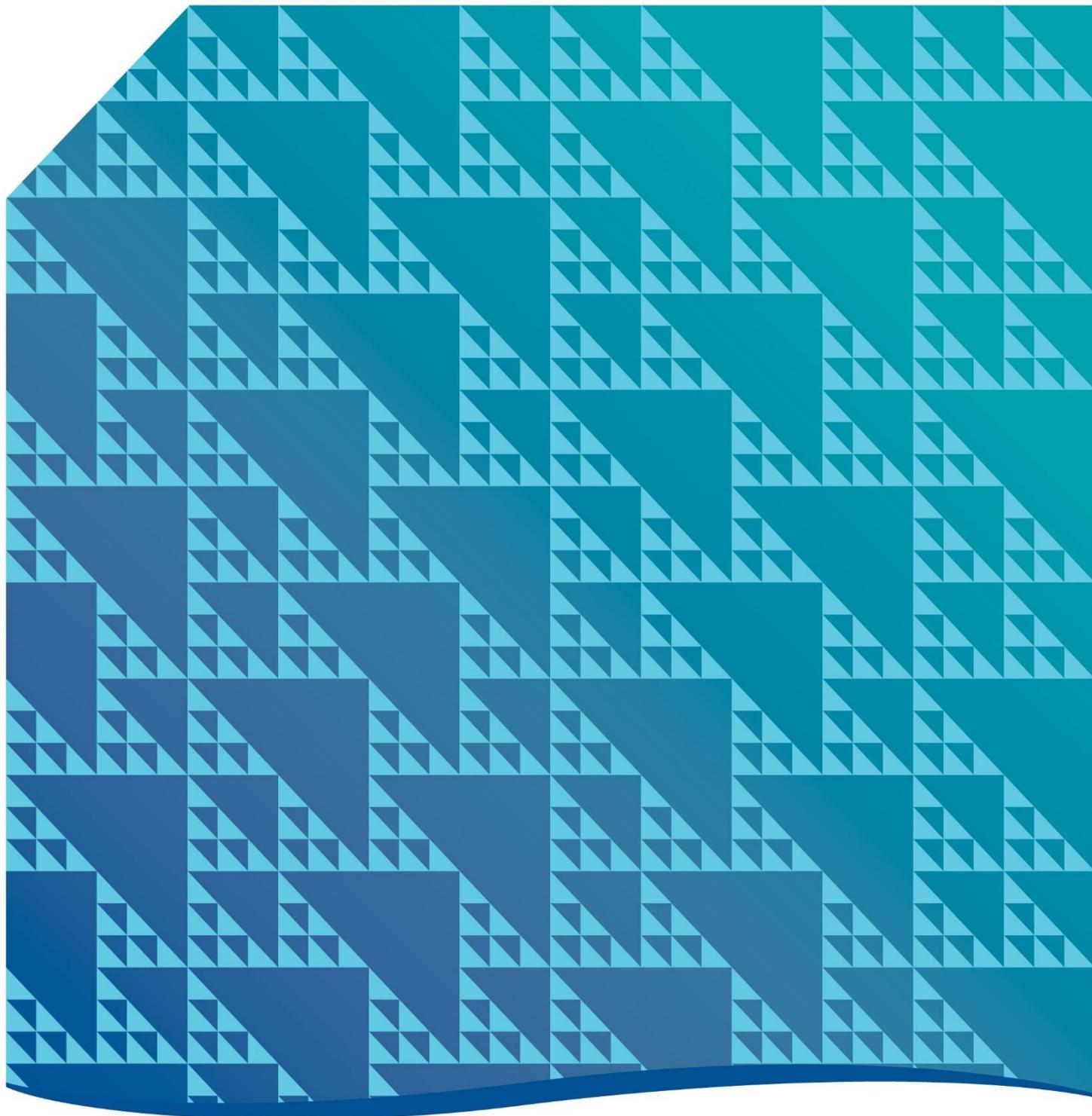


Final advisory report

October 2017

Review of Launceston & North East Railway's proposal for a tourist/heritage rail service on the North-East Rail Line



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Executive Summary

The Tasmanian Government committed to assessing the merits of a proposal submitted by the Launceston and North East Railway (L&NER) to re-establish a passenger rail experience between Launceston and Scottsdale on what is currently a non-operational line within the Tasmanian rail network.

Infrastructure Tasmania procured two consultants, Raylink and Linqage International, to assist in assessing the cost of track rehabilitation required to run the service proposed by L&NER and the viability of L&NER to bring the track to a necessary standard and then to provide a sustainable, ongoing service.

Both consultants commenced their work by meeting with L&NER to understand its proposal in more detail and provided drafts of their reports to L&NER. This engagement ensured that while there remain differences in opinion between the consultants (Raylink in particular) and L&NER, each party is aware of the other's position and L&NER, in particular, clearly had the chance to provide additional information to support its claims.

Raylink's advice costs the upgrade of the North-East Line from Turner's Marsh through to Scottsdale to a level suitable for operation of the service envisaged by L&NER at \$15.9 million. The Raylink report suggests that while the existing rail, ballast and bridge structures are largely in good condition, it has a number of concerns. These concerns include: the condition of the rail joints, the need to replace approximately 15,000 sleepers, the condition of bridge decking, the need to replace two bridges in their entirety and the potential that rail through level crossings may have degraded over the 13 year in which trains have not been running, such they need to be visually inspected and potentially rehabilitated. Raylink also costed the 15 level crossings that will need active protection at \$5.25 million alone.

Linqage assessed that L&NER has assembled the resources and skills necessary to deliver upgraded infrastructure in stages over a six-year period (two years for each of its three stages), with Work for the Dole resources being crucial to the delivery. Linqage also advises that there is the potential for L&NER to operate without the need for any external funding support, despite having overlooked a number of operational costs necessary when running a tourist/heritage service. Linqage notes that it believes there is the potential for upside in the outlook for L&NER if it is to develop a more mature product offering that provides the premium experiences and related events, which are success factors in other tourist/heritage railways across Australia.

However, Linqage also notes that there are considerable differences in L&NER's expected cost of upgrading the track, even when contributed resources are taken into consideration. This stems from both differing resourcing approaches to agreed engineering works (e.g. a less than \$200,000 cost for the 15 level crossings requiring active protection) and disagreements on the need for other engineering works (e.g. rail joint rehabilitation).

Infrastructure Tasmania is of the opinion that L&NER has a number of the elements to deliver a tourist rail service on the North-East Line:

- It has a good mix of skills in its Board, supplemented by key advisors with strong backgrounds in the industry and significant volunteer contributions of plant, equipment and labour.
- The offerings proposed, particularly in the first and second stages, come with attractions that are comparable with any tourist railway in the country.
- It also appears that the patronage forecasts are conservative, particularly given tourist visitation in the Launceston and Northern region catchment are considerably stronger than most regional tourist railways.
- The expected two-year time frame to get each stage up and going does not appear particularly optimistic and is in keeping with the largely volunteer model of resourcing being pursued.
- A seemingly strong network of supporters, particularly from agricultural enterprises bordering the line.

However, there are some challenges to elements of L&NER's proposal that may affect its ability to deliver on time and to budget. These risks relate to:

- the use of dedicated Work for the Dole crews over a minimum six year period to complete capital upgrade work and then move into an operational phase;
- the approval of L&NER's Safety Management System, particularly relating to level crossing infrastructure;
- the ongoing commitment needed for plant and equipment from sponsors, particularly if competing demands with commercial imperatives arise;
- a lack of significant working capital or reserves;
- the performance of frozen rail joints; and
- lack of maturity regarding the service offering.

On balance, Infrastructure Tasmania is of the view that this proposal has potential merit and the risks to delivery, while challenging, may not be intractable.

It is noted that there is a competing, funded proposal being pursued by the Dorset Council, which also has significant community support, but which involves removal of all rail infrastructure.

While there may be the opportunity for a compromise to be reached between proponents in splitting the use of the corridor, both parties have committed strongly to their respective proposals.

Infrastructure Tasmania has investigated the possibility of shared use of the rail formation between the competing end-users, but found that excessive costs would be insurmountable.

Given the competing proposals for use of the rail formation and the fact that both projects have substantial merit, it is difficult to differentiate between both opportunities.

For this reason, Infrastructure Tasmania recommends that the Department of Treasury and Finance be requested to commission an economic analysis of the benefits and risks of both proposals to the Tasmanian community to inform the Government's position as to which project or combination of projects to support.

I Background and Methodology

The Tasmanian Government committed to assessing the merits of a proposal submitted by the Launceston and North East Railway (L&NER) to re-establish a passenger rail experience between Launceston and Scottsdale on what is currently a non-operational line within the Tasmanian rail network.

With the recent passing of the *Strategic Infrastructure Corridors (Strategic and Recreational Use) Act 2016* and the intent to appoint Dorset Council to be the manager of the corridor for the purposes of implementing a cycle trail along much of the non-operational line, the Government saw it necessary to ensure a timely assessment of the claims of the L&NER relating to its capability to implement a sustainable passenger rail service before further progress on the bike trail was made.

The Treasurer asked Infrastructure Tasmania to procure third party assistance in completing the assessment of the viability of L&NER to bring the track to a necessary standard to run a heritage/tourist railway and then to sustainably provide an ongoing service.

Infrastructure Tasmania procured the services of two consultants for this analysis. The first was Raylink Consulting, a rail track engineering consultancy with more than 30 years' experience in the industry. Its principal, Ray Bartlett, has a strong, relevant background in Victoria's Public Transport Corporation and Department of Transport, particularly in relation to predicting project costs. Raylink was engaged to cost the works required to bring the track back to a standard fit for the operation proposed by L&NER.

The second consultant engaged was Linqage International, a consultancy that specialises in the operational requirements of tourist railways, having worked with many of the operational tourist/heritage railways around the country. Its principal, Chris Le Marshall, is also retained by the Australian Rail Association as its heritage liaison officer. Linqage was engaged to examine the capability and capacity of L&NER to upgrade the North-East Line and then run a sustainable service.

Both consultants commenced their work by meeting with L&NER to understand its proposal in more detail and provided drafts of their reports to L&NER. This engagement ensured that while there remain differences in opinion between the consultants and L&NER, each party is aware of the other's position and L&NER in particular had a chance to provide additional information to support its claims.

Through these initial discussions, it became evident that the proposal document released by L&NER in December 2016 had progressed, such that it was no longer the most current statement of its aims. L&NER confirmed that its current proposal envisages a three-stage development:

1. Turner's Marsh through to Lilydale Falls using a railcar;
2. An extension of Stage 1 through to Wyena and Denison Gorge, also using the railcar; and
3. A final upgrade through to Scottsdale, where railcar would continue to service Stages 1 and 2, but a locomotive would be introduced to run a weekly whole of length service (initially the proposal was to use a steam locomotive, but a diesel locomotive is now thought more achievable in the short term).

Both consultants drove the track in a hi-rail vehicle with assistance from TasRail personnel, and interviewed a number of stakeholders. The consultants delivered detailed reports from which Infrastructure Tasmania has made the following observations and conclusions.

2 Summary of Raylink report

Raylink's advice costs the upgrade of the North-East Line from Turner's Marsh through to Scottsdale to a level suitable for operation of the service envisaged by L&NER at \$15.9 million. This is made up of \$5.6 million for the first stage from Turner's Marsh to Lilydale Falls, \$4 million from the Falls to Wyena and then a final stage cost of \$6.3 million through to Scottsdale.

Of this amount, the major line items relate to:

- \$5.25 million for flashing light installation at 15 actively controlled level crossings;
- \$1.89 million in re-sleepering works;
- \$1.45 million in level crossing rehabilitation;
- \$0.94 million in rail joint rehabilitation;
- \$0.65 million in bridge works (including rebuilding two bridges entirely); and
- \$2.64 million in contingency (nominal 20 per cent of the sub total).

All Raylink's estimates used unit rates for each element and the derivation of these are included within the Raylink report. Raylink assumed that each element of materials, plant and labour would need to be sourced through market procurement and, as such, the cost represents a commercial cost that TasRail, or equivalent organisation, would face.

The Raylink work did, however, accept the proposition from L&NER that it would have access to second-hand steel sleepers from TasRail and therefore did not cost the materials component of the re-sleepering task.

It was asserted by L&NER, and supported by Linqage, that tourist/heritage railways rely on volunteer resources as part of their operating models and therefore the cost may not be as large as the Raylink estimate. To acknowledge this sectoral norm, L&NER was asked to provide an itemisation of the in-kind contributions it has already sourced, such that an estimate of the reduced cost of the works could be made. Linqage International then took this itemisation and assessed, through discussions with L&NER, each of its assumptions.

In summary, the Raylink report suggests that while the existing rail, ballast and bridge structures are largely in good condition, there were concerns about the condition of the rail joints, the need to replace approximately 15,000 sleepers, the condition of bridge decking, the need to entirely replace two bridges and the potential for rail through level crossings to have degraded over the 13 years in which trains have not been running, such they would need to be visually inspected and potentially rehabilitated.

3 Summary of the Linqage report

The Linqage report assessed not only L&NER's ability to do the works needed to bring the track up to standard, but also its capability and capacity to sustainably run a tourist/heritage service in the long-term.

Linqage's assessment of the L&NER Board and its key advisers is that it has a diverse and complementary set of skills that are equal to the boards of equivalent organisations around the country.

Linqage advises that a two-year construction period for each of the stages is possible on the basis of the resources L&NER identified. That is, it believes it is reasonable to expect that L&NER could conceivably upgrade the track through to Scottsdale within six years. This is dependent on the use of people undertaking Work for the Dole providing the labour for the track upgrades, with the Work for the Dole program meeting the cost of the lead supervisors, who would provide the technical guidance and knowledge for replacement and tamping of sleepers. It is L&NER's plan to use this team to complete the other works on the line like drain and vegetation clearing and bridge works. Linqage notes that this model has been employed by L&NER's advisors through their involvement with Sheffield Steam and Heritage Centre so it is reasonable to assume this model could be transferred to the North-East Line.

Linqage also include an itemised list of volunteer labour, plant and equipment that L&NER has sourced, which Linqage believes would enable it to provide the Work for the Dole teams with the necessary equipment to complete the required works. L&NER has also advised that it already has the railcar it intends to use on the first stage.

As discussed in section 4 below, there is, however, a considerable difference in L&NER's expected cost of upgrading the track, even when contributed resources are taken into consideration. This stems from both differing resourcing approaches to agreed engineering works and disagreements on the need for other engineering works. These differences are the major area of concern for Infrastructure Tasmania in assessing the findings of the consultancies.

Linqage believes that the service offering of excursions to Lilydale Falls and the Denison Gorge, would be comparable to any offering in this sector around the country and in this sense should be attractive to tourists visiting the region. Linqage also notes that the patronage of heritage/tourist railways around the country have been shown not to be limited to rail enthusiasts, who only make up around two per cent of visitors, but instead appeal to families and tourists alike. In short, it is the experience and related offerings at the points where passenger disembark, be it sightseeing or wine tasting, that are most important for success of the railway.

However, Linqage states that L&NER's service offering is immature and does not consider a number of the events and features that other heritage/tourist railways provide, such as premium experiences, which have greater margins. This suggests that there may be some passenger and revenue upside for L&NER if it widens its product offering. Notwithstanding this, Linqage believes the forecast patronage numbers are conservative given the interstate and overseas tourist catchment of greater Launceston and the potential for intrastate visitors.

Linqage has assessed that L&NER's costings for ongoing operations were, however, deficient. While the elements L&NER has included appear reasonable, there are a number of cost items that L&NER had not accounted for, particularly those relating to the administration and marketing of the railway, which would require paid resources.

Despite the additional costs, Linqage expect the revenues proposed by L&NER (which are based on the patronage and ticket pricing estimates that Linqage validated) support a break-even operation, with the third phase delivering potentially the greatest surplus due to its potential to haul more passengers per trip. Linqage notes that surpluses are needed to build a risk management reserve in the event of a major events such as a rail line washout or railcar breakdown. If L&NER intends in the long term to run a steam locomotive, such surpluses would also be necessary to build a buffer for the considerably increased maintenance costs associated with that technology when compared to a diesel locomotive.

On the basis of the above information, Linqage has assessed that L&NER has assembled the resources and skills necessary to deliver an upgraded railway in stages over a six-year period (two years per stage) and the ability to continue to operate without the need for any external support. Linqage also notes the potential for upside in the outlook for L&NER under a more mature and diverse product offering, which would provide the premium experiences and occasional events that other tourist/heritage railways across the country make greater margins on.

4 L&NER challenges

Linqage has noted that L&NER has put together a solid initial proposal. However, there are some areas of contention between the Raylink assessment and L&NER's track upgrade strategy that may present implementation challenges. While none are insurmountable, the key challenges are documented below.

4.1 Track Upgrade

4.1.1 Level Crossing Active Protection and Safety Management System

Linqage indicates that while Raylink costs active protection of each of the 15 crossings at \$350,000 apiece, L&NER believes it could complete the works for \$13,000 apiece using technology deployed elsewhere in the tourist railway industry.

However, the difference between the Raylink and L&NER estimates equates to over \$5 million. Given this is the only item of L&NER's proposal that is unfunded, there is a risk that this cost will be higher than expected. Whether L&NER's system will be assessed as fit-for-purpose by the Office of National Rail Safety will be largely determined by L&NER's complete Safety Management System (SMS).

4.1.2 Rail Joint Condition

Raylink's professional opinion is that the rail joints are likely largely frozen and therefore are unable to accommodate the thermal expansion and contraction that occurs in warmer weather, which puts the rail at increased risk of not being able to withstand the weight of the railcar/locomotive and hold gauge. Raylink has suggested the fish plates making these joints be taken off, wire brushed, regreased and rebolted to ensure the necessary movement can occur.

L&NER's rail engineer, who is known to Linqage and assessed as an experienced engineer in the field, has a different view that the freezing of these joints means they act much like welded rail and will not pose any buckling or derailment risks.

Raylink advises Infrastructure Tasmania that there are engineering tests that can be completed on the rail to more accurately understand if this stressing and destressing will cause an issue at the joints, but L&NER has not yet completed these tests.

Raylink costs these works at close to \$1 million, so this element also represents some downside cost risk to L&NER.

4.1.3 Sleeper Availability

L&NER are confident that there are sufficient numbers of steel sleepers coming out of the TasRail works on the southern line which can be recycled to replace the 15,000 sleepers required across the three stages.

L&NER has stated that they have an alternative option from a Tasmanian based business if TasRail cannot provide the sleepers required. These are treated wooden sleepers which would be provided free and are understood to have a similar life expectancy as recycled steel sleepers and therefore wouldn't impact on the ongoing sleeper replacement rates assumed.

It is understood that L&NER has a preference for steel sleepers. Infrastructure Tasmania's discussions with TasRail have not enabled it to determine whether TasRail's replacement program on the southern main line will yield the quantity of steel sleepers required, or indeed how any steel sleepers that can be recycled would be

allocated between the various tourist/heritage railways that would like access. This is a resource that the Government should have a degree of influence over if it is seen as crucial to L&NER's delivering its proposal.

4.2 Operational Elements

4.2.1 Volunteer catchment

Linqage states that volunteers are crucial to the operation of tourist/heritage railway. They provide rolls as diverse as train drivers, ticket collectors, maintenance workers and administrative and clerical functions. Linqage note that volunteer burn out is a concern and as such expecting too much from your volunteers can be a key risk for a tourist/heritage railway. Linqage site the experience of Puffing Billy Railway that has around 1000 active volunteers from a catchment of 3 million people and concludes that L&NER could expect around 150 volunteers drawn from Greater Launceston, the north-west and Greater Hobart. This implies a catchment of 450,000, which is approximately 85 per cent of the State's population.

Infrastructure Tasmania deems this variable as a possible resource shortfall risk if the numbers expected do not materialise.

4.2.2 Long term use of Work for the Dole resources and volunteer plant and equipment

The key platform of L&NER's track upgrade strategy is the use of Work for the Dole labour. While L&NER has already identified key supervisors for the teams it intends to use, this strategy is dependent on a long term commitment from the scheme over a six year period (and desirably beyond). This program is known to not be favoured by the Federal opposition and as such, a change of government nationally represents some risk to this strategy.

L&NER has indicated that they intend to try and work with the relevant authorities to progress a qualification for those involved in the works, such that the model may have longevity in the face of a change of government who has more a focus on skills training for jobseekers.

There is also potential for a lack of continuity of workers as Work for the Dole scheme members either move to paid employment or withdraw from the labour market. While this may not be critical, it may lead to some delays as induction and training of new workers occurs.

To enable the Work for the Dole teams, contributed plant and equipment would need to be on almost permanent loan while the teams operate, as there are only so many manual tasks that can be completed, particularly while sleeper replacement and tamping occurs. This will take a long term commitment of L&NER's sponsors. Availability and condition of plant and equipment cannot be taken as a given, particularly over such a long term rehabilitation.

4.2.3 Working capital and operating at a surplus

While Linqage do state that the railway would need any of its forecast operating surplus for catastrophic events requiring large cash injections, such as a railcar failure or bridge washout, there may be a number of unforeseen costs in the early years of operations. The Raylink estimate uses a 20 per cent contingency figure which is based on significant experience of the variability of projects that are at this stage of design detail.

While L&NER may be able to mobilise its resources should such eventualities occur, they currently have no working capital and, according to Linqage, could expect to raise only \$40,000 per annum from memberships in the early years to go to working capital.

For these reasons, there may be some risk that L&NER do not have the contingency they expect to build.

4.2.4 Immaturity of the service offering

While L&NER appear to have a good mix of experience within their Board and key advisors to assist in the infrastructure and engineering related elements of commencing and operating a railway, as Linqage stated, its product offering is immature.

This is likely be a reflective of a focus on what is needed initially, however, there is a very different mix of skills required in terms of developing a service offering desired by the market. The natural attractions of themselves are important and L&NER point to a number of vineyards, farms and galleries that are located along the route or a short bus ride from it. However, it is how these experiences would be integrated that is not clear, nor is there an indication of a longer term plan for the types of offerings that appear successful for other tourist/heritage railways around the country (e.g. food and beverage offerings, merchandising, complementary events).

5 Conclusions

Infrastructure Tasmania is of the opinion that L&NER has a number of the building blocks that could deliver a tourist rail service on the north-east line:

- It has a good mix of skills in its Board, supplemented by key advisors with strong backgrounds in the industry and significant volunteer contributions of plant, equipment and labour.
- The offerings proposed, particularly in the first and second stages, come with attractions that are comparable with any tourist railway in the country.
- Patronage forecasts appear conservative, particularly given tourist visitation in the Launceston and Northern catchment is considerably stronger than that in most regional tourist railway catchments around the country.
- The expected two year time frame to get each stage up and going does not appear bullish and is in keeping with the largely volunteer model of resourcing being pursued.
- A seemingly strong network of supporters, particularly from agricultural enterprises bordering the line.

However, there are some challenges to elements of L&NER's proposal that may impact its ability to deliver on time and to budget. These risks relate to:

- the use of dedicated Work for the Dole crews over a minimum six year period to complete capital upgrade work and then move into an operational phase;
- the approval of L&NER's Safety Management System, particularly relating to level crossing infrastructure;
- the ongoing commitment needed for plant and equipment from sponsors, particularly if competing demands with commercial imperatives arise;
- a lack of significant working capital or reserves;
- the performance of frozen rail joints; and
- lack of maturity regarding the service offering.

On balance, Infrastructure Tasmania is of the view that this proposal has potential merit and the risks to delivery, while challenging, are not intractable.

It is noted that there is a competing, funded proposal being pursued by the Dorset Council which also has significant community support.

While there may be the opportunity for a compromise to be reached between proponents in splitting the use of the corridor, both parties have committed strongly to their respective proposals.

Given the competing proposals for use of the rail formation and the fact that both projects have substantial merit, it is difficult to differentiate between both opportunities.

For this reason Infrastructure Tasmania recommends that the Department of Treasury and Finance be requested to commission an economic analysis of the benefits and risks of both proposals to the Tasmanian community to inform the Government's position as to which project or combination of projects to support.



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