridor needs to go through an administrative process (including rather onerous workplace health and safety processes) before permission is granted.

During fieldwork associated with this feasibility study, it was noticed that adjoining landowners have unrestricted access to the disused corridor, using it for general farming practices (including storage of equipment and cattle grazing). If the trail proceeds, the trail manager is likely to be given an overall lease for the corridor and will be required to deal with these unauthorised and informal activities. There is scope within the rail corridor to provide access for landholders so negotiated solutions are possible.

# 5.4 Operating Railway between Sandy Hollow and Denman

The railway corridor between Sandy Hollow and Denman is an active railway, with regular coal trains using the line to the Ulan Colliery.

The corridor in which the trains run cannot support the development of a trail beside the operating railway due to its narrowness, the undulating topography, the extent of vegetation and the lack of a maintenance track. In order to achieve a continuation of the proposed rail trail towards Denman from Sandy Hollow other alternative routes were investigated (see Section 5.11 below).

### 5.5 Ríver and Creek Crossings

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.

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 the rail trail. Handrails will be required if the fall from the bridge decking to the ground is greater than 1 metre.

Two major bridges exist along the corridor: an intact 32m timber bridge to the south east of the former Wappinguy Station and the remains of the concrete, steel and timber bridge over Halls Creek, to the north of the former Sandy Hollow station site. Numerous other shorter timber bridges (generally 3–4m) and timber culverts exist along the line.

The cost 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. Bypasses are often suggested as a viable alternative to bridges. In other trail projects, concrete ramps and floodways have been utilised but these are not very attractive, detracting from the user's experience and often come with significant maintenance issues. 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 re-use of railways as recreation trails. Bridges also provide a safe crossing when water is flowing in gullies, creeks and rivers.

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

The bridges are likely to have some prospect of re-use, but will require a detailed examination to confirm their true condition. 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 (i.e. the preparation of a detailed trail development plan), the services of a qualified bridge engineer will need to be utilised to assess every bridge for structural soundness, to provide drawings of, and specifications for, a typical bridge super-structure and re-decking. Conditions which affect the stability of bridges during flooding include, but not limited to, the likelihood of underwater scouring around the piers, the amount and speed of water in the waterway and upstream debris that collects against the spans/piers. An engineering test will provide an assessment of past damage.

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 that 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 in the USA recommend that, as a general rule, multipurpose trail bridges should support as minimum design load of 5.67 tonnes. Such a specification would ensure all ambulance vehicles could be carried.



*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 bridge over Halls Creek once it has been restored.* 

The bridge over Halls Creek near Sandy Hollow is an outstanding example. This bridge is a significant component of the local landscape and its historical and aesthetic value should not be under-estimated. In addition to its heritage and community values, the bridge would have significant appeal as a tourist attraction, once the missing components are reconstructed.

### 5.6 Trailhead Locations

A trailhead is usually defined by the existence of a car parking area, picnic facilities, interpretive signage, a map panel of the trail network showing sites of interest and distances to features along the trail and a Code of Conduct. It is a location where a (short or long) trail walk or ride can begin or end. Given that much of the usage of the trail is likely to come from walkers and cyclists (and possibly horse riders) from other regions, formal 'trail-heads' are important.

Towns easily accessible along the trail are critical when a trail is long and an added bonus when the trail is short. The best location in Merriwa would be within the Merriwa Station area which is ideally located and in close proximity to the town. The planned improvements and developments at the Merriwa station by the Merriwa Railway Society Inc. will be an added attraction to future rail trail users and development of the trailhead within the station grounds will be complementary to the activities and aspirations of the Merriwa Railway Society.

In Sandy Hollow, the obvious site for a trailhead is the park at the corner of Goulburn Drive and Golden Highway. The park already has some picnic facilities and car parking (on-street) and ample space for establishment of additional trailhead facilities (such as trailhead signage and map panel). It is located only a short distance from the other amenities and facilities of the town (shops, toilets etc).

Unlike some other rail trails, the proposed Upper Hunter Country Rail Trail does not have intermediate towns and villages and it is therefore important to develop trailheads or rest areas along the trail to allow users access to the trail should they not want to travel the entire trail. It is recommended that three additional intermediate trailheads be developed that will provide access to the trail for shorter journeys. These will not have the features usually associated with a trailhead as they will not be in a town or village but could have all the other facilities – toilet (in some cases), trailhead mapping, parking, water, shelter - and will be easily accessible from adjoining roads. These sites are:

- Wappinguy (within the former siding area approximately 12km from Merriwa);
- The existing rest area at the corner of the Golden Highway and Westwood Road (approximately 8km from Wappinguy); and
- Gungal (the existing rest area approximately 7km from Westwood Road).

Specific locations should be worked out in the detailed trail development plan.

In summary it is recommended that 5 trailheads be developed:

- Merriwa (at the Merriwa railway station area) the northern terminus;
- Wappinguy siding area;
- Westwood Road (on the Golden Highway);
- Gungal rest area; and
- $\circ$  Sandy Hollow (at the picnic area in town) the southern terminus.

### 5.7 Clearing

As the corridor has been disused since 1988, there has been some regrowth of vegetation – especially where the corridor has not been grazed by stock from adjoining farms. While most of it is light, some significant regrowth has occurred. This will influence the cost of developing the trail.

### 5.8 Drainage

Construction of the railway involved the cutting and filling of the landscape to create a surface that was relatively flat to enable passage of 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. Some culverts may need to be rebuilt (according to one attendee at the Open Houses, some culverts have collapsed).

# 5.9 Removal of Rail

The rail line is still intact and will need to be removed to allow the trail to be constructed, though it may be left intact within the Merriwa Station area and perhaps some distance to the east of the station (a distance to be determined) to allow the Merriwa Railway Society to establish a heritage rail service should it find the necessary resources.

Recent advice received from the Queensland Department of Transport and Main Roads (responsible for removal of rail on disused corridors in Queensland) is that rail removal is a cost-neutral exercise if the amount of rail available to be removed exceeds 75 km. The amount of rail to be removed is less than this (estimated at about 36 km – if up to 2km of line remains in place east of Merriwa). The trail proponent/manager will need to, at the time of trail development, seek tenders for the removal of the steel track and sleepers. When the contractors are removing the track and sleepers, the project manager should ensure that the embankments of the former railway are left in an acceptable condition. Furthermore, the contract should ensure that when the track is being removed the contractors should be required to grade and level the embankment/formation following removal of the track.

All removal programs should include the formation being graded and side drains being cleared following sleeper removal.

Sleeper removal is usually included in the removal cost. Good quality sleepers are sold, for reuse or landscape suppliers, while the others may be chipped or burnt depending on the location. The removal figure (used in the cost tables) is provided 'as a guide only' as there are many factors affecting price.

# 5.10 Ongoing Legislative Issues

There remain key legislative obstacles to the development of rail trails in NSW. In other states, the process of conversion is relatively simple. In Victoria, 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, former rail corridors are designated as `non-motorised transport corridors'.

There is currently no clear legislative or administrative process to follow in NSW. There have been 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 seven years ago as a result of the proposed Riverina Highlands Rail Trails (Wagga Wagga to Tumbarumba and Batlow to Tumut). The NSW Government has committed \$5 million funding to the proposed Tumbarumba Rosewood Rail Trail (part of the Wagga Wagga to Tumbarumba line) as a 'pilot' project – part of the pilot project will address the legislative barriers.

This funding was made available through the Regional Tourism Infrastructure Fund (a component of which was specifically set aside for rail trails). This has stimulated interest in the development of rail trails throughout NSW and is a clear indication that the Government is committed to resolving these legislative impediments. This Feasibility Study has been prepared on the basis of the matter of closures being satisfactorily resolved in the near future.

# 5.11 Connection Between Sandy Hollow and Denman

Ideally it would be beneficial if the proposed trail connected Merriwa with Denman. However, the railway between Sandy Hollow and Denman is still in active use with regular coal trains servicing the Ulan mine. Consequently it was necessary to investigate options for continuing the proposed trail beyond Sandy Hollow (towards Denman).

Several options were examined.

- Option 1. Using the corridor of the active railway line (18km). (An off-road trail).
- Option 2. Following the Golden Highway as far as Rosemount Road, then along Rosemount Rd into Denman (24km). (An on-road trail route).
- Option 3. Following the Golden Highway as far as Bylong Valley Road, then along Bylong Valley Road as far as Yarrawa Rd, then along Yarrawa Rd into Denman (28.2km). (An on-road trail route).

In the case of Option 1 (use of the active railway corridor) this potential trail route was eliminated as it was expected that the Independent Transport Safety Regulator would not allow a trail to be developed in proximity to a heavy haulage, active railway. Moreover, the corridor itself does not lend itself to the development of a trail given the deep cuttings, high embankments and thick vegetation found along the corridor. Even if permitted, construction of 18km of trail in such conditions would be very expensive.

In the case of Option 2 (Golden Highway and Rosemount Rd) it was considered that a trail beside the highway was not justified given the length of trail required (8.7km along the verge of the Golden Highway), the difficult construction conditions, and the expected exorbitant cost. As an alternative to a separated trail, the highway itself is not conducive to use by many rail trail users. Many family groups (a key target market for rail trails) would be deterred by the prospect of cycling along (or in close proximity to) a major highway. Competent, experienced touring cyclists (many of whom may use the rail trail then look to travel on to Denman) would be undaunted by a journey along (or

beside) the highway. Consequently, the likely low user numbers of a highway-based option would not justify the necessary costs; this option also presents safety considerations if the Councils promote such an opportunity. Although Rosemount Road provides an adequate cycling environment, the exposure to high traffic volumes along a long length of the Golden Highway rules out this option as a possible connection from Sandy Hollow into Denman.

Option 3 includes the use of a short section (1.6km) of the Golden Highway, Bylong Valley Road and Yarrawa Road. Apart from Golden Highway, this route uses low traffic volume roads. As a signposted cycle route it will appeal to a small section of the market likely to be drawn to the proposed rail trail. However, even though the route uses low traffic volume roads, it is likely that only a limited number of rail trail users will opt to ride the additional 28 kilometres into Denman (though it is likely that more cyclists will use this option than Option 2). A trail beside the roads is not practical given the long length and high construction costs.

Of the three possible route options, Option 3 is the preferred route between Sandy Hollow and Denman. It should be developed as a signposted, on-road cycle touring route only (i.e. no segregated trail beside the road).

### 5.12 Landowner 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. (Issues that have been raised already during this project and others that may be raised in the future are included in an extensive discussion in Section 4).

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.

# SECTION 6 - OPPORTUNITIES

### 6.1 Introduction

There are a number of specific elements within the area encompassed by the proposed trail route that provide opportunities and reasons for why a trail should be built.

#### 6.1.1 Appealing Landscape and Infrastructure

The Upper Hunter Country Rail Trail would pass through some very attractive scenery. Much of the trail from Merriwa to Gungal will pass through farming country, as this was where rail lines historically ran. Views of gently undulating countryside, containing water bodies and trees are the most attractive and relaxing for many people (*St Leger 2004*). Attractive creek and riverside vistas are available around Wappinguy. Between Gungal and Sandy Hollow, users will be able to look at spectacular rocky escarpments on either side of the rail trail.

#### 6.1.2 Connections Between Towns

Taking trail users through towns will provide new business opportunities for service providers. Presently, there are a relatively limited number of services that would appeal to trail users in the two settlements of Merriwa and Sandy Hollow. Development of the rail trail may provide a range of new business opportunities (or allow existing businesses to expand). Such opportunities are examined later in this section.

The trail will make an actual connection between Merriwa and Sandy Hollow – one that reinforces historic connections.

The distances between towns is also important when considering likely users. The good one-way trails often provide opportunities for short, medium and long length rides and walks on the main trail. While there are no intervening towns between Merriwa and Sandy Hollow, the opportunity for users to break the journey along the way needs to be considered. Trailheads (places for users to come on to and leave the trail) could be developed at Wappinguy and near Westwood Road. Gungal lies along the corridor but provides very few services apart from a roadside rest area.

Connecting the towns via a trail will also provide an opportunity for local residents to choose a non-motorised connection for visiting friends or undertaking some exercise. A non-motorised trail provides another psychological link between the towns on the route.

#### 6.1.3 Topography of the Preferred Route

One of the major appeals of rail trails is the gentle gradient, suitable for all types of cyclists, and walkers (gradient is typically less of an issue for horse riders). This is the market that would be attracted to a rail trail. Their demands are paramount in considering trail feasibility.

#### 6.1.4 A Trail with Anchors at Each End

One-way trails (or out-and-back trails) need an anchor at both ends to be attractive to users. The best one-way trails (including many rail trails) have natural terminuses in major centres or towns, or pass through major towns. While neither Merriwa nor Sandy Hollow are major towns, the attraction of towns at either end is an incentive for trail users.

### 6.1.5 Broadening the Recreation Offerings

Provision of an additional off-road trail adds to the list of tourist offerings in the Upper Hunter region and encourages visitors to stay a little longer to go for a pleasant walk or ride. A new nature-based attraction has the power to retain those visitors for longer, spending money and generating business opportunities. The Upper Hunter Country Destination Management Plan (DMP) identifies a number of significant gaps in the key market of nature tourism and outdoor recreation. Natural assets that are utilised for outdoor recreation are found in the region; adding a rail trail to that list will encourage more visitors looking for that type of experience.

The DMP identifies that the region offers "Horse Country" as one of the key products and experiences. Within this experience, the DMP identifies that one of the market gaps is that there are limited opportunities for the visitor to experience horse riding. A rail trail would offer this opportunity (as it does in some other locations – some 25% of rail trails in Australia allow horse riding).

While the rail trail may not take users all the way to Denman (some bike riders in particular may use a signposted road route connecting Sandy Hollow to Denman), provision of a rail trail within the Upper Hunter region will increase the attractiveness of the region for those people who like outdoor recreation combined with food and wine opportunities (a feature of Denman in particular). The DMP identifies that the Upper Hunter is one of the closest, complete 'Rural' environments to Sydney, and provides a rural experience supported by a calendar of events and festivals, premium wine offerings and boutique food providers. A rail trail would add to this range of attractions for a number of markets.

It is worth noting that many rail trail users come from the (generally) higher paying professional and managerial occupations; combined with the typical age profile (discussed below), food and wine consumption form a major motivator for those using rail trails and many rail trails (in South Australia and Victoria) have built upon this desire by users.

#### 6.1.6 Providing a Momentum for Merriwa Station Project

As discussed in Section 2, the Merriwa Railway Society Inc has plans to significantly redevelop the Merriwa Station Ground. Such projects cannot be done cheaply. Development of a rail trail will provide an opportunity to make progress on this work. Construction funds for the rail trail (should it proceed) may include provision for upgrading the station grounds. The opportunity to run commercial enterprises (such as a bike hire business or a café) from within an existing station building could supplement the income for the Society.

#### 6.1.7 Revegetation Benefits

Development of the trail provides a good community-based opportunity for revegetation of the corridor. The Hunter Valley Partnership runs an innovative project called *Stepping Stones*, which seeks to reconnect some of the 4,350 isolated patches of bushland occurring on private lands in the Hunter Valley to the Great Eastern Ranges (GER). By creating a series of "Stepping Stones" the Partnership will strengthen connections between local areas of habitat and the GER corridor, enabling species movement across the landscape. Due to a natural gap in the Great Eastern Ranges at the head of the Hunter Valley, the Hunter is one of only three areas on the eastern seaboard of Australia where inland ecosystems stretch down to the coast. While this gap facilitates the east-west movement of species, it also creates a critical pinch-point in the north-south flow of the Great Eastern Ranges. As a result, the conservation of north-south 'stepping stones' of vegetation is also vital to allowing the continued movement of species along the GER corridor (see <a href="http://www.greateasternranges.org.au/our-partners/ger-regional-partners/pertnership/">http://www.greateasternranges.org.au/our-partners/ger-regional-partnerships/hunter-valley-partnership/</a> for more details). The disused rail corridor provides one opportunity for the development of a vegetated corridor to allow such movement.

# 6.2 Vísítor Market and Needs Analysis

A trail such as the proposed Upper Hunter Country Rail Trail will provide a number of opportunities generally associated with recreation trails.

A trail will bring additional tourists and keeping them longer in the area.

- Other possible benefits from developing the trail include:
  - Improvements to community connectivity;
  - $\circ$   $\;$  Increasing recreational options for local people; and
  - Creating opportunities to build on existing industries and enterprises of the area.

### 6.2.1 General Vísítor Numbers

Available figures for the Hunter Region for the last 5 years are shown in Table 3 (note that the Hunter region is a larger region than the region around the rail trail – data for the two shires follows). Visitation has fluctuated in the 5-year period. The number of domestic overnight visitors for the year ending December 2014 was the highest in the 5-year period. Daytrip numbers have moved around more noticeably, reaching a peak in 2011 but have dropped off since. International visitor numbers have been reasonably consistent, and have started building up since the lowest figure of the period in 2012.

Year ending	Domestic Overnight Visitors	Daytrip visitors	International visitors
Dec 2010	2 691 000	5 870 000	159 000
Dec 2011	2 991 000	6 123 000	136 000
Dec 2012	2 782 000	6 066 000	131 000
Dec 2013	2 758 000	5 520 000	134 000
Dec 2014	3 065 000	5 613 000	149 000

Table 3: Visitor numbers to the	e Hunter Region 2010 – 2014
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Source: Destination NSW

Key markets for the region are Regional NSW and Sydney. In the year ending December 2014, Regional NSW provided 42.3% of overnight visitors while Sydney provided 41.7% of overnight visitors (in total 84% of visitors came from NSW). At the regional level, adult couples were the biggest single travel party (representing almost 30% of visitors).

Visitor statistics for the two Local Governments (Upper Hunter Shire and Muswellbrook

Shire) are available for the year ending September 2014 and show:

- The two shires attracted 192,000 domestic overnight visitors (split evenly between the two shires).
- Average stay for overnight visitors was 2.4 days for Upper Hunter and 2.6 days for Muswellbrook Shire.
- Regional NSW was the biggest source of visitors for both Shires (64% for Upper Hunter and 65% for Muswellbrook). This is substantially more than for the Hunter as a whole (with a commensurate reduction in visitor numbers from Sydney). This is likely due to the fact that a significant part of the wider Hunter region is very close to Sydney (Newcastle and the coastal cities and towns either side of Newcastle).
- Upper Hunter Shire attracted 106,000 daytrip visitors, while Muswellbrook Shire attracted 145,000 daytrip visitors. For both shires, almost 70% of daytrip visitors came from the Hunter region.
- International visitation was quite low with only 5,000 international visitors coming to both Shires (these were overnight visitors).
   (Source: Destination NSW)

The short break market (1-3 days) has been a predominant market for domestic tourism for some time and it remains a key market for visitors to the region (as identified in the Destination Management Plan for Upper Hunter Country). People on short breaks often look for a trail experience as part of their holiday.

### 6.2.2 Trail User Numbers

#### 6.2.2.1 Vísítors

Recreation trails provide an important piece of tourism infrastructure and provide experiences in the nature-based tourism market and particularly the adventure tourism market. Nature-based tourism is estimated to be growing at 10-30% per annum – a significant growth market to target (*Victorian Nature-based Tourism Strategy 2008-2012*).

Visitors most likely to participate in cycling or walking activities are 'nature visitors'. According to Tourism Research Australia (TRA), the majority of nature visitors in Australia are domestic visitors rather than international visitors. Research undertaken by TRA indicates the number of nature visitors in Australia in 2009 totalled 28.31 million people; made up of 3.3 million international visitors, 12.46 domestic overnight visitors and 12.55 million domestic day visitors.

Not all nature visitors are interested in the types of activities undertaken on tracks and trails, however Tourism Research Australia estimates that 51% of domestic overnight nature visitors take part in bushwalking / rainforest walks, whilst 39% of domestic day visitors and 37% of international visitors enjoy this type of activity (*TRA Snapshots 2009*).

A number of high profile trails in Australia and New Zealand provide examples of user numbers that can be achieved on tracks and trails (a product within nature-based tourism). Users are attracted to developed trails that are both 'known' or advertised in some way, and offer a range of facilities such as signage and interpretation, parking, toilets and water. Each trail has its own reasons for success. One of the common elements is that the trail itself is the physical element (and is often managed by a Government agency) while private sector businesses and community-based organisations (such as the Bibbulmun Track Foundation) provide the 'experiences' of and around the trail.

- Use of the Bibbulmun Track (WA's long distance walking track linking Perth and Albany) increased from 10,000 in 1998 to 35,000 in 1999-2000 to 137,500 in 2003 (Colmar Brunton 2004) to over 167,000 in 2008 (Colmar Brunton 2009). 79% of 2007/08 users came to the track specifically to use the track. The Bibbulmun Track offers a wide range of experiences, from a gentle stroll to enjoy the peace and beauty of the natural environment, to an epic eight-week adventure. The trail offers a diversity of accommodation – users can enjoy a wilderness experience by camping out, they can join a guided group, a tour, or they can do it in comfort by staying in the towns along the Track and enjoying day walks in the area (*Bibbulmun Track Foundation website*). Bibbulmun Track "businesses" have established such activities – the Bibbulmun Walking Breaks (run by the Foundation) provide such a package for those who enjoy walking but do not want to carry a heavy pack or camp overnight. In 2002, the Walking Breaks program won a national award for innovation in travel in the Jaguar Awards for Excellence. The Foundation organises two "best of the Bibbulmun 8day tours". Both of these tours are carefully compiled to combine a variety of day walks with off-Track accommodation. A bus service transport users to the Track each day and returns them to accommodation in rural towns and villages at the end of the day. On the walks, users carry only a small daypack carrying food and other items. While not directly applicable (as the Upper Hunter Country Rail Trail could be done in less than a day), the opportunity for supported rides and walks may arise. Much of the success of the Track can be attributed to extensive marketing by the Bibbulmun Tack Foundation.
- The Munda Biddi Trail is WA's off-road cycle touring equivalent of the Bibbulmun Track. Running from Perth to Albany (a distance of 1,088 km), it attracts 21,000 users per year (Munda Biddi Website).
- The Great Ocean Walk in Victoria attracts 100,000 visitors per year (*pers com Parks Victoria*).
- The Wilsons Promontory Walk (Victoria) attracts some 60,000 visitors/year (*pers* com Parks Victoria).
- The Murray to the Mountain Rail Trail (Victoria) attracts almost 60,000 annual visitor days in 2010 (SGS Economics and Planning 2011)
- The Otago Central Rail Trail (NZ) offers a 3-day cycle or 5 day walk experience covering 150 kms. Over 14,000 users traverse the entire length each year, with the most popular section attracting over 20,000 users (*Central Otago District Council 2011*). Cyclists undertaking the complete journey often do so in 3 days, while walkers take 5 days (*Otago Central Rail Trail Trust 2005*). A number of tour operators offer a "guided" service for cyclists in particular, allowing users to spend all day riding between accommodation options carrying only what they need for a day and their gear is transported from accommodation place to accommodation place.
- Data from Colac Otway Shire shows that the total usage on monitored sections of the Old Beechy Rail Trail for 2013 (excluding Beech Forest) was 23,368. This

does not include data for the Colac section of the trail, as monitors were not installed at that location.

- In the first quarter of 2014, the Great Victorian Rail Trail (a 134 km rail trail between Tallarook and Mansfield) had 27,500 users pass through trail counters. This figure is unlikely to represent total numbers of users as some users would have travelled past more than one counter, but it does represent significant trail usage.
- Recent counts (2011-2013) for South Australia's Riesling Trail (a 34 km rail trail in the Clare Valley) show 40,000 people passing through 4 trail counters each year.

### 6.2.2.2 Local Users

Tourism numbers are important. However, it is important not to overlook the contribution of local residents to the success of a trail. In 2001, the Mundaring Shire (in Western Australia) trail network was used by over 200,000 people (*Jessop and Bruce 2001*), having grown from a low base when the network was first fully opened. Only 10% of these users were locals (residents of Mundaring Shire) with many other users drawn from the Perth metropolitan area. The total annual visits (people generally use trails more than once a year) were a staggering 2.454 million visits annually, with local residents accounting for 63% of these visits. Their expenditure on the trail was also significant. While the individual value was low (i.e. expenditure per person per visit), the cumulative economic impact was significant. 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. 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.

Upper Hunter Shire is home to an estimated population of 14,206, while 16,694 people call Muswellbrook Shire home (*Upper Hunter Country Destination Management Plan 2013*)

# 6.3 Trail User Characteristics

### 6.3.1 What do People do on a Traíl?

The most recent Exercise, Recreation and Sport Survey (*ERASS 2010*) reports on the propensity of Australians to participate in trail-related activities at a general level (note that these figures show the number of people who have participated in the activity at least once in the last year):

- 35.9% of survey respondents across Australia participated in walking, making it the most popular form of activity. This percentage has been consistent since 2001, and walking has been the most popular exercise activity since 2001 (increasing by 44% in that time). NSW figures for 2010 are consistent with this national average, with 34% of survey respondents across NSW participating in walking.
- 11.9% of survey respondents across Australia participated in cycling, making it the fourth most popular form of activity. Again, cycling has been amongst the top 5 activities since the ERASS began in 2001 and has increased by 45% between 2001 and 2010. The 2010 level is the highest in 10 years. NSW figures for 2010 are consistent with this national average, with 10.6% of survey respondents across NSW participating in cycling.
- 4.8% of survey respondents across Australia participated in bushwalking, making it the seventh most popular form of activity. Bushwalking's percentage share of exercise has moved up and down since 2001, but it consistently appears in the Top 10 activities. NSW figures for 2010 are consistent with this national average, with 4.8% of survey respondents across NSW participating in bushwalking.
- An estimated 6.7 million persons aged 15 years and over participated at least three times per week in non-organised physical activity (which includes walking, cycling and bushwalking), a regular participation rate of 38.5%.

Two general findings from the 2001 inaugural Exercise, Recreation and Sport Survey are also relevant. While these comments were made in 2001, they are still relevant in 2015.

- 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' and 'tree 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).

The all-pervasive influence of the Internet and the increasing use of smart phones and 'apps' is a key factor in trail use in 2015. People are now able to obtain information, communicate with each other very quickly and provide feedback on their recreation experience at any time of day or night. Many outdoor recreation participants make their decisions on where to recreate based on the information available via the Internet, blogs, forums and social media.

Changes in technology for recreation are also bringing about an increasing divergence of outdoor recreation activities. Participants are able to map, record their times and upload digital images of their experience, allowing them to compete and compare results with past and/or future users. Growth in these activities has encouraged research into more refined technologies to encourage wider participation, such as geocaching and mountain biking.

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

Two other trends have also driven higher outdoor recreation participation - increasing health and environmental awareness, and increasing affluence and expectations of recreation.

People are becoming increasingly concerned about their health, with conditions such as obesity and stress on the rise. This, combined with societies growing awareness of the environment and its problems, has facilitated a growth in visitation to natural areas. A term referred to as 'returning to nature', where people feel the desire to become reconnected to their natural environments from which they can escape their modern lifestyles

As individuals become more affluent, the proportion of income spent on goods and leisure increases. As people spend more money on outdoor recreation and associated equipment, an increase in outdoor recreation activities, previously offered by commercial operators, has been observed. As such, a diversification for natural areas offering unique experiences and higher levels of infrastructure are often in demand

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. Table 4 provides a summary of the relevant participation rates.

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%	*
SA – Market Equity	69%	29%	*
ACT	73%	58%	*

#### Table 4: Participation Rates in Outdoor Recreation Activities

\* no horse riding trails were considered in these surveys

The figures for participation show the percentage of the population for the town or region who had participated at least once in walking, cycling or horse riding in the previous 12 months. All studies used large samples. (A number of other outdoor-related activities such as bird watching, canoeing and scuba diving were included as possible responses – this is why the figures do not add up to 100%). 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.

The point of most significance in these figures 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. Walking continues to be the most popular activity for people aged over 34 (ERASS 2010). Bushwalking continues to be a relatively popular activity.

Unfortunately none of the surveys distinguish between cycling generally and off-road cycling (both off-road cycle touring and traditional mountain biking). Off-road cycle touring and mountain biking is a rapidly growing recreational pursuit around Australia, and there is growing usage of non-urban areas for this activity. Cycle tourism is a growing market within the Australian tourism sector, particularly within the nature-based tourism segment. Available research demonstrates that cycle tourism has the potential to make an active contribution towards the economic revitalisation of regional Australia as well as improve quality of life for its residents (*Victoria's Cycle Tourism Action Plan 2011-2015*). Cycle tourism is a growing market. NSW received 520,000

cycling visitors in 2007 who stayed an average of 5.1 nights (*New Zealand Cycleway Market Research 2009*). In 2010, Australia recorded approximately 258,000 international overnight visitors who participated in cycling (*Victoria's Cycle Tourism Action Plan 2011-2015*). Domestic overnight visitors who participate in cycling on their trip stay longer and do more while on holiday when compared with other tourists, making them a stronger source of income for regional communities.

Mountain biking underwent a tremendous increase through the 1990's. It has been one of the 'boom' recreational pastimes of the last two decades. 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 1,000km 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. Over the last three years, much of the trail planning and building activity across Australia has focussed on mountain bike trails, either within reserves or in specifically prepared mountain bike parks (such as the Forrest Mountain Bike Trails in Victoria's Otway Region). The SEQ Regional Trails Strategy (Qld Outdoor Recreation Federation 2007) also noted a strong demand for cycling in younger age groups (less than 30 years old). Work by Market Equity (2004) for the South Australian Office of Recreation and Sport adds to the body of evidence on the popularity of cycling, particularly on rail 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).

Many of the cycle touring trips would be confined to bitumen (quiet back country roads etc.) but a significant portion may be interested in an off-road cycling experience. The New Zealand Cycleway Market Research (2009) found that, in general, international cycle tourists want easy multi-day trips with good supporting services or events. The holidays can also be location-based and utilise nearby trail networks. Domestic cycle tourists and recreational riders are not primarily focused on cycling but on the broader experience. This group is likely to be older or consist of families rather than single visitors or couples. Both markets are looking for easy access to safe and traffic-free trails. Trail gradient is a critical factor in successfully designing a trail for a specific market or type of rider. For a large portion of the location-based cycling and cycling holiday market, average trail gradients of 2-3 degrees are required (this explains the popularity of rail trails for this market). The proposed rail trail provides gradients of this small magnitude and thus has the potential to be a successful trail product in this market.

Horse riding is an activity by a relatively small number of participants (around 7% of outdoor recreation activities). Horse riding demand can also be highly localised – certain localities attract residents who are horse riders. However, as noted above in 6.1, the Destination Management Plan identifies that one of the market gaps is that there are limited opportunities for the visitor to experience horse riding. A rail trail would offer this opportunity (as it does in some other locations – some 25% of rail trails in Australia allow horse riding).

In summary, the proposed Upper Hunter Country Rail Trail would provide experiences for a range of user groups in a series of markets that have been consistent over time – walking and bushwalking and cycling – or growing significantly – off road cycle touring

- or have been identified as a market gap - horse riding. The trail would provide for both visitors and local people who participate in a range of activities.

## 6.3.2 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. Recent work done by the Bibbulmun Track Foundation showed that 40% of the users spent less than 4 hours on the trail, while another 29% spent between 4 hrs and a day, meaning that 69% of all users (115,000 of a total of 167,000) spent no more than a day on the track (*Colmar Brunton 2009*). The tremendous success of the Great Short Walks of Tasmania program is testimony to the fact that there is a huge market for this type of walk. Many of the 60 walks promoted through this program are around this length.

Use patterns for cyclists are somewhat different (although most use takes up less than a day). Results from a recent survey carried out by the Queensland Outdoor Recreation Federation (June 2013) on mountain bike riding indicate that the most popular "ideal length of ride" for biking was 21-30km followed by 10-20km. Most rides are between 1 and 3 hours. Market Equity's 2004 South Australian work showed slightly different results. The majority of cyclists surveyed (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 longer times may be due to the fact that the trails involved in the SA study were 'easier' than the trails involved in the Queensland study.

Though there is limited background research of how long horse riders seek to ride for, industry knowledge indicates that horse riders are generally looking for rides of approximately 3-4 hours (about 25 -30 kilometres) – in addition to short 'after school' or 'after work' rides.

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

## 6.3.3 Who Uses Trails and Why?

What sort of person is a trail user? 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:

- The majority of people (53%) who participate in outdoor recreation are aged between 25 and 54 (South East Queensland Outdoor Recreation Demand Study 2007).
- The single biggest group (53%) of users of the Bibbulmun Track (WA's primary long-distance walk track) are aged between 25 and 39, with 25% between 15 and 24, and 17% between 40 and 65 (*Colmar Brunton 2009*).
- 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 *(City of Greater Geelong 2003).* 

- 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%) (*Market Equity 2004*).
- Taking time out and participating in an activity are more important to domestic cycle tourists than international cycle tourists. On the other hand, exploring a unique place or must-see destination, experiencing local culture and learning about other cultures are all more important to international cycle tourists than their domestic counterparts (*Tourism Resource Consultants 2009*).

#### 6.3.4 Who Uses Rail Trails and Why?

Observation of many operating rails trails throughout Australia, New Zealand and North America indicates that there is a very wide diversity of people (and groups) that use rail trails.

The predominant user group for rail trails is cyclists, ranging from elderly people, to baby boomers, young couples, family groups with children, teenagers and young children. Walkers and horse riders are also attracted to rail trails, but in far lesser numbers. They all are using rail trails for a reason: they enjoy routes free from motor vehicles, routes that are away from the noise and smell of roads, and away from trucks and cars.

Rail trails appeal to individuals, to couples, and to groups. In fact, a significant proportion of trail users on the Otago Central Rail Trail on the South Island of New Zealand are groups. These groups consist of sporting clubs, work groups, social clubs, Over 50's groups and organised tour groups. Some use the rail trail for team-building, some use it for fitness training, others for a social club outing. Others cycle and walk the Otago Central Rail Trail simply for the outstanding beauty and scenery that it provides.

Beeton's 2009 study of the Murray to the Mountains Rail Trail (north eastern Victoria) found:

- Of the 128 people interviewed, only 22 identified themselves as living close to the Rail Trail but were all travelling with visitors. Travel companions were evenly spread between travelling with a partner, family or friends, while only a small number of respondents (5 percent) travelled alone.
- The respondents were predominantly employed in professional and administrative positions (47 and 25 percent respectively) with 14 percent retired; however no respondents identified themselves as unemployed.
- Ages were varied, ranging from one year old to 79, with a slight majority of men (53%). The largest group was aged between 41 and 60 years old, however the high representation of riders in the 0-10 age groups illustrates the significance of mixed family groups and the suitability of the Rail Trail for all ages.
- $\circ$   $\;$  Half of the respondents had past experience in using rail trails and identified the

Murray to the Mountains Rail Trail as one they had visited previously. Over half (53%) considered themselves to be frequent riders, cycling more than once a week, but not daily. The next largest group (23%) were regular weekly riders, suggesting that while the trail is being used by people who cycle often, they are primarily recreational cyclists with a quarter who do not cycle regularly.

The Hauraki Rail Trail in New Zealand is particularly popular with the "baby boomer" and family clientele from Auckland and the wider Waikato region. A large proportion of users are older riders (*New Zealand Ministry of Business, Innovation and Employment 2013*).

## 6.4 How Much Do Trail Users Spend?

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

 The Mundaring Trails Network, 1 hour from the Perth CBD, injected some \$12.62 million into the local economy and a further \$15.21 million into the State economy annually. Local residents spent \$4.06/visit to the network and

visitors (primarily day users) spent \$23.71/visit. The key is that the total number of trips on the trails studied was a staggering 2.454 million visits annually (Jessop and Bruce 2001).

 Users of South Australia's Riesling Trail (a 35 km rail trail in the Clare Valley) who come primarily to use the trail are estimated to spend **\$1.08 million/year** (\$215/person/visit with daily expenditure of around \$100). This does not count the other 50% of trail



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

users who use the trail as a secondary purpose for their visit (*Market Equity 2004*).

The economic impacts of the Bibbulmun Track (WA's long distance walking track) have been studied over two periods (in 2003 and 2007/08). In 2003, the track was shown to have generated **\$21 million** of expenditure **annually** by

track users, well in excess of its one-off construction costs of \$5 million (*Colmar Brunton 2004*). More recent figures show an increase in this amount (due to an increase in both users and how much time they spend on the track). The estimated expenditure in 2008 is around **\$39 million annually** (*Colmar Brunton 2009*). The 2007/08 study shows that the average day walker (some 70% of all users) is spending \$50-\$60/day, while those walking the track for 2-3 days are spending around \$200/visit. Those using the trail for 6 weeks or more, while small in number, are spending \$1,400/visit.

- The Murray to the Mountains Rail Trail in North East Victoria is one of the better known rail trails in Australia. Research work undertaken over Easter 2006 (*Beeton 2006*) found that average daily expenditure was \$258/user/day. The bulk of this expenditure was on food and beverage (57% of daily expenditure which equates to \$147/user/day). Beeton applied accepted economic multipliers to these figures and calculated that the direct contribution to the local economy per user per day was in excess of \$480. (Recent follow-up work by Beeton (2009) made similar findings).
- Users of New Zealand's Otago Central Rail Trail are spending \$NZ 157.30/day with the average length of stay of 3.7 days (*Central Otago District Council 2011*).

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

It is important to understand how trail users spend their money. Trail users spend money before coming to a trail and in towns and villages along the way. The expenditure data shown below represents an amalgam of existing research data. There are a number of specifically trails-related research projects on user expenditures. These are:

- Use and Users of the Appalachian Trail: A Source Book (*Manning et al 2000*);
- Bibbulmun Track User Research Report (Colmar Brunton 2009);
- An Economic Analysis Of Rail Trails In Victoria, Australia (*Beeton 2003*);
- Regional Communities And Cycling: The Case Of The Murray To The Mountains Rail Trail, Victoria, Australia (*Beeton 2006*);
- Cycling in Regional Communities: A Longitudinal Study of the Murray to the Mountains Rail Trail, Victoria, Australia (*Beeton 2009*);
- Trails Research Project (South Australia) (*Market Equity 2004*);
- Nga Haeranga The New Zealand Cycle Trail Evaluation Report (*NZ Ministry of Business, Innovation and Employment 2013*); and
- Otago Central Rail Trail User Survey 2010/11 (Central Otago District Council 2011)

Reviewing the expenditure data from these 8 studies allows an understanding of average expenditure patters of trail users. Tables 5 and 6 show average amount spent by trail users and the broad sectors in which they spend their money (average expenditure per sector is drawn from most of the studies listed above – not all provided

detailed data. The data was collected at different times and noted in different currencies. The figures below represent averages converted to 2014 Australian dollars).

Table 5: Trail user expenditure by category for overnight visitors

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

	Average expenditure/day
Accommodation	\$30.95
Food and beverage	\$72.83
Transport	\$25.33
Retail	\$20.69
Other (including cycle maintenance)	\$15.20
TOTAL	\$165.00

Table 6: Trail user expenditure by category for day-trippers

	Average expenditure/day
Accommodation	\$0
Food and beverage	\$31.53
Transport	\$25.33
Retail	No figures available
Other (including cycle maintenance)	\$40.23
TOTAL	\$97.09

The average of \$30.95/day spent on overnight accommodation by overnight visitors includes all users who "camped out" along the trails. Some of these trails (notably the Appalachian Trail and Bibbulmun Track) provided on-trail camping options (for free or at very cheap rates) and consequently accommodation expenditure was relatively low (these low costs may distort the typical expenditure). All the other trails included in the research only provided off-trail accommodation options.

Taking out expenditure on the two long distance walk trails (i.e. those trails offering free or very cheap on-trail accommodation), accommodation expenses range from \$35/day to \$137/day (in 2014 dollars). The most recent data on trail expenditure from the Otago Central Rail Trail (2011) shows that total expenditure was just over NZ\$580 per person per trip covering people doing both part of the trail and the whole trail), with the largest component of expenditure for package expenses (including accommodation). Separate information on accommodation was provided by only a few users who spent an average of NZ\$60/day. A New Zealand study found that users spent an average of NZ\$43person/night across four trails on off-trail accommodation options only (*NZ Ministry of Business, Innovation and Employment 2013*).

The most recent research data from the Murray to the Mountains Rail Trail (*Beeton 2009*) shows users spending \$52/person/night on accommodation. This figure has gradually grown over time from \$22/person/night in 2003 to \$27/person/night in 2006 to \$52/person/night in 2009. This is reflected in shifts in choices from camping (which accounted for 23% of accommodation choices in 2003 but only 8% in 2009) to more formal accommodation (hotels/motels/apartments/caravan parks etc) that grew from 52% in 2003 to 70% in 2009. Part of this growth could be attributed to wet weather during the 2009 survey and part of it is the fact that there are now more accommodation options in many more places along the trail. In 2009, 45% of users spent between \$51 and \$150/night on accommodation (25% between \$51 and \$100 and 20% between \$101 and \$150). It is worth noting that 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); trail users come from across the economic spectrum but there are many who are potentially high yield visitors.

## 6.5 What Types of Businesses Serve Rail Trail Users?

Identifying specific business opportunities along a trail that may take years to develop is not a simple task. Some success stories from other trails are worth considering.

## 6.5.1 Equipment Hire

While many visitors will bring bikes, some will not and a business opportunity presents itself to address this market. A number of cycle hire, cycle repair and guided cycle tour businesses are accredited businesses under the Munda Biddi Trail Foundation's *Cycle Friendly Business* program. These businesses offer a range of services along the length of the trail and pay an annual subscription fee to remain in the accredited program.

The 2005 cycle tourism in the Hunter report (*Arup 2005*) identified two bike hire businesses based in Pokolbin (Hunter Valley Cycling and Grapemobile Bicycle Hire). These businesses appear to still offer these services. No such businesses appear to currently operate in the Upper Hunter region.

## 6.5.2 Supported Tour Opportunities

Cycle tourism is a growing market. Domestic overnight visitors who participate in cycling on their trip stay longer and do more while on holiday when compared with other tourists, making them a stronger source of income for regional communities. Many of the cycle touring trips would be confined to bitumen (quiet back country roads etc.) but a significant portion may be interested in an off-road cycling experience. International visitors participating in cycling spend \$NZ3,800/person/visit while in New Zealand compared with the average of \$NZ2,500/person/visit for all other categories of international visitor. 22% of cycle tourists spend more than \$5,000/person/visit (*Nga Haeranga – The New Zealand Cycle Trail Evaluation Report 2013*).

Supported tour opportunities are offered on Otago Central Rail Trail where some 10% of visitors take advantage of this service. A recent survey by the Otago Central Rail Trail Trust showed that total expenditure was \$NZ472.61 per person per trip along the rail trail. The largest component of expenditure is on package expenses (as it was in 2008/2009 when a previous survey was carried out). 'Off the Rails' is one such bicycle tour company that offers premium, eco-friendly and fully supported bike tours. The company offers various tours including accommodation, bike hire and guided

sightseeing activities. All tours include transfers, care of all luggage during the tour and meals, providing a fully inclusive cycling experience. A key to its success is its ease of planning/organising for visitors – once the tour is booked in they do not have to think about anything else. (*SGS Economics and Planning and Quantum 2012*)

Such services are also offered on the Bibbulmun Track. The Bibbulmun Track Foundation offers "Best of the Bibbulmun 8 day tours" which take users to a number of day walks with off-track accommodation rather than along a continuous section of track. The Foundation has recently launched a 9-day package. A number of other private providers offer similar supported activities.

Qualitative research done by SGS Economics and Planning and Quantum (2012) (focusing on Victoria's north east) indicates respondents wanting activities and experiences that are easy to organise – the 'facilitated' experience, which would complement the existing 100km of scenic and safe trails through iconic rural villages. Facilitated itineraries would seek to emulate the best facilitated road cycling experiences in Europe, including the provision of regional interpretation, food and wine. The report noted that the North East's Rail Trail is a key asset for the region, providing infrastructure from which a cycling experience could be leveraged.

While the Upper Hunter Country Rail Trail is not a long trail and would be unlikely on its own to warrant development of businesses offering supported tours, a package which included the trail with other trails (walk and cycle) and other outdoor recreation experiences in the Upper Hunter region could provide opportunities for supported tours.

The two bike hire businesses based in Pokolbin (noted above) also offer guided tours. These businesses would have the opportunity to grow should a rail trail be developed.

#### 6.5.3 Guided Walking/Cycling Touring

This facility provides an even greater level of support for trail users; all "traversing" is done with the accompaniment of a knowledgeable guide (as well as the provision of all necessary equipment).

This type of service is offered on the Great Ocean Walk (e.g. Bothfeet Walking Lodge and Tours). Internationally renowned adventure company World Expeditions offer a 7-day guided and supported hike along the Bibbulmun Track. One of the key features of these packages is that users simply pay just one flat fee for their entire holiday.

Again, the length of the trail may not be suitable for such an opportunity on its own but it could be packaged with other walk and cycle rides in the region.

#### 6.5.4 Off-trail Accommodation

There is some opportunity to provide users with off-trail accommodation of varying qualities (adding to the existing stock of options) as the trail passes private property. Riesling Trail Cottages and Riesling Trail Bush Cottages provide self-contained accommodation adjacent to South Australia's famous Riesling Trail through the Clare Valley. When these were first constructed, the owner was often asked "How close are your cottages to the wineries"; over time, the more common enquiry became "how close are the cottages to the rail trail".

#### 6.5.5 Supporting Existing Businesses

A trail increases the opportunities offered to existing businesses that currently provide relevant services to provide such services on a more regular basis. These types of examples are critical economic opportunities to diversify and solidify the sub-region's economic base. In New Zealand across four recreation trails subject to detailed research (*New Zealand Ministry of Business, Innovation and Employment 2013*), 1 in 5 businesses surveyed reported that they had either expanded their services (e.g. added capacity) or added new services since the trail opened in their region. These ranged from provision of cycle tours to cellar door tasting sessions, but were commonly in the provision of accommodation, transport or shuttles, or cycle hire. There was anecdotal evidence that trails have been beneficial for existing businesses either by absorption of existing excess capacity and by spreading the risk through the diversification of product.

## 6.6 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. While walking remains the most popular of these activities (and is likely to remain so as the population ages), off-road cycling shows a growing and often unmet demand within the trails market.

The Upper Hunter Country Rail Trail would provide experiences for a range of user groups in a series of markets that have been consistent over time – walking and bushwalking and cycling – or growing significantly – off road cycle touring - or have been identified as a market gap – horse riding. The trail would provide for both visitors and local people who participate in a range of activities. The potential expenditures may be quite significant based on trail user expenditures elsewhere.

# SECTION 7 - TRAIL DESIGN AND DEVELOPMENT CONSIDERATIONS

## 7.1 General Considerations

This section of the Feasibility Study addresses a series of matters relating to trail design and development – to achieve a rail trail that is constructed with minimal disturbance to the natural environment, is sustainable and that requires 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 the rail trail.

The rail corridor between Merriwa and Sandy Hollow has a number of bridges, many of which appear to be in good condition (but will require modifications to make them suitable for trail usage), while the Halls Creek bridge near Sandy Hollow will need major work to reinstate missing components. Modification to all bridges is essential for their conversion into a condition where riders and walkers can use them.

Construction of the railway involved the cutting and filling of the landscape to create a surface that was relatively flat to enable the 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 most cuttings, to ensure stormwater is quickly and effectively removed from the sides of the trail (as it was when the trains were running).

Particular care must therefore be given to reinstating the side drains through cuttings. There are instances, however, where it may be preferable to use additional trail surfacing material (fill) to raise the trail above the (former) side drains in cuttings, as the drains are now well grassed and effectively prevent erosion from occurring. The cross section drawing illustrates the end result of clearing and reconfiguration of the formation (with side drains) through cuttings. Regular cleaning of blocked culverts is essential to avoid serious soil and water degradation problems.

At some point in the future (when the rail trail is funded) contractors will be engaged to remove the steel railway track and sleepers. Care will need to be taken by the contractors to ensure that the formation and bridges are left in as good a condition as possible to minimise rail trail construction difficulties. It is strongly recommended that the Upper Hunter Shire Council (and its contractors) leave the steel track and sleepers in place on all bridges as their existence will help tie all bridge components together and thereby a more rigid, stronger and longer lasting structure. Cutting of the steel track several metres either side of the bridge abutments should suffice. A decking for trail use can be constructed over the top of the sleepers and steel track.

Construction of the rail trail and associated signage should comply with relevant Australian Standards and Austroads guidelines.

## 7.2 Trail Width and Height

To function effectively as a shared use facility (for cyclists and walkers), the rail trail should have a width of 2.5 metres, and a maximum width of 3.0 metres. Anything wider than that and the trail starts resembling a gravel road, which is not want rail trail users want. The width of the existing embankment/formation of the original railway

(and the intended erection of side fencing) will ultimately determine the width that the proposed rail trail can be constructed in some locations.

Many sections of the former railway reserve are currently used for farming purposes (grazing etc), or as access to farming properties, or as access between paddocks, and this access can be retained without seriously diminishing trail user experiences (subject to trail manager approval).

The railway has been disused since 1988. During this time some sections of the corridor have become overgrown, and will require clearing for the passage of cyclists and walkers. Overhead clearance should be maintained to approximately 2.4 metres from the trail surface. 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.

There are instances where side vegetation can be retained, as the trees are attractive and provide shade. They also provide an attractive vista along the cutting or embankment.

Drawings are included in this report to illustrate typical cross sections for the proposed trail, including through a typical cutting.



#### SHARED USE TRAIL - GENERAL CHARACTERISTICS

## 7.3 Trail Surface Material

A smooth compacted surface is most appropriate for a shared-use rail trail. The surface should be firm enough to provide cyclists with a relatively smooth ride.

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 (i.e. sealed) surface.

Generally speaking asphalt, concrete and other such hard surfaces are not appropriate on trails such as these. However, there are some good arguments for sealing the surface of some trails – 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 and the aesthetics of a hard surface are arguments against a hard surface. The very successful Lilydale to Warburton Rail Trail attracts over 100,000 users per year to a natural surface trail.

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 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 trail users (walkers, mountain bike riders).

Cement stabilisation of the trail surface at each 'stock crossing' is strongly recommended to ensure the regular passage of stock across the trail does minimal damage to the trail surface and it is long-lasting.

Contractors engaged to remove the steel railway track and sleepers should be required to grade the formation to provide a level surface (after removal of the infrastructure). This will be a significant cost saving



Re-decking the bridges and installation of handrails and wire netting are the key tasks involved in making the old timber bridges safe for trail users.

measure. Side drains must be maintained and not filled in when grading. It is recommended that the contractors engaged to remove the steel railway tracks and sleepers be instructed to undertake their tasks with maximum care so as to leave the formation/embankment in a usable condition. Despite this care, and given the nature of the formation some grading and re-surfacing will be required. The removal of the sleepers will leave what is often called a 'sleeper shadow' – the indentation that is left once the sleepers have been removed. Simply filling these indentations with fill will in time result in an undulating surface as the newly placed fill material settles in. After the removal of the sleepers, a light grading and compaction of the surface is recommended, followed by the spreading and compacting (by vibrating roller) of the new surfacing material.

As outlined in Section 4, given the prevalence of horses throughout the study area, and given that Scone is marketed as the Horse Capital of Australia, it is recommended that the Councils lead the discussion on whether horses are accommodated within the rail trail corridor.

If horses are to be permitted, it is important to keep horses off the main trail surface as the hooves of horses can do significant damage to unsealed trail – although the level of damage depends on the surfacing material used and the prevailing weather conditions. Some surfacing materials (such as "Lilydale Toppings" as used on the Lilydale Warburton Rail Trail in the Yarra Valley in Victoria) are very accommodating to horses hooves.

However, some trail managers ban horses for various reasons including environmental reasons, trail damage reasons, and possible introduction/spread of pests and diseases (such as ticks).



RAIL TRAIL - GENERAL CHARACTERISTICS - CUTTING

Should it be agreed that horses are permitted along some or all of the rail trail corridor the most effective method of accommodating horses is by the establishment of a separate bridle trail – usually a signposted, slashed single-track route off to the side of the main trail (but still within the original railway reserve). This is commonly done on rail trails such as the Great Victorian Rail Trail, the High Country Rail Trail (also in Victoria) and others. The bridle trail route can be simply constructed by slashing the low grass. The constant passage of horses will keep the sandy 'single-track' clear of regrowth and clearly defined. Bridle trail signage will be required to show riders where to go and to keep them off the main trail.

In the costs estimates that are included within this Feasibility Study, an allowance has been made for clearing of the trail corridor (vegetation and top soil and ballast), further grading and shaping of the formation to remove the 'sleeper shadow' to create as smooth a surface as possible, and additional fill material.

## 7.4 Safety Considerations

A significant safety issue affecting trail users 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 cyclists and walkers (and horse riders) is being contemplated, the issue of safety railings on the sides of the refurbished 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 high bridge crossings (where drop is greater than 1.0m) to give a sense of safety, uniformity and consistency along the trail.

Another significant safety issue relates to possible conflicts between different types of trail users – legal and illegal – for example, between trail users (walkers and cyclists) and trail bikes or 4WD's that have somehow illegally accessed the rail trail. Effective signage and vehicle exclusion barriers (management access gates and self-closing gates for trail user access) 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 many private properties, many of which are sure to have dogs, and numerous properties that have cattle or sheep. The recommended solution is that a "No Dogs" policy is applied in this instance (as discussed in Section 4). The trail manager will be the ultimate body with responsibility for determining whether dogs may be permitted along the rail trail.

There are only a few road crossings between Merriwa and Sandy Hollow and therefore



Above left and right: Road crossing signage is very important for trail users to alert them to the dangers ahead. On all major road crossings, a "Road Ahead" and a "Give Way" (or "Stop") sign are warranted. On minor road crossings, the use of a "Give Way" sign is considered sufficient. On-road "Trail Crossing" signs are also recommended at all road crossings. Recycled railway sleepers have been used.

the incidence of conflict between trail users and motor vehicles at road crossings is reduced due to there being only a few road crossings. This issue is more fully dealt with in 'Road Crossings' below.

## 7.5 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 trail users travelling together to gather in a group and cross en masse. One-at-a-time crossing greatly increases the overall time in the roadway and therefore increases the likelihood of encountering a vehicle. The crossing should ideally be at a straight, level area allowing both trail user and vehicle driver good visibility and the driver ample stopping distance (if possible). All trail crossings should be perpendicular to the road. Should this project proceed to the next phase (following the determination that it is feasible) a detailed trail development plan will be prepared which will include a road crossing concept drawing for each road crossing. The drawings will illustrate the signage that is required at each road crossing and the positioning of gates (for management access vehicles and for trail users). Where necessary, short lengths of trail will need to be constructed within the road verge to enable a perpendicular crossing point.



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.

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.

Details pertaining to shared path crossings of roads can be found in Austroads *Guide to Road Design Part 4: Intersections and Crossings – General (Australia).* 

Generally, the treatment at road crossings includes:

- Installation of signage on the rail trail (both sides of the road crossing) advising/warning of the upcoming crossing of a road. These could be either (or both) "Give Way" signs and "Road Ahead" signs (depending on whether road is a 'major' or 'minor' road);
- Warning signage on the road (both sides of the trail crossing) warning road users of the upcoming trail crossing;

- Management access gates and chicanes (permitting access by legitimate trail users). Gates and chicanes are recommended for most rural road crossings;
- An asphalt "apron" an area of hard standing (asphalt) that provides trail users with a smooth transition between the gravel trail surface and the bitumen or asphalt road surface;
- Clearing of vegetation on both sides of the trail, on both sides of the road to provide clear visibility of approaching vehicular traffic. (Note: Austroads guidelines for shared path design have information relating to clearances and sight distances); and
- Miscellaneous signage (including Rail Trail name and logo; distance signs; Emergency Marker signs; road name signs; "Unauthorised Vehicles Prohibited" signs; "Trail Bikes Prohibited" signs, etc).



TYPICAL MANAGEMENT ACCESS GATE AND CHICANE

## 7.6 Sígnage

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 (see earlier photos) or recycled plastic posts. In the case of the Upper Hunter Country Rail Trail, given the huge number of railway sleepers to be removed from the line when it is removed, it would seem sensible to pick the best of the available timber sleepers and re-cycle them.

#### 7.6.1 Distance Signage

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 also provide additional information for users already on the trail. The plate should indicate the distance to the upcoming localities along the trail (in particular, upcoming trailheads). In addition, such signage provides good reference points for emergency services (in addition to the Emergency Marker signs - see below).

Trail distance signage will need to be placed at regular intervals along the route. The obvious location is at each road crossing (and trailheads) where trail users are likely to join the trail.

The recommended distance sign plates (as with all other signs) should be affixed with at least 4 stainless security screws to prevent them being removed. In addition, the distance signs (as well as the various other sign panels used on the posts) should be affixed with silastic or 'liquid nail' products.



Above: Signage for the Tiger Rail Trail in Victoria warns of the upcoming road crossing as well as promoting its existence to road users. Right: different signs may need to be used, depending on trail user groups being permitted on the proposed trail.

# 7.6.2 Warning Signage

There are a number of locations along the proposed rail trail that demand warning signage, primarily at the many road crossings facing trail users. In the case of road crossings, a "Road Ahead" yellow diamond warning sign (W6-8A) some 50-70 metres before a crossing is recommended (on a stand-alone post), with a triangular "Give Way" sign (R1-2) on the verge at the road crossing (on a stand-alone post) – or a "Stop" sign where appropriate (R1-1 – 300 x 300). Bicycle/pedestrian (i.e. Trail Crossing) warning

signs (W6-9) with arrow (W8-23) (or W6-V105) are recommended for installation on roads, either side of a trail crossing.

The proposed rail trail has 5 road crossings along the 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 road users who can be alerted to the trail's presence. Such 'opportunistic' promotion can only be good for the future of the rail trail in raising awareness and increasing user numbers.



An Emergency Marker sign on the Lilydale-Warburton Rail Trail in Victoria.



Signs pointing in to the "Trailhead", as used on the High Country Rail Trail in Victoria, are an excellent means of directing trail users to a Trailhead and serve to promote the existence of the rail trail to passing motorists, tourists and local people.

#### 7.6.3 Promotional Signage

Promotional signage has been used to great effect on other rail trails throughout Australia, increasing general awareness of the trail among the broader community. For the proposed Upper Hunter Country Rail Trail, the recommended 'promotional' sign should be incorporated into the on-road 'warning' signs – as indicated in the accompanying photograph (see Forrest Birregurra Tiger Rail Trail photo). They are an excellent means of communicating the message to road users that they need to be alert for the presence of cyclists and pedestrians.

Though the railway corridor may be quite likely familiar to many local residents, it is recommended that a number of "Trailhead" signs also be erected to give prominence to the trail when constructed. The installation of these signs will enable local people and visitors become more aware of the trail (see High Country Rail Trail photo for an example of a "Trailhead" sign).

#### 7.6.4 Permitted User Signage

Signs (in the form of pictograms – see below) indicating user groups that are permitted (or not permitted) on the various sections of the Upper Hunter Country Rail Trail should be installed at every road crossing and entry point. These small signs can easily be installed on the totem posts near to the proposed trail user access gates (chicanes) or



Above from left to right: Typical "Road Ahead" sign (W6-8A); "Give Way" (R1-2); "No Motor Vehicles" and "No Trail Bikes" to be used on totem posts along the proposed rail trail.



The Railway Reserves Heritage Trail (a rail 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.

even on the gates/chicanes themselves. Other signage could include "No Motor Vehicles", "No Motor Bikes", "No Smoking", "No Alcohol", "No Camping" and "No Fires". The installation of "No Motor Vehicles" and "No Motor Bikes" (as illustrated above) are recommended at the outset, and the trail manager will ultimately determine what other signage may be required.

#### 7.6.5 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.

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.

The Merriwa to Sandy Hollow corridor is no different. 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. Conversely, the themes can be designed to spark interest, encouraging people to explore any story that interests them. It may also encourage them to extend their stay in the region to further pursue an interesting story or theme.

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



This plan strongly recommends the retention of all original railway signage along the proposed rail trail, including mile pegs such as that shown above.

trail opening though this would be a commendable outcome. However, interpretation should be an integral part of any trail's development process.

The works tables and estimates of probable costs make allowance for the placement of a number of panels along the rail trail.

#### 7.6.6 Emergency Management Signage

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 or major town (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 chicane (or on a separate post) for use in emergencies, again as a location aid for those in stress. There is also a need to include the emergency telephone number at all trailheads (on the trailhead map panel) 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 at each trailhead.

In summary, the emergency signage that should be erected on a trail consists of:

- Emergency markers at regular intervals;
- Distance signs at regular intervals showing distances to next trailhead (doublesided);
- GPS identifiers at all road crossings (attached to the sign posts or gating systems); 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).

## 7.7 Erosion Control and Water Crossings

Proper drainage is of considerable importance in constructing a lasting, maintenancefree facility. Water should be removed from trail surfaces as fast as possible, wherever possible. Given the flat terrain or gentle slopes involved on much of the proposed rail trail, erosion control should be relatively easy. As the railway has not operated for many years, maintenance of the track and its drainage structures has been minimal. Consequently, most of the culverts under the formation and drains along the formation have become overgrown with weeds, grasses and other vegetation. Most require cleaning out. Some may require repair or replacement.

Those sections of the railway formation which do have blocked culverts or dysfunctional drains should be attended to in the trail construction process (following removal of the railway track and grading of the formation), 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.

Where sections of the former embankment have been eroded away, and reinstatement of the formation is required, installation of rock pitching or retaining walls to prevent ongoing erosion of batters will be necessary.

## 7.8 Bridges

## 7.8.1 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 one of the most costly items in the development of trails on former railways.

There is one lengthy timber bridge on the corridor and numerous smaller bridges. There is also the largely dismantled steel/concrete/timber bridge over Halls Creek near Sandy Hollow.

Where possible bridges should be retained on the assumption that they are structurally sound pending a structural engineering assessment to confirm their capability to carry trail users. It is worth noting that railway bridges were constructed to hold heavy locomotives – and that, provided the bridge structure is sound, weight is not a significant factor when considering the re-use of rail bridges for walkers and cyclists. Construction vehicles may have to use the bridges, but this should be avoided wherever

possible. Horses (if they are to be permitted on this rail trail) will need to share the bridges with other rail trail users.

Bridges usually have an abutment at either end as a way of retaining the earth of the embankment. Bridge assessments should include assessment of the stability and structural integrity of the abutments. The field assessments undertaken in this project reveal several dilapidated timber abutments that will require repair. The works list allow for this task as well as replacement of defective timber structural components, new decking and handrails where necessary.



The Halls Creek Bridge will require significant work to enable it to carry rail trail users across the river. It is historic bridges like this that attract rail trail users.

Engineering certification of all bridge supporting structures and abutments is strongly recommended, to ensure their structural soundness. 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.

#### 7.8.2 Bridge Re-use

Use of bridges for emergency and maintenance vehicle access (both to the trail and to adjoining properties) is often critical where parts of the trail are remote from road access points. In these circumstances, the Rails to Trails Conservancy (USA) recommends that, as a general rule, multipurpose trail bridges should support a minimum design load of 5.67 tonnes (the RTC is an American organisation and consequently recommends the imperial measurement of 6.25 tons). However, access to many parts of the Merriwa to Sandy Hollow corridor is available from numerous points along the corridor. Consequently, there is minimal need for bridges to carry heavy vehicles.

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 the Upper Hunter Country Rail Trail.

## 7.8.3 Bridge Design for Rail Trail Use

If bridges are to be re-used for a rail trail, it is critical that the steel rails and sleepers be retained to provide structural integrity to the bridge (by cutting the steel track several metres away from the bridge abutment at both ends). The sleepers and steel track will help tie the entire structure together, thereby resulting in a more rigid, stronger and longer lasting structure. With the sleepers left in place, timber bearers are fixed to them to provide a 'clean' surface to attach decking and handrails. Decking should be attached perpendicular to the direction of travel (an alternative attachment is at 45 degrees to the bearers – the attachment recommended by the Rails to Trails Conservancy). Decking timbers should never be fixed parallel to the direction of travel.

Timber decking (or a recycled plastic such as Enduroplank or a recycled wood plastic composite product such as Evertuff) can be installed over the top of the retained steel track.

Handrails will be required where the fall from the bridge decking to the ground is greater than 1 metre. This is a Standards Australia requirement. Handrails will help ensure the safety of users of the bridges, preventing people from falling over the sides and giving a sense of safety, uniformity and consistency along the trail. Timber handrails are best, providing a more aesthetic finish and are more in keeping with rail trail heritage values.

## 7.9 Trail Furniture

There are a number of scenic locations along the corridor well suited to the placement of seats that would benefit all trail users. The future selection and site placement of seating has not been determined in this trail feasibility study, but an allowance has been made for the eventual installation of seats - at sites to be selected should the trail proceed. 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.



A typical trailhead interpretive shelter. Usually these shelters may contain two information panels (front and back, incorporating general information, a map of the trail route and key features and important safety information for trail users.

Placement of simply constructed seats at intervals along the trail will benefit all trail users. The works lists that follow allow for seating along the trail.

## 7.10 Trailheads and Parking

A trailhead is usually defined by the existence of a car parking area, often with picnic tables or seats in the shade, a toilet, interpretive signage, a map panel of the trail showing sites of interest and distances to features along the trail and a Code of Conduct. It is a location where a (short or long) trail walk or ride can begin or end, as distinct from the actual beginning or end of the trail (usually called a trail "terminus"). Given that much of the usage of the trail is likely to come from walkers and cyclists from other areas, formal 'trail-heads' are important.

Trailhead locations have been selected based on a number of factors: ease of access from the road network, safety and security of parked vehicles, amenity of the site, regularity of spacing apart (to enable cyclists and walkers to break the trail experience into 'do-able' sections), availability of space for car parking and other infrastructure and existing locations (or existing rest areas) where people already park their motor vehicles.

## 7.11 Fencing

It is understood that the Sandy Hollow to Merriwa branch line was constructed as an unfenced corridor and consequently much of the former railway corridor remains unfenced.

However, over time, some adjoining landowners have installed new fencing on one or both sides of the railway, generally on the railway corridor boundary.

Substantial lengths of new fencing of parts of the former railway corridor will be required. Fencing along a trail (including rail trails) is required for several reasons:

- To prevent unauthorised access onto the rail trail;
- To prevent authorised trail users (cyclists, walkers) from attaining access onto adjoining properties, and to prevent unauthorised trail users (trail bikes, etc) from illegally trespassing onto private property.
- To minimise disturbance of stock by people and dogs;
- To prevent encroachments by adjoining landowners;
- To delineate freehold (private property) from Crown land and to minimise encroachments and trespassing, unintended or otherwise;
- To prevent stock from straying as it is the land owner's responsibility to ensure stock does not stray; and
- $\circ$   $\,$  To keep stock off the reserve and away from trail users.

In the case of the proposed Upper Hunter Country Rail Trail, fencing of the corridor is one of the most important, and expensive, components to the future success of the rail trail. As the rail trail will pass through a considerable amount of farmland, it is critical that the entire rail trail corridor be fenced both sides of the trail where it passes through farms – for public liability insurance and risk reasons. The rail trail corridor cannot remain unfenced.

The recommended fencing alignment will follow the edge/top of any embankments (at edge of railway formation) and along the top of any cuttings. This location will generally result in a corridor of approximately 7.0 - 10.0 metres minimum. As the original railway

corridor was mostly 30m wide, the excess corridor can be leased to adjoining landowners. So doing will minimise the reduction in land that they currently farm and enable stock to 'maintain' the corridor outside of the fenced trail corridor.

Fencing has been included in the works lists. Savings could be achieved by the trail proponent supplying the materials and the adjoining landowners actually installing the fencing to their own specifications and satisfaction. In any event, the installation of the fencing should be undertaken in close consultation with the adjoining landowners.

It should be noted that different adjoining landowners have different fencing requirements and standards. Rather than detail each and every requirement, a uniform rate has been used which will cover all situations. The costs included in the Estimates of Probable Costs tables that follow make no allowance for the removal of old fences, nor for the installation of electric fences. These are matters that are the responsibility of adjoining landowners.

## 7.12 Stock Crossings

Along the length of the railway corridor are many 'private' level crossings. These are to be retained and the development of the trail will need to make allowance for their retention.

This Feasibility Study makes allowance for the 'creation' of additional 'stock crossings' whereby farmers can move their sheep, cattle or machinery from one side of the rail trail corridor. Depending on the preferences of the adjoining landowners, the 'stock crossings' can be either 'open' (meaning that stock are able to cross the rail trail to the other side of the corridor at all times, unhindered by gates with trail users having to open gates to get across the stock crossing); or they can be gated either side of the corridor (meaning that the adjoining landowners would be responsible for opening the gates when needed).



Stock grids along rail trails, such as this one on the newly opened extension of the rail trail south of Margaret River in WA, can allow stock crossings to be open 24/7 thereby enabling stock and machinery to cross the trail unimpeded.

By having 'open' stock crossings, the matter of stock being cut off from water supplies on the other side of the fenced corridor is negated. The style of stock crossing recommended is the 'open 24/7' style, whereby access across the corridor for stock is always available. The crossing is left open at all times.

In this scenario, trail users will need to open self-closing gates at each side of the crossing and pass across from one side to the other. While not favoured by rail trail users as this is somewhat inconvenient (especially when there are many gates to open/close) it is regarded as one of the best compromise designs. By allowing stock

from adjoining farms to cross from one side of the corridor to the other at all times, the interruption to current farming practices is minimised and adjoining landowners are much more favourably disposed to the prospect of the rail trail.

Another alternative is to use stock grids either side of the crossing that trail users must pass over. This does away with the need for gates to be opened (and closed) by trail users. Care must be taken in the design and fabrication of the grids to ensure they are safe for trail users, particularly cyclists. (See photo on previous page for a typical example of a grid on a rail trail).

Artists impressions contained in the Appendices to this Feasibility Study illustrate the different styles of stock crossings.

## 7.13 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 rail trail is not used by either four-wheel drives or trail bikes, though this is likely to be difficult to manage and harder to police given the proximity of the proposed rail trail to adjoining, parallel roads.

The use of management access



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 trail bike riders and other motor vehicles.

gates and self-closing trail user gates (or chicanes) for (authorised) trail users at road crossings (and property boundaries) is regarded as the best method of enabling pedestrians, cyclists and horse riders to access the rail trail, and still keep unwanted trail bike riders out.

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.

## 7.14 Codes of Conduct

A Code of Conduct for each user group provides all trail 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;
- Reduce the risk of fire;
- Protect significant and environmentally sensitive sites;
- $\circ$   $\;$  Minimise potential conflict with other users of the trail; and
- Ensure the safety of all trail users.

Trailhead signage is the best place to provide Code of Conduct signage.

## 7.15 Herítage Issues

A number of structures along the trail corridor have historical or heritage value. These include bridges, culverts, cuttings and embankments, cattle stops, kilometre/mile posts, and other railway related signs. A rail trail will enhance the appreciation of these wonderful assets.

It is strongly recommended that the trail proponents seek to ensure all artifacts and relics of the railway remain in place, particularly when the steel tracks and sleepers are being removed.

An allowance has been made to ensure retention (and upgrading, such as by painting of kilometre posts) in the works lists.

## 7.16 Encroachments in the Trail Corridor

During the period between the closure of the railway in 1988 and the present, several encroachments on to the former railway corridor have been made. Grazing of cattle continues to occur (as side boundary fences generally were never installed as it was constructed as an unfenced railway).

It is likely that machinery and farm produce will be stored within the corridor, driveways and farm tracks will cross it or pass along it, and various other farm implements will have be placed within the corridor.

At the time of installation of the fencing all property of neighbouring landowners will need to been relocated by the owner.

## 7.17 Suitability for Multi-Use

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

The suggested trail surface is eminently suitable for walkers and cyclists (using mountain bikes). The drawing earlier in this section illustrates a typical cross section of a rail trail, with a 2.5 metre (min) wide trail surface.

Horses' hooves can do significant damage to trail surfaces but that depends on the surfacing material used and the prevailing weather conditions. Horses on the Lilydale Warburton Rail Trail in the Yarra Valley do minimal damage that surface because the surfacing material used ("Lilydale Toppings") is very accommodating to the ravages of horses' hooves.

Some trail managers ban horses for various reasons including environmental reasons, trail damage reasons, and possible introduction/spread of pests and diseases (such as ticks).

Should the local governments want horses on the trail then the best means of accommodating them is by the development of a single track parallel to the main rail trail. This is commonly done on rail trails such as the Great Victorian Rail Trail, the High Country Rail Trail and others. The bridle trail route can be simply constructed by slashing the low grass. The constant passage of horses will keep the sandy 'single-track' clear of regrowth and clearly defined. Bridle trail signage will be required to show riders where to go and to keep them off the main trail. Horses will need to share bridges where they cross watercourses.

#### 7.18 Environmental Issues

A number of key environmental issues have been identified. These include:

- Clearing of regrowth vegetation along the corridor, and the need for clearing permits and the future need for offset re-vegetation.
- The potential for the spread of weeds (and pathogens) during the construction phase and, potentially, through usage of the trail.
- Contamination of soils as a result of the operations of the railway and the manner in which former bridges were constructed and maintained.
- The potential for sedimentation of watercourses as a result of trail construction and bridge works. The cost tables have made an allowance for sediment control.

In addition, care will need to be taken in the ongoing maintenance of the proposed rail trail to ensure weeds and pathogens are not unwittingly spread by maintenance machinery. Ongoing clearing at the sides of rail trail will be required to keep the trail corridor at acceptable widths.

## 7.19 Clearing for the Rail Trail

In the years since the railway last operated in 1988 vegetation (in various forms) has regrown along parts of the corridor that formerly was kept clear of vegetation. The amount of regrowth vegetation varies markedly along the corridor. In numerous places adjoining landowners (farmers) have kept the former railway reserve totally cleared of regrowth vegetation and used the former reserve for the grazing of cattle. At the other extreme, there are several sections of the former railway reserve that have considerable regrowth vegetation.

Three types of clearing types have been identified along the length of the corridor. These are:

- 1. Minor clearing of vegetation required (only top soil needs removal and/or slashing prior to earthworks).
- 2. Moderate clearing of vegetation (some regrowth in trail corridor).

3. Heavy clearing of vegetation (substantial regrowth in trail corridor and/or thick undergrowth).

The estimates of probable costs reflect these various types of clearing of vegetation.

Generally speaking, a cleared 'trail corridor' of 3.5 - 4.0 metres will be required to enable a trail of 2.5 metres (min) to be developed in the centre of the cleared corridor. Either side of this trail will be further clearing of vegetation up to 1.0m for drainage.

The drawing earlier in this section depicts the clearing requirements for the trail within a 3.5 - 4.0m wide corridor. Ongoing maintenance will be required, on an 'as and when required' basis, to prune the vegetation alongside the trail to keep the trail corridor clear of overhanging vegetation. The regularity of the clearing of side growth vegetation will depend on numerous factors, particularly the type of vegetation growing alongside the trail over its length.

# SECTION 8 - ESTIMATES OF PROBABLE COSTS

## 8.1 Basis of Cost Estimates

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

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

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

Bridge assessments have not involved a detailed examination and further detailed assessments will be required to accurately establish the condition of timber bridge components.

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

## 8.2 Section Cost Estimates

## Table 7: Section 1 Costs

Section 1: Merriwa Railway Station to Wappinguy Station (12.3km)					
Activity	Unít	Qty	Rate	\$	
Clearing of corridor					
<ul> <li>allowance for minimal clearing of weeds etc</li> </ul>	metres	11,260	\$2	\$22,520	
<ul> <li>allowance for moderate clearing of regrowth</li> </ul>	metres	400	\$20	\$8,000	
Removal of steel rails from corridor	metres	11,660	\$22	\$256,520	
Removal of sleepers	metres	11,660	\$11	\$128,260	
Erection of fencing along corridor					
double fencing	metres	7,630	\$30	\$228,900	
single fencing	metres	3,860	\$15	\$57,900	
no fencing	metres	510	\$0	\$0	
Allowance for cleaning of, and earthworks around, pipe and box culverts under railway embankment	units	25	\$2,000	\$50,000	
Allowance for rehabilitation of drainage through cuttings	metres	1,000	\$25	\$25,000	
Repairs and/or refurbishment of major/minor bridge structures (abutments, new decking, handrails etc)	metres	35	\$3,000	\$105,000	
Gravelling of trail to 2.5m wide, compacted to 150mm thickness	metres	12,300	\$60	\$738,000	
Allowance for installation of new structures at property boundaries to replace existing cattle stops	units	10	\$3,800	\$38,000	
Allowance for installation of stock crossings (grids, gates, etc) to permit stock/machinery to cross from one side of corridor to the other	units	10	Av cost of \$6000	\$60,000	
Installation of signage (directional / distance, warning, etiquette, private property, no trespassing, interpretive, emergency etc)	metre	12,300	\$2	\$24,600	

Construction of road crossings at major/minor roads (includes traffic management):				
• Nil		0	\$0	\$0
Allowance for refurbishment of significant railway heritage items				\$3,000
Allowance for trailside bench seats				\$2,000
Merriwa trailhead facilities:				
<ul> <li>Install picnic shelters and tables</li> </ul>	units	2	\$6,000	\$12,000
Install map panel	units	1	\$4,000	\$4,000
<ul> <li>Directional signage to rail trail</li> </ul>	units	5	\$200	\$1,000
<ul> <li>Construct parking area (80m<sup>2</sup>)</li> </ul>	m²	80	\$50	\$4,000
<ul> <li>Install roadside "Trailhead" signage on local roads</li> </ul>	units	8	\$400	\$3,200
Allowance for construction of new trail from station to rail trail (making allowance for future use of railway track by Merriwa Railway Society)	metres	650m	\$80	\$52,000
Allowance/contribution to renovation of railway artifacts within Merriwa Station Yard				\$100,000
Sub-total				\$1,923,900
Approvals, permits, applications, designs, specifications, assessments	%		2.5	\$48,100
Contingency amount	%		7.5	\$144,300
Project management	%		5.0	\$96,200
Total (not incl GST)				\$2,212,500

Table 8: Section 2 Costs

Section 2: Wappinguy Station to Westwood Road (8.0km)						
Activity	Unít	Qty	Rate	\$		
Clearing of corridor	Clearing of corridor					
<ul> <li>allowance for minimal clearing of weeds etc</li> </ul>	metres	5,110	\$2	\$10,220		
<ul> <li>allowance for moderate clearing of regrowth</li> </ul>	metres	2,890	\$20	\$57,800		
Removal of steel rails from corridor	metres	8,000	\$22	\$176,000		
Removal of sleepers	metres	8,000	\$11	\$88,000		
Erection of fencing along corridor						
double fencing	metres	7,630	\$30	\$228,900		
single fencing	metres	300	\$15	\$4,500		
no fencing	metres	0	\$0	\$0		
Allowance for cleaning of, and earthworks around, pipe and box culverts under railway embankment	units	25	\$2,000	\$50,000		
Allowance for rehabilitation of drainage through cuttings	metres	1,000	\$25	\$25,000		
Repairs and/or refurbishment of major/minor bridge structures (abutments, new decking, handrails etc)	metres	40m	\$3,000	\$120,000		
Gravelling of trail to 2.5m wide, compacted to 150mm thickness	metres	8,000	\$60	\$480,000		
Allowance for installation of new structures at property boundaries to replace existing cattle stops	units	5	\$3,800	\$19,000		
Allowance for installation of stock crossings (grids, gates, etc) to permit stock/machinery to cross from one side of corridor to the other	units	10	Av cost of \$6000	\$60,000		
Installation of signage (directional / distance, warning, etiquette, private property, no trespassing, interpretive, emergency etc)	metre	8,000	\$2	\$16,000		

Const majoi mana	ruction of road crossings at r/minor roads (includes traffic gement):				
•	Westwood Road (major)		1	\$11,500	\$11,500
Allowance for refurbishment of significant railway heritage items					\$3,000
Allowance for trailside bench seats					\$2,000
Wapp	inguy trailhead facilities:				
•	Install picnic shelters and tables	units	1	\$6,000	\$6,000
•	Install map panel	units	1	\$4,000	\$4,000
•	Directional signage to rail trail	units	1	\$200	\$200
•	Construct parking area	m²	80	\$50	\$4,000
•	Install roadside "Trailhead" signage	units	2	\$400	\$800
West	wood Road trailhead facilities:				
•	Construct 700m trail from trailhead to rail trail along Westwood Rd	metres	700m	\$80	\$56,000
•	Install composting toilet	unit	1	\$50,000	\$50,000
•	Install picnic shelters and tables	units	1	\$6,000	\$6,000
•	Install map panel	units	1	\$4,000	\$4,000
•	Install directional signage to rail trail	units	4	\$200	\$800
•	Install roadside "Trailhead" signage	units	2	\$400	\$800
	Sub-total				\$1,484,520
Appro desig	ovals, permits, applications, ns, specifications, assessments	%		2.5	\$37,110
Conti	ngency amount	%		7.5	\$111,340
Proje	ct management	%		5.0	\$74,220
	Total (not incl GST)				\$1,707,190
Table 9: Section 3 Costs

Section 3: Westwood Road to Gungal Station (7.1km)					
Activity	Unít	Qty	Rate	\$	
Clearing of corridor					
<ul> <li>allowance for minimal clearing of weeds etc</li> </ul>	metres	6,640	\$2	\$13,280	
<ul> <li>allowance for moderate clearing of regrowth</li> </ul>	metres	460	\$20	\$9,200	
Removal of steel rails from corridor	metres	7,100	\$22	\$156,200	
Removal of sleepers	metres	7,100	\$11	\$77,000	
Erection of fencing along corridor					
double fencing	metres	6,070	\$30	\$182,100	
single fencing	metres	1,100	\$15	\$16,500	
no fencing	metres	0	\$0	\$0	
Allowance for cleaning of, and earthworks around, pipe and box culverts under railway embankment	units	10	\$2,000	\$20,000	
Allowance for rehabilitation of drainage through cuttings	metres	1,000	\$25	\$25,000	
Repairs and/or refurbishment of major/minor bridge structures (abutments, new decking, handrails etc)	metres	20	\$3,000	\$60,000	
Gravelling of trail to 2.5m wide, compacted to 150mm thickness	metres	7,100	\$60	\$426,000	
Allowance for installation of new structures at property boundaries to replace existing cattle stops	units	10	\$3,800	\$38,000	
Allowance for installation of stock crossings (grids, gates, etc) to permit stock/machinery to cross from one side of corridor to the other	units	15	Av cost of \$6000	\$90,000	
Installation of signage (directional / distance, warning, etiquette, private property, no trespassing, interpretive, emergency etc)	metre	7,100	\$2	\$14,200	

Construction of roams major/minor roads management):	ad crossings at s (includes traffic				
<ul> <li>Entrance dr (minor)</li> </ul>	iveway to rest area		1	\$2,820	\$2,820
Allowance for refu significant railway	rbishment of heritage items				\$3,000
Allowance for trail	side bench seats				\$2,000
Gungal trailhead fa	acilities:				
Install picni	c shelters and tables	units	1	\$6,000	\$6,000
Install map	panel	units	1	\$4,000	\$4,000
<ul> <li>Install direct trail</li> </ul>	tional signage to rail	units	4	\$200	\$800
<ul> <li>Install roads signage</li> </ul>	side "Trailhead"	units	2	\$400	\$800
	Sub-total				\$1,146,900
Approvals, permits designs, specificat	s, applications, ions, assessments	%		2.5	\$28,670
Contingency amou	int	%		7.5	\$80,010
Project manageme	ent	%		5.0	\$57,340
Т	otal (not incl GST)				\$1,312,920

Table 10: Section 4 Costs

Section 4: Gungal Statio	n to Sand	ły Hollow	(11.0km)	
Activity	Unít	Qty	Rate	\$
Clearing of corridor				
<ul> <li>allowance for minimal clearing of weeds etc</li> </ul>	metres	10,150	\$2	\$20,300
<ul> <li>allowance for moderate clearing of regrowth</li> </ul>	metres	850	\$20	\$17,000
Removal of steel rails from corridor	metres	11,000	\$22	\$242,000
Removal of sleepers	metres	11,000	\$11	\$121,000
Erection of fencing along corridor				
double fencing	metres	7,730	\$30	\$231,900
single fencing	metres	1,100	\$15	\$16,500
no fencing	metres	2,030	\$0	\$0
Allowance for cleaning of, and earthworks around, pipe and box culverts under railway embankment	units	15	\$2,000	\$30,000
Allowance for rehabilitation of drainage through cuttings	metres	1,000	\$25	\$25,000
Repairs and/or refurbishment of major/minor bridge structures (abutments, new decking, handrails etc)	metres	35	\$3,000	\$105,000
Allowance for replacement of missing elements of bridge over Halls Creek and refurbishment of structure (including decking and handrails). 20 metre to be decked and handrails. 2 x 20m new bridges.	metres	60	\$5,000	\$300,000
Gravelling of trail to 2.5m wide, compacted to 150mm thickness	metres	11,000	\$60	\$660,000
Allowance for installation of new structures at property boundaries to replace existing cattle stops	units	12	\$3,800	\$45,600
Allowance for installation of stock crossings (grids, gates, etc) to permit stock/machinery to cross from one side of corridor to the other	units	25	Av cost of \$6000	\$15,000

Instal distan prope interp	lation of signage (directional / ice, warning, etiquette, private rty, no trespassing, retive, emergency etc)	metre	11,000	\$2	\$22,000
Const major mana	ruction of road crossings at /minor roads (includes traffic gement):				
•	Golden Highway (major)		1	\$16,500	\$16,500
•	Worondi Road (minor)		1	\$9,440	\$9,440
•	Peberdys Road (minor)		1	\$9,440	\$9,440
•	Goulburn Drive (minor)		1	\$7,520	\$7,520
Allowa signifi	ance for refurbishment of cant railway heritage items				\$3,000
Allowa	ance for trailside bench seats				\$2,000
Sandy	Hollow trailhead facilities:				
•	Install picnic shelters and tables	units	1	\$6,000	\$6,000
•	Install map panel	units	1	\$4,000	\$4,000
•	Install directional signage to rail trail	units	4	\$200	\$800
•	Install roadside "Trailhead" signage	units	2	\$400	\$800
	Sub-total				\$1,910,800
Appro desigr	vals, permits, applications, ns, specifications, assessments	%		2.5	\$47,770
Contir	ngency amount	%		7.5	\$143,310
Projec	ct management	%		5.0	\$95,540
	Total (not incl GST)				\$2,197,420

#### Table 11: Summary of Costs (GST exclusive)

Section	Cost
Section 1: Merriwa Railway Station to Wappinguy Station (12.3km)	\$2,212,500
Section 2: Wappinguy Station to Westwood Road (8.0km)	\$1,707,190
Section 3: Westwood Road to Gungal Station (7.1km)	\$1,312,920
Section 4: Gungal Station to Sandy Hollow (11.0km)	\$2,197,420
Total (excluding GST)	\$7,430,030

Should a decision be made to proceed with the on-road cycle route connection between Sandy Hollow and Denman the following costs may be incurred:

#### Table 12: Section 5 Costs

Section 5: Sandy Hollow to Denman (28.2km) (via Golden Hwy, Bylong Valley Rd, Yarrawa Rd and Virginia St)						
	Activity	Unít	Qty	Rate	\$	
Instal (assu kilom	llation of directional signage me double sided signs every etre)	units	28	\$300	\$8,400	
Allowance for improvements and \$50,000 localised widening of sharp bends on Yarrawa Rd						
Denm	nan trailhead facilities:					
•	Install picnic shelters and tables	units	1	\$6,000	\$6,000	
•	Install map panel	units	1	\$4,000	\$4,000	
•	Install directional signage to trail	units	4	\$200	\$800	
•	Install roadside "Trailhead" signage	units	2	\$400	\$800	
	Sub-total				\$70,000	
Appro specif	ovals, permits, applications, designs, fications, assessments	%		2.5	\$1,750	
Conti	ngency amount	%		7.5	\$5,250	
Proje	ct management	%		5.0	\$3,500	
	Total (not incl GST)				\$80,500	

Mike Halliburton Associates and Transplan Pty Ltd

NOTE 1: The locations (distances) noted in the tables above are approximate only and need to be verified in the field during the preparation of a detailed trail development plan.

*NOTE 2:* These broad estimates of probable costs 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 3: The estimates of probable costs 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 4: Estimated costs are as at August 2015. An additional 3.5% should be added to each individual total per year compounded.* 

# SECTION 9 - BUSINESS CASE

#### 9.1 Introduction

It is always difficult to predict the economic impact of a new trail. Visitor numbers on the Bibbulmun Track (in WA) grew from 10,000 when the new alignment was first opened in 1997 to 137,000 in 2004 (*Colmar Brunton 2004*) to over 167,000 in 2008 (*Colmar Brunton 2009*). 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 proposed Upper Hunter Country Rail Trail is primarily dependent on the extent to which the trail is marketed and promoted (if it proceeds).

A trail such as the Upper Hunter Country Rail Trail will have attraction to visitors – daytrippers and overnight visitors. However, it will also provide for local residents of Merriwa, Sandy Hollow and Denman. Some of these people will use the trail for exercise – these 'back gate' users may not be significant in terms of expenditure but they are significant in terms of numbers as they would use the trail many times a year.

#### 9.2 Visiting Trail Users

There is no doubt from available evidence that recreation trails attract visitors who may come to a region specifically to do a trail (for example in 2004, 50% of visitors to South Australia's Riesling Trail came to the Clare Valley specifically to walk or ride the trail – the other 50% used the trail as a secondary activity to their trip to the Clare Valley).

The Upper Hunter Country Rail Trail has the potential to add to the number of existing visitors – to attract new day-trippers (day-trippers in this instance would be different from local residents), to convert existing day-trippers into overnight visitors and to encourage existing overnight visitors to extend their stay as it provides another attraction for the region.

It is worth reiterating key points about visitors from Section 6.

- In 2014, Upper Hunter Shire and Muswellbrook Shire attracted 192,000 domestic overnight visitors (split evenly between the two shires).
- Average stay for overnight visitors was 2.4 days for Upper Hunter Shire and 2.6 days for Muswellbrook Shire.
- Regional NSW was the biggest source of visitors for both Shires (64% for Upper Hunter and 65% for Muswellbrook), with Sydney providing the next biggest market (a little over 20%). The percentage of visitors from Regional NSW is substantially more than for the Hunter as a whole (there is a commensurate reduction in visitor numbers from Sydney). This is likely due to the fact that a significant part of the wider Hunter region is very close to Sydney (Newcastle and the coastal cities and towns either side of Newcastle).
- Upper Hunter Shire attracted 106,000 daytrip visitors, while Muswellbrook Shire attracted 145,000 daytrip visitors. For both shires, almost 70% of daytrip visitors came from the Hunter region.

- International visitation was quite low with only 5,000 international visitors coming to both Shires (these were overnight visitors).
- $_{\odot}$   $\,$  The short break market (1-3 days) remains a key market for visitors to the region.

(Source: Destination NSW)

#### 9.2.1 Visiting Trail Users - Predicting User Numbers

What is a reasonable forecast for trail user numbers (some existing visitors will stay longer to experience the trail and some will come to the region as new visitors simply to use the trail)? Nature visitors who participate in the types of activities undertaken on tracks and trails provide a pointer to the market potential for a trail such as the proposed Upper Hunter Country Rail Trail. Tourism Research Australia estimates that 51% of domestic overnight nature visitors take part in bushwalking / rainforest walks, whilst 39% of domestic day visitors and 37% of international visitors enjoy this type of activity. While the proposed trail does not necessarily provide a bushwalking experience, it does provide an opportunity for nature visitors.

NSW attracted 520,000 cycle tourists (domestic and international) in 2007 (*New Zealand Cycleway Market Research (2009*). A proportion of these would be interested in off-road cycle touring on a trail such as the Upper Hunter Country Rail Trail.

Where are the trail markets? Muswellbrook (30 minutes; population 11,420), Scone (45 minutes: population 5,478) and Singleton (1 hour: population 13,961) are key localities quite close to the proposed rail trail. The proposed rail trail is within two hours of the bigger Local Governments in the Lower Hunter – Newcastle, Cessnock and Maitland. The combined population of these three Local Governments is over 285,000. Two hours is a reasonable limit for day-trippers. It is worth noting that the Newcastle Bike Plan (cited in Arup 2005) states that the Newcastle area has the highest level of bicycle ownership per capita of any urban area in NSW with approximately 150,000 bicycles. Data from the most recent Super Tuesday count (2014) shows that Newcastle had the 20<sup>th</sup> highest number of counted riders in Australia. Residents of the broader region in which the rail trail is proposed are already favourably predisposed to cycling.

Major localities within three hours of the proposed rail trail include the Central Coast, much of Sydney, Tamworth and Dubbo. Users from these areas are more likely to be looking at overnight stays.

If the completed trail includes an on-road extension to Denman, it makes little change to the potential catchments, only bringing parts of the Central Coast such as Lake Macquarie inside the 2 hour catchment.

#### 9.2.2 Projected User Scenarios - Day-trip Usage

Any trail has the potential to add to the number of day-trippers. The market for day-trippers is well established in the region with 251,000 day visitors in the year ending September 2014. The day trip market will be a significant market for a trail given the cities and towns within 2 hours drive (a reasonable day trip).

The Mundaring Shire trail network (in WA) is just under 1 hour from the Perth CBD. In the Mundaring case, 180,000 visitors (from outside the Shire) make over 900,000 visits/year (an average of 5 visits/person). The majority of these visitors come from

Greater Perth (a population of 1.5 million at that time) and are day-trippers. Some 12% of Perth residents visit the trail network.

Market Equity's work in South Australia shows that a significant percentage of cyclists on surveyed trails are more prepared than walkers to travel to use a trail (36% of cyclists interviewed on the five trails were non-locals). (*Market Equity 2004*)

It is difficult to predict with any certainty what effect development of any trail will have on the day trip market in the region as comparative work on other trails simply does not exist. However, the Lilydale Warburton Rail Trail provides a reasonable 'shadow' market for making some estimates. The trail attracts a large number of day-trippers, with 100,000 of the 105,000 annual visitors being day-trippers (some 3% of the daytripper market). The trailhead at Lilydale is 40 minutes by car from Central Melbourne and one hour by train. It is very well positioned for day-trippers. The Trail is in an established tourism area – the Yarra Valley and Ranges – with a wide range of tourist infrastructure and attractions. In 2013, the Yarra Valley and Dandenongs region attracted 663,000 domestic overnight visitors and 3.1 million day-trippers. The Yarra Valley and Ranges are very attractive natural environments, another positive factor attracting trail users.

A rail trail linking Sandy Hollow to Merriwa would have some similar characteristics to the Lilydale Warburton Rail Trail – notably its location in an established tourist area with a range of tourism infrastructure and an established day trip market. Notwithstanding the different market sizes, there are other important differences, primarily its further distance from the major market (Newcastle) and the ease of access (users travelling to the Upper Hunter Country Rail Trail will need to travel by car – although the possible development of guided and supported tours operating out of Newcastle or Pokolbin will obviate that need for some potential users).

It is difficult to know precisely where the current day-trippers come from beyond the percentage share from Regional NSW and Sydney; however, given the existing numbers it is not unreasonable to assume that the trail would draw a number of day-trippers from the Lower Hunter, Scone, Muswellbrook and Singleton in particular. The journey times are greater than the Lilydale Warburton Trail (up to 2 hours by car) so the number of day-trippers would not be as great.

Taking all these factors into account, it is reasonable to estimate that the Upper Hunter Country Rail Trail, if developed, would attract in the order of 7,000 additional day-trippers/year (specifically to use the trail). This represents around 2.7% of the existing day-tripper market to the two Council areas (and 2% of the combined population of the key local governments and locations within 2 hours – Newcastle City, Maitland City, Cessnock City, and the towns of Muswellbrook, Scone and Singleton.)

Expenditure is also quite significant. As noted in Section 6, day-tripper expenditure (based on a number of studies) is \$97.09/day with \$31.53 (or 30%) of this spent on food and beverage – most of which is likely to be spent in the region.

Increasing day-trippers to the region by 7,000/year will result in an injection of some \$679,630 into the local economies per year (based on the average figures of \$97.09).

#### 9.2.3 Converting day trips to overnight trips

Trail development may also turn day-trippers into overnight trippers with consequent rise in economic benefits. The trail provides an additional activity for visitors – an overnight stay will give visitors time to walk, cycle or ride the trail in addition to their other activities. Overnight visitors to trails are spending an average of \$165/person/day (as discussed in Section 6).

The likely scenario would be that some visitors to the region would turn day trips into overnight stays. The region covered by the two Councils received 192,000 million domestic overnight visitors in 2014. It is not unreasonable to assume that some of these visitors may convert day trips to overnight trips if a trail is provided as an additional activity.

If the trail converted 1,500 day-trippers into overnight visitors, this would inject an additional \$247,5000/year into the economy based on overnight visitor expenditure of \$165/day. If they stay overnight to undertake the trail journey, they would undertake other activities as well over the course of their stay. The benefit of the 2<sup>nd</sup> or subsequent day's stay cannot be attributed to the trail.

#### 9.2.4 Encouraging Existing Overnight Visitors to Stay Longer

It is likely that the key market for this trail (in terms of visitors) will be in providing an additional facility for visitors already coming to the region. Such an additional facility will encourage them to extend their stay to allow an extra day (or part of a day) to use the trail.

In addition, the Upper Hunter Country Rail Trail could be included in a package of outdoor recreation opportunities and this is likely to attract users. A trail would be a good inclusion in a package with other tourist attractions. Such a package makes an appealing weekend away or an incentive to stay a day or two longer.

# If 1,500 visitors stay an extra day to use the trail (or use a package of trails including the rail trail) this would represent less than 1% of existing overnight visitors. Attracting this number of users would see an additional \$247,5000/year injected into the economy. (Additional expenditure as a result of their overnight stay – primarily but not only accommodation – can be attributed to the trail).

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. With such an outcome, the economic benefits estimated above would only be a small part of the overall economic benefit to the region.

In summary, predicted visitor numbers are shown in table 13:

Category	Predicted visitor numbers/year	Predicted expenditure/year
New day-trippers	7,000	\$679,630
Day-trippers converting to overnight stays	1,500	\$247,500
Overnight stays being extended by a day to use the trail	1,500	\$247,500
Total visitor numbers	10,000	\$1,174,630

#### Table 13: Predicted visitor numbers

These numbers are just over 2% of the existing visitor numbers to the region.

There may be additional trail users who visit the trail as part of their visit to the region. While they add to the total number of trail users, their expenditure cannot be counted in any economic analysis of the trail's benefit as the presence of the trail is not the primary attraction for these visitors. As noted above, 50% of visitors to South Australia's Riesling Trail came to the Clare Valley specifically to walk or ride the trail – the other 50% used the trail as a secondary activity to their trip to the Clare Valley. The economic contribution of the latter 50% is not counted as an economic benefit of the trail.

How does this figure compare to what is happening on other trails in Australia? Research figures are limited and tend to focus on iconic trails – the Bibbulmun Track (167,000/yr) and the Munda Biddi Trail (21,000/yr) in WA, the Murray to the Mountains Rail Trail (60,000/yr), the Great Ocean Walk (100,000/yr) and the Wilsons Promontory Walk (60,000/yr) – all in Victoria.

Other less iconic trails provide good pointers to likely use of the Upper Hunter Country Rail Trail.

- Recent trail counts (2011-2013) on South Australia's Riesling Trail show that over 40,000 people passed through 4 trail counters each year. While this does not necessarily translate to 40,000 users (as many would pass more than one counter), it suggests a significant number of users. This trail is 2 hours from Adelaide in the renowned tourist area of the Clare Valley.
- Over 23,000 users passed through counters on the Old Beechy Rail Trail in 2013. Again, this does not necessarily translate as over 23,000 users, but it gives an indication of use rates.
- Around 27,500 users passed through counters on the Great Victorian Rail Trail in the first quarter (*January-March*) of 2014. Again, this does not necessarily translate as 27,500 users, but it gives an indication of use rates (per quarter).

These numbers are an "end state" of user numbers. Trail numbers will build in the first 5 years of a trail section being opened (after 5 years a trail is a "mature product"). It is assumed that trail use will increase by steady increments. The available evidence is limited and tends to show that trail use starts slowly but grows very quickly at some point - the Bibbulmun Track for example grew from 10,000 in 1997 to 137,000 in 2003

to 167,000 in 2007. It may be that the growth of social media will see trails reach an "end state" of use much faster than previously.

#### 9.3 Local Trail Users

Every regional trail is a local trail. Therefore, it is important not to overlook the contribution of local residents to the success of a trail. In 2001, the Mundaring Shire trail network was used by over 200,000 people (*Jessop and Bruce 2001*), having grown from a low base when the network was first fully opened. Only 10% of these users were locals (residents of Mundaring Shire) with many other users drawn from the Perth metropolitan area. The total annual visits (people generally use trails more than once a year) were a staggering 2.454 million visits annually, with local residents accounting for 63% of these visits. The average number of trips per year per local resident was 75 (compared to the 10-30 trips used in the following forecasts).

#### 9.3.1 Estimating Local User Numbers

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. It is difficult to know how far people will travel to take advantage of a local recreation facility (which the Upper Hunter Country Rail Trail will be for some people). 20 minutes travel is a reasonable figure to estimate the "local catchment" of a trail. Such a catchment would encompass Merriwa, Sandy Hollow and Denman. One of the features of the Open Houses was the number of attendees (who were local people) who said they would use the trail if it proceeds. The combined population of these centres is 3,992 (according to the 2011 Census).

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

- A Low/low scenario 10% of the combined population within 20 minutes of the trail making 10 visits/year to the trail.
- A medium/medium scenario 20% of the combined population making 20 visits/year to the trail.
- A high/high scenario 30% of the combined population making 30 visits/year to the trail.

The next step is to estimate total trip numbers. In the Mundaring study, the average number of trips per year per local resident was 75. Table 14 provides three visitation scenarios taking a far more conservative approach compared to the actual visitation rate coming from the Mundaring study.

	Low trail usage: 10% of residents	Med trail usage: 20% of residents	High trail usage: 30% of residents
Low (10 visits/yr)	3,992	7,984	11,976
Medium (20 visits/yr)	7,984	15,968	23,952
High (30 visits/yr)	11,976	23,952	35,928

#### Table 14: Potential Total Annual Visits by residents (Population of the three centres – 3,992)

Local users also spend money while using trails. Expenditure per trip by local residents is always lower than for visitors, as locals are closer to home and more likely to either take all that they need or come home to eat and drink following a trail visit. The expenditure figures from the Mundaring study (\$1.44/person/trip in the Shire – mainly food and drink) are a legitimate base to work from (and have been converted to 2014 dollars - \$2.05/person/trip).

Using this figure in combination with visitation scenarios generated in Table 14 gives a range of expenditure estimates. Table 15 shows a simplified set of three scenarios: low usage / low number of trips, medium usage / medium number of trips, and high usage / high number of trips.

*Table 15: Potential Total annual expenditure in the vicinity of the trail by residents (low, medium and high refer to the use rates developed in Table 14 above)* 

Use Scenario	# of person visits	Total spent (\$)
Low/low	3,992	\$8,184
Medium /medium	15,968	\$32,734
High / high	23,952	\$49,102

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. A number of factors influence the choice of scenarios:

- The Upper Hunter Country Rail Trail is the only trail in the area. One of the comments in the Open Houses was that Merriwa in particular is very hilly – somewhere flat to walk or ride would be very popular.
- Several comments in the Open Houses made the point that the roads around both Merriwa and Sandy Hollow are very dangerous – the trail would prove popular as it provides a safe off-road environment in which to recreate.
- Trails take time to be adopted for use by local communities. Trail numbers build in the first 5 years of a trail section being opened (after 5 years a trail is a "mature product"). It is assumed that trail use will increase by steady increments of 20% (i.e. Yr 1 20% of end use, Yr 2 40% etc) until 100% is reached in Year 5 of operation.

Given these figures and comments, it would seem the low/low scenario of 3,992 person visits (i.e. 10% of the 'local' population using the trail for 10 visits per year) is a reasonable, if very conservative, scenario to adopt (conservative when compared with the Mundaring data). **Such visitor numbers would inject \$8,184/year into the local economy.** Due to the small local population, economic benefits flowing from local trail use will be relatively low.

#### 9.3.2 Local Trail Users - How Long Will They Spend on the Trail?

The evidence is that most trail users spend up to 4 hours on a trail (walking or cycling). However, local people using the trail as part of an exercise regime are likely to have different time use patterns. The most recent Exercise, Recreation and Sport Survey (2010) shows that those who regularly exercise do so for between 2 and 5 hours/week and the median number of exercise "events" was 1.6 times/week. It is reasonable to assume (for the purposes of calculating potential hours of exercise on the trail) that each use will be for 1 hour.

Using this assumption and combining it with the forecast user numbers, it is likely that there will be an additional 3,992 hours of additional physical activity in the local communities along the trail.

#### 9.4 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 (in terms of the percentage of the local population using the rail trail) almost 4,000 local users/year is a reasonable expectation. This will result in an economic injection of \$8,184/year;
- Expansion of the existing day-tripper market to the region. **7,000 day-trippers/year will yield an injection of \$679,630/year.**
- With a new significant recreation attraction, some day-trippers may stay overnight, generating a new income stream. If the trail converted 1,500 daytrippers into overnight visitors, this would inject an additional \$247,500/year into the economy.
- If 1,500 visitors stay an extra day to use the trail (or use a package of trails including the Upper Hunter Country Rail Trail), this would represent less than 1% of existing overnight visitors. Attracting this number of users would see an additional \$247,500/year injected into the economy.

The total injection of dollars into the local economies from local, day trip and overnight visitors may be of the order of **\$1,182,814 per year** (under a range of conservative scenarios). Complex economic analysis (beyond the scope of this project) is needed to determine how many jobs are likely to be created by such expenditure.

It should be emphasised that user numbers will not necessarily be realised in the first years of operation if the trail proceeds (particularly if the trail is constructed in sections). The Bibbulmun Track took ten years to reach 167,000 users from an initial base of 10,000.

#### 9.5 Business Benefits

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

- A belief amongst business providers that the trail contributes to economic activity in the region.
- The trail is seen to attract a variety of visitor types to the region, with wine as well as non-wine interests.
- The trail is seen as highly important to businesses in the area. Businesses were passionate about the trail and believed it contributed to their businesses as well

as helping to position the area as an authentic leisure holiday destination. The exact impact in measurable terms could not be clearly ascertained, as it is so intrinsically linked to businesses in the region, but there was a definite opinion that the Clare Valley would not be the same without the trail and that it had contributed to business formation as well as business growth.

Business opportunities were discussed in Section 6 but it bears reiterating that the trail offers a range of new business opportunities and the opportunity for existing businesses to extend their offerings. The trail has the potential to improve the sustainability of businesses reliant on tourism.

#### 9.6 Non-economic Benefits

#### 9.6.1 Health-Related Economic Benefits to the Wider Economy

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

#### 9.6.2 Quantifiable Benefits to Individual Residents

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

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

#### 9.6.3 Non-quantifiable Benefits to the Community and to Individuals

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

#### 9.6.3.1 Health and Wellbeing

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

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

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

- Trail activities facilitate participation and social interaction between a diversity of community members, age groups, individuals and families e.g. community walking groups, voluntary trail maintenance and conservation work;
- Market Equity (2004), in its report on trails in South Australia, found that using trails to get a sense of well-being (95% of survey respondents) and using trails as a means to unwind and relax (91% of respondents) were the two main drivers getting people out on recreation trails. The psychological health benefits of trails remain under-estimated.
- 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.

#### 9.6.3.2 Liveability

Quality recreational facilities, such as trail networks, can help create attractive places to live and visit. Walking and cycling are relatively cheap modes of transport. Trails also provide a low impact means of travelling through the landscapes and play an important role in connecting people with nature.

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

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

#### 9.6.3.3 Education

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

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

Trails have the power to connect users to their heritage by preserving historic places and by providing access to them. They can give people a sense of place and an understanding of the enormity of past events. The railway museum at Merriwa would add to this sense of history if it was accessed by rail trail users.

#### 9.6.3.4 Environmental and Cultural Benefits

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

- Opportunities for the community to experience natural and cultural environments;
- Protection of the adjacent environments by localising impacts and facilitating management of visitation effects;
- Educational and interpretive opportunities and increased environmental and cultural awareness and appreciation. An allowance has been made in the estimates of probable costs for interpretive panels to be produced and installed along the trail;
- 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. It also provides opportunities for people to travel on utility trips – shopping, visiting friend etc;
- Increased community ownership which helps to preserve natural and cultural values; and
- Opportunities for community participation in conservation and revegetation work.

#### 9.6.4 Local 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 and pedestrian access and allowing recreational riders safe cycle routes. Financial savings to the local Council and community, and the State and Federal Government accruing from health benefits 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 will accrue to residents who walk or cycle and to the broader community.
- Bike sales in Australia continue to exceed car sales cars. Most households own a bike (*Australian Bicycle Council*).
- 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).
- The opportunity for local schoolchildren to ride bikes on a safe off-road facility is a wise use of community resources. The benefit of providing a safe off-road facility within easy access of schools for use by the schools for activities is another benefit of trail development. This particular issue was raised by a number of attendees at the open houses who suggested the use of the trail for school activities such as fun runs, cross country events and general sporting activities.

#### 9.7 Summary

The Upper Hunter Country Rail Trail will provide a number of benefits to residents and businesses of the region. Some of these are quantifiable. Increased visitor numbers in the order of **10,000** will inject in excess of **\$1.17 million/year** into the region's economy. Local use rates of almost 4,000 people/year will see the injection of an additional **\$8,184/year**. These figures represent an injection of money into the local economy, which will ensure that the investment of **\$7.4 million** construction and **\$93,800/year** maintenance is "paid off" over time. The proposed trail offers a range of significant other benefits to these communities that cannot be quantified but are equally important to consider when assessing the project's merits. These are:

- The trail offers a range of new business opportunities and the opportunity for existing businesses to extend their offerings. The trail has the potential to improve the sustainability of businesses reliant on tourism.
- The trail will encourage visitors to stay a little longer when visiting the region in particular by offering another activity (or series of activities).
- Increasing recreational options for local communities will aid overall community wellbeing, and in the long-term reduce health costs (a saving to the State Government).
- A trail will create more attractive communities along its route.
- A trail will provide firsthand experience that educate users about the importance of the natural environment and respect for nature by leading users into a natural classroom.

#### Upper Hunter Country Rail Trail

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 10 - FEASIBILITY STATEMENT

#### 10.1 The Statement

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

*Is there a viable trail route?* Yes. As is the case for the vast majority of disused railways in NSW, the entire corridor is still in public ownership. Although it was developed as an unfenced railway, and many adjoining landowners have had unrestricted access to the public land within the corridor for many decades, the land remains in public ownership and is unlikely to ever be used again as a Government railway. It is also highly unlikely that the publicly owned land will be sold for an alternative use.

Some adjoining landowners have erected fences alongside, and across, the corridor over the years and stock have had unlimited access to much of the corridor for grazing purposes. There will inevitably be disruptions to long established farming practices should the proposed rail trail be constructed.

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

An off-road trail route between Sandy Hollow and Denman was investigated but none of the options assessed would be considered viable. Instead, a signposted on-road cycle route has been recommended that utilises quiet backroads.

# Are there alternative uses for the corridor that will provide more value to the community? Are these alternative uses viable? The realistic answer is no.

Freight or passenger services are unlikely to return to service on this corridor – the provision of any new services would likely be on a different alignment.

The Merriwa Railway Society has aspirations of one day operating heritage rail services. The Society has expressed strong concerns with the proposed rail trail stating that the use of the corridor as a rail trail is incompatible with its use for a heritage rail service.

This Feasibility Study is not tasked with providing a detailed assessment of the feasibility of the Railway Society's proposals, nor in assessing community benefits of such a proposal. The costs of running such an operation are starkly illustrated by the Canberra and Dandenong examples (these figures do not include start up costs which are likely to be quite expensive). In the absence of any detailed information or plans from the Merriwa Railway Society as to how and when it might be able to operate a heritage train service that will require the necessary magnitude of resources, it is difficult to see that a functional heritage railway service will operate on the rail corridor in the future.

The rail trail could be developed in such a way as to allow the Merriwa Railway Society access to around 1 kilometre of track from the turntable heading east to operate handcars or trikes.

*Will the trail provide a quality user experience (terrain/landscape/history)?* Yes. Although some adjoining landowners dispute the attractiveness of the area, the topography through which the disused railway corridor passes is without doubt highly scenic.

The 38km corridor between Merriwa and Sandy Hollow (the disused railway component of the study area) passes through attractive farmland with distant views, creek valleys with copses of magnificent eucalypts, remnant bushland blocks, and perhaps most spectacular of all the range of sandstone hills and escarpments south of Gungal.

As with all disused railway corridors, the route passes through cuttings, along embankments, across bridges (short and long) and over numerous culverts and creeks. In addition to the cuttings and embankments of the railway formation, other reminders of the former railway exist all along the corridor including mile pegs (and other railway signs), signals and switches, cattle grids and remains of sidings and platforms.

The Merriwa Station Building has recently been restored by the Merriwa Railway Society, which has plans for restoring other infrastructure at the rail yards (such as the station platform, turntable, goods shed and tracks).

This varied collection of historic artifacts and the variety of scenic attractions and landscapes augurs well for the future enjoyment of the rail trail by a range of users.

The experience to be gained by users on the proposed trail would be of very high order. The Upper Hunter Country Rail Trail would pass through some very attractive scenery that would differentiate it from other rail trails elsewhere in Australia.

Interpretation of the cultural and natural values of the area will add to the user's experience.

*Is there a market for the proposed trail?* Yes. Existing rail trails in other states, notably Victoria (including the Murray to the Mountains Rail Trail and the Lilydale to Warburton Rail Trail) are extremely well used and very popular recreational assets of the communities in which they are situated. The existing visitor market (both day trips and overnight trips) is very well established with significant numbers of visitors already coming to the Upper Hunter region for wineries and other high value tourism attractions.

This Feasibility Study has examined the potential for users to travel to the Upper Hunter from places such as Sydney, Newcastle and the Central Coast, Maitland, Dubbo and Tamworth specifically for the rail trail and as an added component to their leisure time activities.

It is highly likely that the proposed rail trail between Merriwa and Sandy Hollow will become a popular addition to the suite of rail trails available to those who actively seek out these recreational opportunities. The situation in NSW at present (given the legislative impediments to the development of rail trails on former Government railways) has meant that potential rail trail users have to travel to other Australian states (or overseas) to utilise such recreational cycling and walking experiences. The future development of additional rail trails in NSW will stimulate interest in, and use of, rail trails in a state largely unaware of rail trails.

In addition, the proposed rail trail will be a very worthwhile addition to the local cycling and walking opportunities in Merriwa and Sandy Hollow and well as fostering day-trips from Scone, Muswellbrook, Denman and Singleton.

Will the rail trail create any unmanageable or unmitigated impacts on adjoining landholders' farming practices and lifestyles? No. It is true that a rail trail is a different use to the historic use of the corridor (for trains) and adjoining landholders may have expectations of how the corridor will be used in the future. A rail trail probably was not one of their expectations and they have concerns (and in some cases outright opposition). However, the corridor remains publicly owned land and the issues and concerns raised by adjoining landholders have been satisfactorily addressed in the other rail trails round Australia (of which there are over 100). Evidence shows no long-term negative impacts on farming practices and lifestyles. In consultation, adjoining landholders raised 4 specific local issues (in addition to the range of usual concerns) – notably managing the interaction between trail users and blasting at a quarry adjacent to the corridor, camping, knowing when and which trail users are on the trail to address liability, and the precise location of the rail corridor. All of these issues can be satisfactorily addressed, managed or mitigated if the trail proceeds. It is important to recognise landholder concerns and, if the trail proceeds, to work closely with them to address individual concerns and arrive at mutually agreed solutions.

#### Are the local governments and key stakeholders supportive of the concept?

Conditionally yes. Both Councils (Upper Hunter Shire Council and Muswellbrook Shire Council) are supportive of the initiative.

Funding for this Feasibility Study was provided equally by the two local governments. Although this does not imply unconditional support, it does indicate a willingness to investigate the benefits of such a trail and the opportunities it might provide.

Are there supportive/strong advocates in the community? Yes. There does appear to be a ground swell of support from groups and individuals within the surrounding communities, as evidenced by the numerous supportive comments obtained during the series of "Open Houses" conducted during the course of this study. It is also evident that there are strong advocates within the communities who have expressed a desire to get more involved in ensuring the proposed rail trail gets developed.

It would be important for the future operations and maintenance of the proposed trail that a strong "Friends of ..." group be established. The NSW Government is particularly keen to see strong community support and a commitment to maintenance by volunteers and community groups.

**Is there a supportive community?** It is not possible to provide a definitive answer as to community support based on the limited consultation for this project. This project has recently emerged in the community – rather than being subject to a long history of community conversations as other rail trail proposals often are. Projects with a long lead time prior to a feasibility study often have developed a reasonable level of community support (and opposition).

Community opinion is not unanimous based on feedback from the Open Houses. Based on verbal and written feedback at the Open Houses, the following summarises the community views that were presented in these forums (noting that there were some concerns about how the Open Houses were promoted):

 Most adjoining landholders had concerns with the proposal and raised a number of issues. Some were vehemently opposed to the proposal, whereas others could see that, if it were to proceed, acceptable solutions could be found to their issues.

- Some other people who attended did not support the proposal, instead stating that the heritage rail proposals should take precedence along the corridor.
- Others who attended were very supportive of the project and said they would use the trail if it were developed.

It is reasonable to state that the vast majority of those attendees who were not adjoining landholders were in favour of the proposal.

This is typical of most rail trail proposals. There are 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.

The NSW Government recognises that a rail trail, just like all other infrastructure projects, will not receive 100% support. However, it is on the record that it views proposals that have strong community support as an important consideration in its determination of whether to fund a rail trail project.

If the trail is to proceed, proponents of this rail trail will need to continue to raise the community's awareness of the benefits of the project in order to meet the NSW Government's stipulation of strong community support

**Would the trail be value for money?** Yes. Trails repeatedly demonstrate that there are numerous benefits to be gained through their construction: economic benefits to the towns where they start and finish; a boost to businesses associated with the trail; social and physical health benefits; and a range of environmental and cultural benefits. The business case for the trail is set out in Section 9. In summary, it can be reliably anticipated that development of the proposed rail trail will result in increased annual visitor numbers in the order of 10,000 who will inject in excess of \$1.17 million into the region's economy. Local use rates of over 4,000 people/year will see the injection of an additional \$8,200/year.

*Is there a commitment to maintenance ("friends of ..." group or support network)?* This has not been explored in any detail. The Feasibility Study identifies likely maintenance costs. The experience of other trails indicates that community groups (such as Landcare groups, school groups, service clubs, etc) will help to maintain sections of the trail, or areas through which the trail would pass.

*Will the trail provide a unique experience?* Yes. The landscape associated with this proposed rail trail is very attractive and adds significantly to the range of trail opportunities available to walkers and cyclists in this region. The attractive vistas available all along the proposed rail trail route (in particular the views of the sandstone hills and escarpments), the variety of existing rail infrastructure (notably cuttings, embankments and bridges), and the relative uniqueness of the varied landscapes (farmed country, creek valleys, heavily vegetated and relatively undisturbed bushland) add interest.

#### Is there a demonstrated benefit to trail users and, especially, the host

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

#### 10.2 The Recommendation

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

The conditions upon which the rail trail should proceed are:

- 1. 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 another entity;
- Both Councils (or a Committee of Management) being prepared to accept vesting of the entire former railway corridor between Merriwa and Sandy Hollow, with an acknowledgement that sub-leases may be required to permit other activities (if appropriate) such the possible future activities of the Merriwa Railway Society Inc;
- 3. A cooperative approach with the Merriwa Railway Society Inc. be forged with regard to the shared use of the former railway station precinct at Merriwa;
- 4. The project proponents pursue discussions with the Merriwa Railway Society Inc to foster the development of complementary activities at the Merriwa Railway Station, including the refurbishment of the infrastructure at the railway yards and the establishment of a short tourist rail service (if it can be proven feasible) on track that will be retained within the station grounds;
- 5. Detailed design development plans for the rail trail being prepared, which will involve a thorough examination of the entire corridor, the preparation of detailed works lists and cost estimates;
- A comprehensive program of one-on-one discussions on-site with affected adjoining landowners be undertaken to ascertain their individual concerns and to work out together solutions to each issue raised;
- The project proponents (the two Councils) seek funding from external sources (notably the NSW Government and Commonwealth Government) for the construction of the proposed trail (and the detailed trail development plan that will need to be prepared prior to construction);
- 8. A Committee of Management, comprising (at least) representatives of both Councils, the Merriwa Railway Society Inc, 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);

- The preparation of a Corridor Management Plan before construction, including a comprehensive maintenance program (detailing the ongoing maintenance) for the trail and corridor;
- 10. The preparation of a Bush Fire Risk Management Plan for the corridor;
- 11. 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;
- 12. The Trail Manager is to assume liability responsibility for trail users and are to take all actions possible to mitigate potential claims against landowners and neighbours;
- 13. A commitment to ongoing maintenance of the trail being given by both Councils, a Committee of Management and volunteers;
- 14. 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; and
- 15. The Councils lead a conversation in the communities about whether to permit horses on the rail trail. There are positive and negative aspects associated with horse use of the trail. This issue needs resolution prior to a trail being constructed (should it proceed).

In regard to the proposed extension of the trail beyond Sandy Hollow to Denman, this Feasibility Study recommends the promotion of a signposted on-road cycle route utilising quiet 'backroads' (Bylong Valley Road and Yarrawa Road). The development of a signposted on-road trail will add to the general appeal of both the rail trail and the general destination of Denman-Sandy Hollow-Merriwa (at relatively low cost); however, it needs to be acknowledged that user numbers are likely to decrease once trail users have finished riding from Merriwa to Sandy Hollow – due to both cumulative distance and user desires for safe off-road environments.

# 10.3 Factors Supporting the Decision

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

From a trail users' perspective, the former railway corridor between Merriwa and Sandy Hollow is extremely attractive. It offers a range of positive factors. When compared to numerous other disused railway lines elsewhere in Australia (both those which have been converted and those which have not), this is an excellent opportunity.

- The entire railway corridor between Merriwa and Sandy Hollow remains in public ownership with few constraints to the development of a trail along its entire length.
- The railway corridor is situated in a highly scenic landscape, with a great diversity of landscapes and existing historic railway infrastructure (including the remains of the timber and steel bridge over Halls Creek near Sandy Hollow, and numerous other shorter timber bridges).
- The railway corridor offers a wonderful trail experience and, coupled with the ideal distance between centres (Merriwa to Sandy Hollow is 38km) could become

a significant trail destination in NSW, especially when coupled with other attractions of the Upper Hunter region.

- The corridor is easily accessible and is within a short distance of Newcastle and Sydney (and numerous smaller towns) and is in an established tourism region (the Upper Hunter) with high visitation rates both for day-trippers and overnight visitors. Adding another attraction will potentially bring additional visitors and keep visitors longer in the area.
- The development of several trailheads along the trail (as well as the two anchors of Merriwa and Sandy Hollow) provides for a variety of rides/walks of different lengths.
- The trail does not have a complicated route through and getting out of Merriwa or Sandy Hollow (unlike some existing rail trails in Australia and overseas), nor does it have any difficult crossings of the major roads that run through the region.
- Many of the major elements of the railway infrastructure remain (the formation, cuttings, embankments and most of the bridges and culverts).
- Being in an established tourism region means that there is a reasonable supply of accommodation options for visitors coming to use the rail trail, though more may develop in response to the opportunity provided by the rail 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.
- As a rail trail, the corridor is reasonably flat (although there is a significant fall in altitude of 131m in altitude between Merriwa and Sandy Hollow) and will therefore accommodate the full range of cyclists, as well as walkers. The total length (at around 38 km) would comprise a relatively easy one day cycle ride and perhaps a two day walk but there are opportunities to 'hop' on and off the rail trail.
- The trail will improve non-motorised transport connections between Merriwa and Sandy Hollow, promoting walking and cycling among local people.
- In particular, the northern end of the rail trail (at Merriwa) will provide local people with a new opportunity for walking, cycling, fun runs, wheelchair use and educational opportunities for school children.

# SECTION 11 - PROJECT IMPLEMENTATION

This Feasibility Study is one of the initial steps in the development of the proposed Upper Hunter Country Rail Trail. The fieldwork and other investigations carried out in the study have revealed a number of tasks that will need to undertaken to progress the trail through to fruition.

# 11.1 Who Should Drive the Project?

The 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.

The Upper Hunter Shire Council and the Muswellbrook Shire Council have been the primary drivers of this phase of work. The Councils 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. In other places, rail trail projects have emerged out of the community rather than being initiated by Councils. Neither approach is right or wrong; each presents challenges and opportunities. One of the challenges presented by the approach taken in this project is the need to bring the communities along with the development of the project. This could include the development of a "Friends of the Upper Hunter Country Rail Trail" or similar group (this is discussed further in Section 12).

There are a number of tasks that need completion at this early stage to ensure the project's success. These include:

- Preparation of a detailed trail development plan;
- Preparation of Corridor Management Plans (as indicated in the contents for the trail development plan) which addresses an array of issues; and
- Sourcing funds for future development of the rail trail.

These primary tasks are critical to the project's eventual success and will require human and financial resources.

It is therefore recommended that the two Councils continue to take the lead role in the next phase of the project, working in conjunction with relevant State Government agencies to implement the development of the rail trail. Following consideration of this Feasibility Study, the Councils will have developed a more detailed understanding of many of the issues and opportunities, and are ideally placed to continue to facilitate future stages.

It is important to note that the Muswellbrook Shire Council has an important role to play in this project for a number of reasons:

 The trail is the Upper Hunter Country Rail Trail, designed to attract users to the Upper Hunter. Denman in particular (which provides a number of commercial facilities sought by rail trail users) will benefit from the development of the rail trail. Other regional attractions such as wineries and hot air ballooning are promoted as part of the Upper Hunter experience – the rail trail should not be treated any differently.

- A small but significant part of the rail trail would be within Muswellbrook Shire if it were developed (around 1 kilometre including the trailhead at Sandy Hollow and the Halls Creek bridge – which could be an attraction in its own right as well as an integral part of the rail trail).
- Some landowners adjoining the corridor actually have some of their land within Muswellbrook Shire and the parcels are registered to owners with a Muswellbrook Shire address.
- The proposed signposted on-road cycling route (which will add to the rail trail's appeal) is within Muswellbrook Shire.

Ongoing management arrangements for the rail trail are likely to be shaped by any State Government policies and directions. Discussion on possible future arrangements is included in Section 12.

# 11.2 Further Investigations Required

#### 11.2.1 Structural integrity of bridges

The Scope of Works for this Feasibility Study does not include detailed engineering assessment of bridges.

All of the bridges seen during fieldwork have some prospect of re-use, but will require a detailed examination to confirm their true condition (as will all other bridges along the corridor). Detailed assessment of all bridges will determine their suitability for refurbishment or, as an alternative, the need for new structures to be installed. This level of work could be included within the recommended trail development plan or it could be carries out as a separate project.

#### 11.3 Ongoing and Additional Consultation

Detailed trail development planning is the next recommended critical phase of this rail trail project. One of the central elements in that phase would be one-on-one consultation with adjoining landholders to determine, in a cooperative manner, solutions to their particular problems. This will involve discussions on-site to determine individual solutions to individual concerns and issues such as 'stock crossings' (enabling passage of stock and farm machinery from one side of the rail trail corridor to the other); privacy screening (i.e. vegetation planting) to preserve the privacy of residents living close to the rail trail; fencing and gating requirements; and ways to prevent unauthorised entry and illegal activity along the rail trail.

Apart from consultation with 'neighbours' of the proposed rail trail, consultation and engagement with the general community is essential to garner support for the project and to elicit any issues that other people in the community may have about the project.

# 11.4 Detailed Trail Design (trail development plan)

This project is a feasibility study examining the merit and physical constraints of establishing a trail on the disused railway corridor between Merriwa and Sandy Hollow and investigating the possible links to Denman. By necessity, indicative costs and possible solutions are included. It does not provide detailed trail development planning that seeks out solutions to all specific issues, nor does it articulate detailed design solutions. It does however provide broad estimates of probable costs, based on an examination of numerous parts of the former railway corridor that identifies likely works required (clearing, trail construction, bridges, drainage, signage, etc).

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

- Individual Trail Feasibility Study establishes whether a trail route is viable; refines potential alternative 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 cost estimates and detailed works lists; identifies signage requirements and costs; provides trail inspection and maintenance schedules.

State or Regional Trails Master Plan	Local Government Trails Master Plan	Individual Trail Feasibility Study	Trail Development Plan	Trail Construction	Trail Maintenance



The Upper Hunter Country Rail Trail project is at the "feasibility" stage of the trail planning and development spectrum. Further detailed trail planning will be required for the rail trail once it has been demonstrated that it is feasible and therefore worth proceeding with.

Following the establishment of trail feasibility and the preparation of a detailed trail development plan, trail construction can 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.

If the decision to proceed is taken, the preparation of a trail development plan is the next logical step.

#### 11.5 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 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.

A staged approach to planning and development is often the best approach as it better suits the capacity of the entity charged with delivering the project. Trails can take up to 10 years to develop from initial planning stages. The "new" Bibbulmun Track in WA was some 4 years in the detailed planning and construction. This was a significant trail project with backing by the State Government – it stands out as a track planned and built relatively quickly. Other rail trail projects provide better illustrations of a realistic timeframe. A Feasibility Study for the Great Victorian Rail Trail was prepared in 2004; the trail opened in 2012. Interestingly, this trail was completely developed in one stage as the result of a large Commonwealth Government grant after the tragic Black Saturday bushfires in 2009. The Port Fairy Warrnambool Rail Trail (a 37km trail) was subject to various studies and plans from 2002; it was opened in 2010 – again all in one stage.

The criteria used to determine the recommended stages of development for the Upper Hunter Country Rail Trail were:

- Trail sections anchored in Merriwa and Sandy Hollow; this provides easier access for users and builds on associated infrastructure investments already made.
- Construct cheaper sections earlier than expensive ones (affordability).
- Construct most attractive sections first.
- Probable economic impacts.
- Finished product logic.
- Ease of access for users.
- Trailhead development.
- Numbers of rural properties through which the rail trail would pass.

Assessment of potential stages was done in a broad sense against all these criteria, rather than assessing each section against each individual criteria. Combined with the field assessment, consideration of these elements allows the determination of the implementation schedule.

The recommended stages connect the proposed trailheads and are:

- Stage 1 of construction: Merriwa to Wappinguy (12.3 kms).
- Stage 2 of construction: Wappinguy to Westwood Road (8 kms).
- Stage 3 of construction: Westwood Road to Gungal (7.1 kms).
- Stage 4 of construction: Gungal to Sandy Hollow (11 kms).

#### 11.6 Impacts on Native Vegetation

Trail construction will require the removal of vegetation along the length of the former railway corridor. Clearing will be required. Generally speaking, much of the corridor has been kept free of vegetation – in some sections, there has been regrowth though this is not extensive.

The Office of Environment and Heritage (OEH), in partnership with Local Land Services (LLS), manages the implementation of the *Native Vegetation Act 2003* and *Native Vegetation Regulation 2013*.

The *Native Vegetation Regulation 2013* makes provision for and with respect to the following:

- o development consent for clearing of native vegetation;
- the form and content of property vegetation plans (PVPs), the variation and termination of PVPs and a register of PVPs;
- the assessment of broadscale clearing, including the adoption of an Assessment Methodology for determining whether proposed broadscale clearing will improve or maintain environmental outcomes;
- clearing for private native forestry;
- routine agricultural management activities;
- o special provisions for vulnerable land; and
- miscellaneous and savings and transitional matters.

It is unclear whether the clearing of regrowth vegetation for the purposes of constructing the trail will be required. The project proponent will need to liaise with the OEH to determine whether permits will be required and/or whether offset revegetation will be required.

#### 11.7 Sourcing Funding

Once the decision is taken to proceed with the implementation of the proposed Upper Hunter Country Rail Trail, one of the first tasks will be to seek funding for the next phase which is the preparation of a detailed trail development plan (i.e. the construction blueprint). It will also be prudent to start the process of finding construction funding. All funding sources available at that time will need to be identified and funding applications prepared as soon as possible. (Funding programs often change and are subject to review – current funding programs are discussed in Section 13).

# SECTION 12 - TRAIL MANAGEMENT

#### 12.1 Overview

Once a decision is taken to proceed with the development of the proposed Upper Country Rail Trail, decisions will need to be made about the management regime that will be put in place to manage and maintain the trail. A serious commitment to long term management by the trail's proponents will be required, particularly as there is likely to be a significant investment of Government funds.

The responsibility for overseeing the preparation of this Feasibility Study has rested with the Upper Hunter Shire Council and Muswellbrook Shire Council.

Assuming funding for the rail trail is obtained and detailed planning and construction commences, ongoing management of the construction program and operation of the trail will be crucial in achieving a sustainable and well-used facility. Options are available for future management of the trail.

It is assumed that ongoing management arrangements for any rail trails in NSW are likely to be shaped by any State Government policies and directions. What follows is an explanation of standard administrative practice in Victoria (which has the most mature process for rail trail development and management) and advice on the types of skills and tasks a management committee should undertake; these elements will not necessarily be governed by whatever administrative procedures are adopted across NSW. The commentary is provided as a series of best practice notes. They are also provided for the two Councils (Upper Hunter and Muswellbrook) to consider likely ongoing arrangements if the trail proceeds.

#### 12.2 Common Elements of Good Management

While legislative regimes differ, the operations of many trails across the country are marked by a common set of features. Some common characteristics about all aspects of operation include:

- Most trails have incorporated Committees of Management; many (but not all) of these draw support from 'Friends of' groups.
- Trails that work best have one entity with primary responsibility for trail development and management (it is often, but not always, some form of Committee of Management. Ownership and maintenance responsibilities extend along the whole of a proposed trail and management structures put in place to own and manage the trail also own and manage the trail infrastructure, including the bridges.
- 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 guidelines established by the Department of Environment and Primary Industries).
- All trails predominantly use public land mostly State Government land.
- There are no charges to enjoy any trail.

- Most trails opened are 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.

#### 12.3 Committee of Management

A formal Committee of Management should be established; this is the established process in Victoria and has been successful in managing a number of rail trails. Committees of Management have traditionally absorbed the responsibility for pursuing the development of a trail including preparation of concept plans and business plans. The responsibilities of a Committee of Management as set up in Victoria are outlined in Section 3.6. There are two other critical elements – the skill sets required to drive and manage a rail trail, and the relative level of involvement of key stakeholders.

#### 12.3.1 Skill Sets

At a general level, 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;
- 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 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' needs to be considered in selecting committee members. Project initiation skills are important in the early stages whereas ongoing management skills are more appropriate once the trail is established.

#### 12.3.2 What Type of Management Structure?

There are three primary ways a rail trail (or indeed any trail) can be managed:

- o Local Government as sole manager e.g. Railway Reserves Heritage Trail, WA
- Local Government as lead player in partnership with other stakeholders (State Government and community) – e.g. Murray to the Mountains, Victoria
- Local Government as a player in the management structure e.g. Great Southern Rail Trail Victoria; Riesling Trail, SA

Each model has its advantages and disadvantages. In NSW, the process of rail trail development is almost non-existent. The existing management structure used for the Fernleigh Track (Newcastle) originally involved the two councils (Newcastle City and Lake Macquarie City) on a Joint Committee (set up under State regulations). Representation came from elected and staff representatives from both Councils, the Newcastle Cycleways Movement, the Northern Parks Movement, and a community member from each City. It is understood that this model is no longer in place (after 2012, no Councillor representation was required).

In discussions with officers at the Rural City of Wangaratta (one of the Councils responsible for the Murray to the Mountains Rail Trail), one of the key elements that came out was that the trail is seen, marketed and managed as one trail that just happens to pass through three Local Governments. This has been critical to the trail's success.

Those involved in management of the two trails where Councils are involved as simply a player believe that Councils should play a much stronger role for various reasons:

- A rail trail project needs solid and proper support from the responsible Council on an ongoing basis and preferably from the project commencement. There is a concern that a long-term vision for the trail is missing. Such long-term views are often (though not always) located within a Council rather than outside a Council structure (Great Southern Rail Trail).
- The project is a community resource (as evidence by the large number of local people using the trail), therefore the community should contribute to the trail (including through the Council).
- One of the challenges for one of the Committees is the process of renewal and that many of the Committee members have been on the Committee since inception (in the late 1990s) and new blood is needed. If a project such as the Riesling Trail sits "within the Council" i.e. is driven or at least strongly supported within the Council, the institution can take a trail through these times of transition much easier than can a community-based model.
- Council should have a significant responsibility in the trail's management it should be responsible for seeking funds, for involving the community in a meaningful way and for keeping the project going when community involvement drops (as it inevitably will at times). Many significant funding programs are open only to Local Governments (rather than community groups).
- Those involved in these trails strongly put forward the view that community involvement needs to be significant and meaningful. If this does not occur, people will say "It's Council's problem, why doesn't Council fix it?"

#### 12.4 Corrídor Management Plan

As the rail trail development plan moves towards completion and the management issues are resolved, 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.

#### 12.4.1 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.

#### 12.4.1.1 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 broad principles were developed for the Tumbarumba Shire Council to guide the development and management of the proposed Tumbarumba to Rosewood Rail Trail (which is being developed as the pilot rail trail project in NSW). The scope of principles indicates the scope of issues considered in the development of that rail trail and is provided here for information. They could be adopted for the Upper Hunter Country Rail Trail.

- **Access for all** where practical and appropriate, the Tumbarumba Rosewood 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 Tumbarumba Rosewood Rail Trail will be promoted as an additional component to the range of low cost outdoor recreational opportunities within the Tumbarumba Shire.
- **Minimal conflict between trail users** the Tumbarumba Rosewood Rail Trail will cater for walkers and cyclists with minimal conflict.
- Providing access to, and an enhanced understanding of, the natural attributes of the region - the Tumbarumba region has a diverse and outstanding range of physical attributes, and the Tumbarumba Rosewood Rail Trail will enable greater opportunities to access these natural features.
- Providing access to and an enhanced understanding of the history of the Tumbarumba region - the many physical reminders of past land uses and activities can be a major component of interpretive information available on the Tumbarumba Rosewood Rail Trail, and a greater inducement for visitors to use the trail.
- Quality promotion the trail manager will give significant emphasis to promoting the Tumbarumba Rosewood Rail Trail as part of a broader visitor experience of the region.
- **Effective and ongoing maintenance** the Tumbarumba Rosewood 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 Tumbarumba Rosewood 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 Tumbarumba Rosewood 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 Tumbarumba Rosewood 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 Tumbarumba Rosewood 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 Tumbarumba Rosewood 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).

Due to the nature of a rail trail (a 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 users, 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;
- $\circ$   $\;$  Issue permits and licences for secondary uses; and
- $\circ$   $\,$  Prohibit the transfer of ownership rights through the use of easements or other mechanisms.

### 12.4.1.2 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. The following discussion covers the range of issues generally addressed in trail management.

- What enforcement procedures will be in place?
- Will dogs be allowed on the trail? (The recommendation of this Feasibility Study is that dogs should not be permitted).
- Will camping be permitted within the rail trail corridor? (The recommendation of this Feasibility Study is that camping should not be permitted).
- What will be the weed eradication and/or long-term control program?
- Vehicle access to the trail who and how?
- Will open fires be permitted on the trail? (The recommendation of this Feasibility Study is that fires should not be permitted).
- What will be the trail construction and infrastructure standards (to be partially reviewed in the trail development plan)
- $\circ$  What will be the Strategies for the protection of native vegetation?
- Complaints/communications procedures and responsibilities
- On-trail events and group use policy
- On-trail advertising
- Commercial usage policy
- Target user groups need to be identified with a promotion and marketing plan
- Use of the trail corridor by utilities
- Consideration and amelioration of impacts on adjoining landholders covering issues such as fencing, privacy issues, trespassing, the rights to graze, who will pay for construction works that allow farmers to continue activities etc. A spirit of cooperation with adjoining landholders needs to be continued throughout the life of the rail trail particularly as two of the landholders own parts of the corridor intended for the trail. There are no rules for on-going engagement with adjoining landholders – a willingness to sit down and listen and discuss openly is

required. Having a single contact point for the trail would be a significant advantage to ensure ongoing good relationships with landholders.

 Management structures and management planning. Decisions about management structures, timetables for change and the reasons for decisions should also be included in the Corridor Management Plan.

Many of these decisions will be dictated by the existing laws and policies of the land managers.

#### 12.4.1.3 A Traíl 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 that do not have a Management Plan suffer from decisions taken on the run or made out of context.

The trail manager (Shire of Mundaring) for the Railway Reserves Heritage Trail (RRHT) in Western Australia prepared a Trail Management Plan several years ago. 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
- $_{\odot}$   $\,$  Timetable for reviewing and updating the Management Plan.

Some of the initial decisions mentioned above 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.

#### 12.4.1.4 An Emergency Response Plan

Major fire events throughout Australia in recent years have put 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.

The key elements of an emergency response plan for a trail such as this are:

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

## 12.5 Maintenance of the Proposed Upper Hunter Country Rail Trail

#### 12.5.1 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 the proposed Upper Hunter Country Rail Trail - to ensure user safety and enjoyment, and to minimise liability risks for the trail manager (such a plan needs to be part of the corridor management plan).

Estimating the cost of maintaining a trail is difficult due to the unpredictability of events such as wild fires, ferocious storms, occasional flooding and malicious damage. Heavy rains and the subsequent runoff can cause considerable damage to trail infrastructure – especially if drainage is not attended to well during the construction of the trail.

According to a report prepared by the Rail to Trails Conservancy in the USA (*Rail Trail Maintenance and Operation – Ensuring the Future of Your Trails – A Survey of 100 Rail Trails, July 2005*), the cost to maintain trails is hard to determine. The report provides two general answers for why it is difficult to estimate maintenance costs. First, the trail may be part of a larger budget for a single park or even an entire parks and recreation department. Specific costs for the trail aren't separated out. Second, small trail groups, though run by competent and extremely dedicated volunteers, tend to be 'seat-of-the-pants' operations. Maintenance is done "as needed," funds are raised "as needed," and the people are volunteering because they love the trail, not because they love doing administrative tasks like budgeting.

Maintenance responsibility does appear to significantly affect cost. Approximately 60% of the surveyed trails reporting costs were maintained primarily by a government agency, implying paid staff and/or contractors. The other 40% of trails were primarily maintained by a non-profit or volunteer organisation. Annual costs for government-run trails were just over \$2,000 per mile (\$1,250/km). This is not much more than the overall average of \$1,500/mile (\$940/km), but it nearly triples the average for volunteer-run trails of just under \$700 per mile (\$440/km).

Evidence of actual trail maintenance costs for individual items along a rail trail, or any trail for that matter, are scarce. However, the activities of a strong Committee of Management and an effective volunteer maintenance program can **significantly** reduce the maintenance burden on a local government.

In Victoria, the Murrindindi Shire Council manages and maintains approximately 85% of the (134km) Great Victorian Rail Trail. It spends around \$2,000/km on maintenance activities each year. Anecdotal information indicates that initial construction issues necessitate an increased level of maintenance of the trail surface (and drainage through

cuttings). A higher level of (initial) construction quality (i.e. better trail surfacing and better drainage through cuttings) would mean less ongoing maintenance. At present there is no "Friends of" group to undertake some of this maintenance (and lessen the cost burden of maintenance).

In Australia, 'Friends of' trails groups undertake any number of tasks. 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.



Local schools, and other groups such as service clubs maintain sections of the Port Fairy to Warrnambool Rail Trail in Victoria.

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 trail, rehabilitate flora and fauna, and encourage trail users to appreciate the environment

The Munda Biddi Trail Foundation assists with planning, developing, marketing and maintaining the trail. It enlists paid memberships, enrolls and manages volunteers, holds trail and community events, and provides information and resources to enhance the quality of the trail experience. **Over 85% of that trail is maintained by volunteers.** 

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.

Parklands Albury Wodonga is a cross-border, community-based, not for profit organisation, undertaking conservation, recreation, cultural heritage and tourism projects for the benefit of the community. They are focused on providing opportunities for people to access and experience the extraordinary range of "bush parks" in and around Albury-Wodonga. They undertake the conservation of these areas from an ecological perspective, whilst allowing sympathetic recreational access. The regional parklands includes the riverine environment of the Murray and Kiewa Rivers; tributary creek valleys; sections of the Lake Hume foreshore; the High Country Rail Trail; and the hills and ranges in and around Albury-Wodonga.

The Bibbulmun Track is Western Australia's premier long-distance walking track. The Track's success can be put down in large part 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).



*Trail managers and "Friends of ..." groups often arrange 'Adopt-a-Trail' programs to ensure the rail trail is well maintained – by volunteers.* 

The Foundation is not the track manager – this job is done by the Department of Parks and Wildlife (DPAW). 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.

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 (80%) 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 such as pruning, clearing minor obstacles, replacing trail markers and keeping campsites clean and report regularly on conditions likely to affect walkers or the long-term future of the Track itself to the track manager. The maintenance volunteers have developed the same sense of ownership of 'their' section of Track. There are also office and field activity volunteers.

The Foundation has a number of corporate sponsors 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 the case of the proposed Upper Hunter Country Rail Trail, volunteers can undertake much of the ongoing maintenance of the trail if a volunteer maintenance program is arranged.

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

sufficient to withstand high winds and theft. These should require minimal ongoing maintenance.

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

One of the most frequent maintenance task will be attending to fallen branches and limbs, repairing trail surfaces,



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

replacing stolen or damaged signs (including road signs), clearing culverts and under bridges and ensuring gates and fences are functioning as intended.

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

The goals of a Trail Maintenance Plan are to:

- Ensure that trail users continue to experience safe and enjoyable conditions;
- Guard against the deterioration of trail infrastructure, thereby maintaining the investment made on behalf of the community;
- Minimise the trail manager's exposure to potential public liability claims arising from incidents which may occur along the trail; and
- Set in place a management process to cover most foreseeable risks.

Repairs to bridges, fences and gates are also likely to be in need of maintenance along the proposed Upper Hunter Country Rail 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 rail 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 Upper Hunter Country Rail Trail 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.

#### 12.5.2 Friends of the Upper Hunter Country Rail Trail

At some point in the development of the Upper Hunter Country 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*" 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 Railsto-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 (USA), the Bibbulmun Track (WA), the Bellarine Rail Trail, the Port Fairy Warrnambool Rail Trail, and the Great Southern Rail Trail (in Victoria) 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;
- $\circ$   $\;$  Developing maps, newsletters and other publications; and
- Promoting the trail as a tourist attraction.

#### 12.5.3 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 rail 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. 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.

#### 12.5.4 Trail Maintenance Activities

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

Maintenance on the rail trail should be divided between regular inspections and simple repairs, a one (or two) person job, and quarterly programs undertaking larger jobs such as significant signage repairs or weed / vegetation control. A range of basic machinery, tools and equipment will be required for this work.

At the core of any trail maintenance program is an inspection program. The relevant Australian Standards sets out the basis for frequency of trail inspections. It only covers walking tracks and provides for inspections every 30 days (or less) for Class 1 trails, every 90 days for Class 2 trails, and annually for Class 3-6 trails. This sets the minimum standard for inspections and is a guide only. What the Australian Standards do not include but should include is an inspection of any trail after significant weather events such as storms, fire, floods, and high winds in addition to the regular inspection program. The trail should have its own maintenance plan that may, for particular reasons, have more frequent inspections. Particular needs should be recognised in an individual trail maintenance plan.

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

In general, Maintenance Plans are based around regular inspections, at which time simple maintenance activities should take place concurrently. 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.

Activity	Notes
Check, repair or replace all trail signage, esp. road-crossings and directional markers	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. Interpretive panels should be checked for damage 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.
Check and cut-back overhanging or intruding vegetation	Undergrowth vegetation grows quickly, and over time will continue to intrude into the trail 'corridor'. Such intruding vegetation will need to be cut back to provide clear and safe passage for trail users. 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 that 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.
Check condition of trail surface for erosion (or other) damage and arrange repairs if necessary; trim off regrowth vegetation	Some of the trail sections will require regular surface maintenance, though this should be minimal as the rail formation was originally constructed with drainage a major consideration. Primary focus will be on erosion damage caused by water flowing down or across the trail and by illegal motor vehicle and trail bike use. This must be repaired as soon as it is noted, or it will get worse, quickly. Earthen surfaces may need to be topped up after heavy storms, though good design will minimise such washouts.

Table 16: Key elements for a trail maintenance program

Check and clear drains	Drainage maintenance is critical. Drains need to be checked and cleared once or twice/year and after heavy rainfall events. Regular maintenance especially after heavy rainfall is essential. Most maintenance will involve clearing of material from silted up or blocked drains. Any scouring out of table drains should be stabilised as soon as possible. Drain blockages should be cleared as urgent priority. Silt traps at culvert discharges or entry points should be cleared regularly. Drains through cuttings will require attention, though care during construction of trail (through cuttings) will minimise ongoing maintenance requirements.
Check structural stability of built structures such as trailside furniture, bridges, interpretive signage, interpretive shelters	Visual inspection is appropriate though detailed inspection should follow storm events.
Maintain all non-slip surfaces	Maintenance on these surfaces is critical to prevent build up of conditions that can lead to deterioration. Leaf blowing, sweeping, gurneying and the application of algaecide are all appropriate techniques. The appropriate technique and efficiency will be subject to site conditions.
Undertake Hazard Inspection and prepare Hazard Inspection Report	This should be done annually

### 12.3.5 Costs of Maintenance

Estimating the cost of maintaining a trail in any area is particularly difficult due to the unpredictability of events such as floods, fires, high winds and stormwater runoff, as well as the tenure and management arrangements for the trail. Deliberate and willful damage and vandalism can also contribute significantly to the need for ongoing maintenance and replacement of infrastructure. As noted above, volunteers can be organised (through a coordinated program) to carry out much of the work at no cost to the management authority.

On the proposed Upper Hunter Country Rail Trail there will be numerous items that will require ongoing attention and maintenance. Fencing and gates should be installed (during the construction process) in substantial concrete footings sufficient to withstand removal by 4WD vehicles. Trail furniture (such as seats, signage, trail directional marker posts and interpretation) should be also installed in substantial concrete footings. These should require minimal ongoing maintenance.

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

The most frequent maintenance task will be attending to signage. Replacing stolen or damaged trail signage may be required, but how much time spent on this task is guesswork.

The biggest maintenance costs involved are obviously maintenance of the items that initially cost the most to install: the trail surface itself (due to erosion from stormwater runoff and usage – especially misuse by unauthorised users such as trail bike riders) and maintenance of bridges.

It is difficult estimating the costs involved in maintaining a trail until every last bridge and other infrastructure items have been installed.

Table 17 make an attempt at estimating an amount that may be required on an annual basis for maintaining the proposed Upper Hunter Country Rail Trail.

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

Table 17: Estimate of Maintenance Costs (Upper Hunter Country Rail Trail – 38km)

Task	Frequency / note	Possible Costs
Inspect and check trailhead facilities and infrastructure: - parking areas (check surfaces) - bollards and wire ropes - bicycle parking - interpretive panel - seating/shelter/picnic tables - trailhead signage (on road) - trailhead (map) panel - trail directional marker posts - distance signage - Code of Conduct signage	5 trailheads at average repairs of \$500 per site	\$2,500
Trail surface - allowance for incidental repairs to, and upgrading of, gravel trail surface.	Allowance of 2% of replacement cost (i.e. 2% of \$2,304,200).	\$46,100
Check side vegetation growth and overhead vegetation and cut back where required. Clearing of fallen trees and branches.	Allowance of 3 person days per 10km section per year (@ \$500/day).	\$6,000
Inspection and routine maintenance of bridges (all timber components, decking, handrails, etc). Check for obstructions and clearing under bridges.	Allowance of \$8,000 per year for large timber bridges, \$400 per year for short timber bridges, \$2,000 per year for new installations	\$24,400
Check and clear culverts.	Allowance of 10 hours for checking and cleaning.	\$1,000

Check road crossings. Replace damaged and/or missing signs and undertake other tasks: - Give Way signs - Road Ahead signs - Trail Crossing warning signs - Road name signs - Regulatory signs - Check sight distances and clear vegetation if necessary	5 crossings (major and minor) at average repairs of \$300 per crossing	\$1,500
Inspection of and allowance for replacement of trail directional marker logo/arrow plates and trail kilometre posts.	5 replacements per 10km section per year.	\$600
Check Emergency Marker signage and replace missing and/or damaged signs.	Allowance for replacement of one sign per year / 10km.	\$600
Allowance for repairs to trailside furniture and occasional replacements (when required).	Inspection and minor repairs every 6 months. 1 replacement per year.	\$1,000
Check miscellaneous signs along trail (eg. Road Ahead, Give Way, trail name, distance signs, "No Trespassing", bridge load signs, etc).	5 replacements per 10km section per year.	\$600
Check management access gates and fences at road crossings Make repairs where necessary.	Allowance of \$2,000 per year for repairs.	\$2,000
Check toilets where installed.	Allowance for cleaning	\$500
Check operation of stock crossings (fences, gates and grids).	Allowance for minor repairs	\$500
Check interpretation along trail for damage and structural stability.	Allowance for replacement of 1 panel per year.	\$1,000
Inspection of rail trail (3 times/year).	Allowance for 3 inspection trips per year	\$4,500
Preparation of annual Hazard Inspection Report.	1 person days @ \$1000/day.	\$1,000
	\$93.800 excl GST (pe	r annum)

This equates to a rate of approximately \$2,470 per kilometre per annum.

Note 1: Use of volunteers would substantially reduce maintenance costs.

*Note 2: Reporting of routine maintenance requirements by trail users will obviate need for many scheduled inspections.* 

*Note 3: Appointment of a Trail Manager, with responsibility for regular inspections of entire trail, will substantially reduce need for unscheduled and expensive maintenance.* 

## SECTION 13 - RESOURCES & FUNDING OPPORTUNITIES

(Note: Funding programs do change; the information presented in this report is current at the time of writing).

Once the decision is taken to proceed, one of the first tasks will be to seek development funding. All funding sources available at that time will need to be identified and funding applications prepared as soon as possible and dedicated resources made available. The Commonwealth and State Governments regularly review funding programs (particularly after elections); such decisions make the need to review this section at the time of seeking grants critical.

## 13.1 Commonwealth Government

The Commonwealth Government has indicated its desire to support infrastructure for the tourism industry through its **Tourism Demand-Driver Infrastructure Programme**. Through this programme, the government will seek to ensure that the benefits of any government investment can be multiplied across the tourism, hospitality and accommodation sectors. The program was planned to come into effect from 1 July 2014. Details on this program are yet to be made public. It appears that the programme will not directly fund proposals. The relevant website (www.austrade.gov.au/Tourism/Tourism-and-business/tddi) indicates that the Commonwealth will provide \$43.1 million over four years to the states and territories, as they are best placed to understand and prioritise their tourism infrastructure needs. Projects to be funded will align strategically with relevant state, regional and destination plans. They should drive demand, improve quality and increase tourism expenditure to assist the tourism industry in meeting Tourism 2020 targets. Projects for funding will need to fall into the following categories - environmental, built, transport and enabling. There are no further details available at the State Government level.

The **National Stronger Regions Fund** (NSRF) will provide funding of \$1 billion over 5 years, commencing in 2015 - 2016, to fund priority infrastructure in regional communities. Key elements are:

- Grants must be between \$20,000 and \$10 million.
- Local government and incorporated not-for-profit organisations are eligible to apply.
- $\circ$   $\;$  Grant funding must be matched in cash on at least a dollar for dollar basis.
- NSRF funding will be provided for capital projects that involve the construction of new infrastructure, or the upgrade or an extension of existing infrastructure.
- The project must deliver an economic benefit to the region beyond the period of construction. Projects should support disadvantaged regions or areas of disadvantage within a region.
- The NSRF funded component of the project must be completed on or before 31 December 2019.

Successful Round 1 projects of relevance are:

 The Grampians Peaks Trail Project (Victoria). The NSRF contributed \$10 million (of \$27 million) to this project, which will construct a 144km, multi-day walking trail across the length of the Grampians National Park. The project will showcase the beauty and majesty of the Park's natural and cultural landscapes. The Grampians Peak Trail will be one of the great iconic walks of Australia with an estimated visitation of 23,000 people per annum by 2020.

North East Rail Trail (Tasmania). The NSRF contributed \$1.47 million (of almost \$3 million) to this project – the construction of a 70km multi-use trail along the disused rail corridor from Launceston to Scottsdale.

(Round 2 closed on 31 July 2015).

(See <a href="http://investment.infrastructure.gov.au/funding/NSRF/">http://investment.infrastructure.gov.au/funding/NSRF/</a> for further information)

Two major tourism funding source that has been previously accessed for these types of projects – the T-QUAL grants and the Regional Development Australia Fund – were not renewed by the Commonwealth Government.

### 13.2 NSW Government

In 2014, the NSW Government announced the creation of the Regional Tourism Infrastructure Fund (RTIF). The \$110 million fund was (according to the Government) to enable regional destinations to develop their full potential by investing in critical visitor economy infrastructure, such as airport upgrades and cruise and rail trail infrastructure. In the initial announcement, \$50 million (of the \$110 million) was dedicated to rail trail development. In early 2015, the Minister for Regional Development announced that the \$50 million would be limited to two corridors -Tumbarumba Rosewood and the Northern Rivers (Casino - Lismore - Byron Bay -Murwillumbah). In June 2015, it was announced that only \$5 million would be allocated from the RTIF to develop the Tumbarumba-Rosewood Rail Trail as a pilot project. The Northern Rivers Rail Trail submission was unsuccessful. At the time of the announcement of successful funding, the responsible Minister stated that the successful application demonstrated an effective plan for community consultation, a viable operating model and potential for the initiative to generate economic and tourism benefits for the region. There was also only one proposal for the corridor (the rail trail), whereas the Northern Rivers corridor had a number of potentially competing projects.

It is understood that the NSW Government is committed to getting the Tumbarumba trail developed as a pilot project. There are a number of legislative impediments to developing a trail on Government railway. These legislative impediments – along with dedicated funding – have been significant hurdles to the development of rail trails in NSW.

In November 2014, Infrastructure NSW released the *State Infrastructure Strategy Update 2014*. It contained 30 investment recommendations to Government on the next round of critical infrastructure projects and programs for New South Wales. These recommendations will make up the \$20 billion Rebuilding NSW plan and were released as the *Rebuilding NSW State Infrastructure Strategy 2014*, with a subsequent update in February 2015. These updates include \$1.5 billion reserved for Culture and Sporting infrastructure including \$300 million for a Regional Growth and Tourism Fund. According to one recent newspaper report (Cooma Monaro Express 30/7/15), "the NSW Government has stated that the release of more funding for Rail Trails may occur after the sale of the 'poles and wires' electrical assets; an announcement to this effect is expected at the end of this year." It is understood that the sale of "poles and wires" will fund the *Rebuilding NSW State Infrastructure Strategy*. The **Regional Visitor Economy Fund** provides potential to fund material such as interpretation and promotion once the trail is established (under its product development category) but not for capital works associated with construction (see <a href="http://www.destinationnsw.com.au/tourism/business-development-resources/funding-and-grants/regional-visitor-economy-fund-rvef">http://www.destinationnsw.com.au/tourism/business-development-resources/funding-and-grants/regional-visitor-economy-fund-rvef</a> for further information).

## 13.3 Private Sponsorship

Sponsorship is big business – and very competitive. Two main options exist: either negotiate with local/national corporate entities which have a geographical and social connection with the area through which a trail passes 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.

- 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).
- BHP Billiton provided over \$200,000 for the Coast to Crater Rail Trail in western Victoria to help construction.
- 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."

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.

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 and sustainable economic opportunities (if such a link exists).

Corporate entities are looking to make community commitments in a number of ways other than direct funding. The Macquarie Bank Foundation looks to supply time and expertise as well as funding. Many other banks have both a competitive grants program and a volunteer scheme that 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. It is important to note that, when considering these options, there are often exclusivity provisions around such programmes. For example, one of the provisions of the funding programme of the Community Mutual Group (discussed in 13.4.1 below) is that there is a guarantee that no Community Mutual Group competitor will be a principal supporter of the activity.

What is important in dealing with potential corporate sponsors is to have:

- o a clear trail development plan (the next stage of work should the trail proceed);
- a well-developed message;
- $\circ$   $\,$  clear pointers as to what and where their engagement might be; and
- $\circ$   $\,$  a clear indication of how they might benefit from their involvement.

### 13.4 Other Trail Resourcing Opportunities

#### 13.4.1 Community Mutual Group (trading as Hunter Mutual)

In a funding program unique to the broader region, the Community Mutual Group (CMG) has a Community Support Program operating in its area of trading (which includes the area covered by the proposed Upper Hunter Country Rail Trail). The program covers both donations to local organisations and sponsorship of events within the region.

Any community group is able to apply for support in the form of sponsorships and donations with applications opening on 1 July and closing on 31 July each year.

The primary objective of community support is to benefit those communities and facilitate a closer relationship that allows CMG to play a key role in making a difference for the region.

Sponsorships and donations are assessed in accordance with CMG's community support policy and should fall into one of the following categories:

- Sporting
- o Arts
- o Education or employment related activities
- Community activities (e.g. festivals & fairs)
- o Environmental
- Indigenous/cultural
- o Health

A rail trail proposal could cover a number of these categories.

The Group also offers communities the opportunity to post ideas on their Heart of the Community website.

Further details can be found at www.communitymutual.com.au/community.

#### 13.4.2 Heart Foundation

The Heart Foundation 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 \$5,000 prize for the overall winner and a \$2,000 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.

#### 13.4.3 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.

#### 13.4.4 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.

#### 13.4.5 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. 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.

#### 13.4.6 Príson Crews

Crews of minimum security inmates have worked extensively in trail construction in Western Australia in the last 15 years. In the Northern Territory, NSW and Queensland, prison crews have been successfully used recently on trail and park projects.

For example, the Gympie Regional Council has partnered with Gympie Probation and Parole to help maintain the station yards of the Mary Valley Rattler. The hours committed and the dollar value of those hours are not insignificant. In 2013/14, community service workers attached to Gympie Probation and Parole contributed a total of 6,917 community service hours (valued at over \$150,000) to volunteer community groups, Council initiatives, church groups and sporting clubs across the Gympie region by community service workers.

The labour supplied by inmates goes directly towards each community organisations' and Councils' goals, while the inmates gain an opportunity to develop positive work habits, self-discipline and pro-social behaviours within a working environment.

#### 13.4.7 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.

Volunteer labour can also be used in innovative ways to benefit a number of community sectors. The Lilydale Warburton Rail Trail (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.

#### 13.4.8 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).

The Ian Potter Foundation has a number of interests, including environment and conservation (details can be found at www.ianpotter.org.au). Its' Environment and Conservation program supports small projects that combine elements of biodiversity and ecology preservation, volunteerism and community education. A trail development could fall within this mandate

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Feasibility Study

# APPENDIX 1

# Artísts Impressions



Above: The publicly owned corridor passes through attractive farmland and over numerous watercourses. Below: Fencing of the corridor as well as decking and handrails on bridges are fundamental requirements.



Mike Halliburton Associates and Transplan Pty Ltd



Above: Attractive landscapes and flat grades are two of the reasons why rail trails are popular. Below: Fencing and gates will be major components of the cost of developing the rail trail.



Mike Halliburton Associates and Transplan Pty Ltd



Above: The proposed rail trail passes through several cuttings and along numerous embankments. Below: Cuttings (as well as embankments and bridges) are features sought by rail trail users.





Above: Fencing is required on one side only where corridor is adjacent to roads. Below: The proposed rail trail passes through very attractive landscapes.





Above: Stock crossings can be built to allow unlimited movement of stock and farm machinery. Below: Crossings can be built to alow adjoining landowners to have control over gates.



Mike Halliburton Associates and Transplan Pty Ltd

## APPENDIX 2

## Raíl Traíl Plans 1-5