Narrandera to Tocumwal Rail Line Reopening Feasibility Study

Executive Summary

February 2019 | Version: 1

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1 Introduction

In 2017 Narrandera Shire Council made a Fixing Country Rail submission for funding of a feasibility study into the reinstatement of the Narrandera to Tocumwal Railway Line, which is part of the NSW Country Regional Network (CRN).

In October 2017, NSW allocated funding from the Restart NSW fund to complete a feasibility study for the reactivation of the 180km non-operational Narrandera to Tocumwal Railway Line in recognition of the significant potential benefits to NSW primary producers, businesses and communities in the region resulting from a potential rail line reinstatement.

This Executive Summary outlines the findings of the assessment undertaken between April and August 2018 on the project's viability.

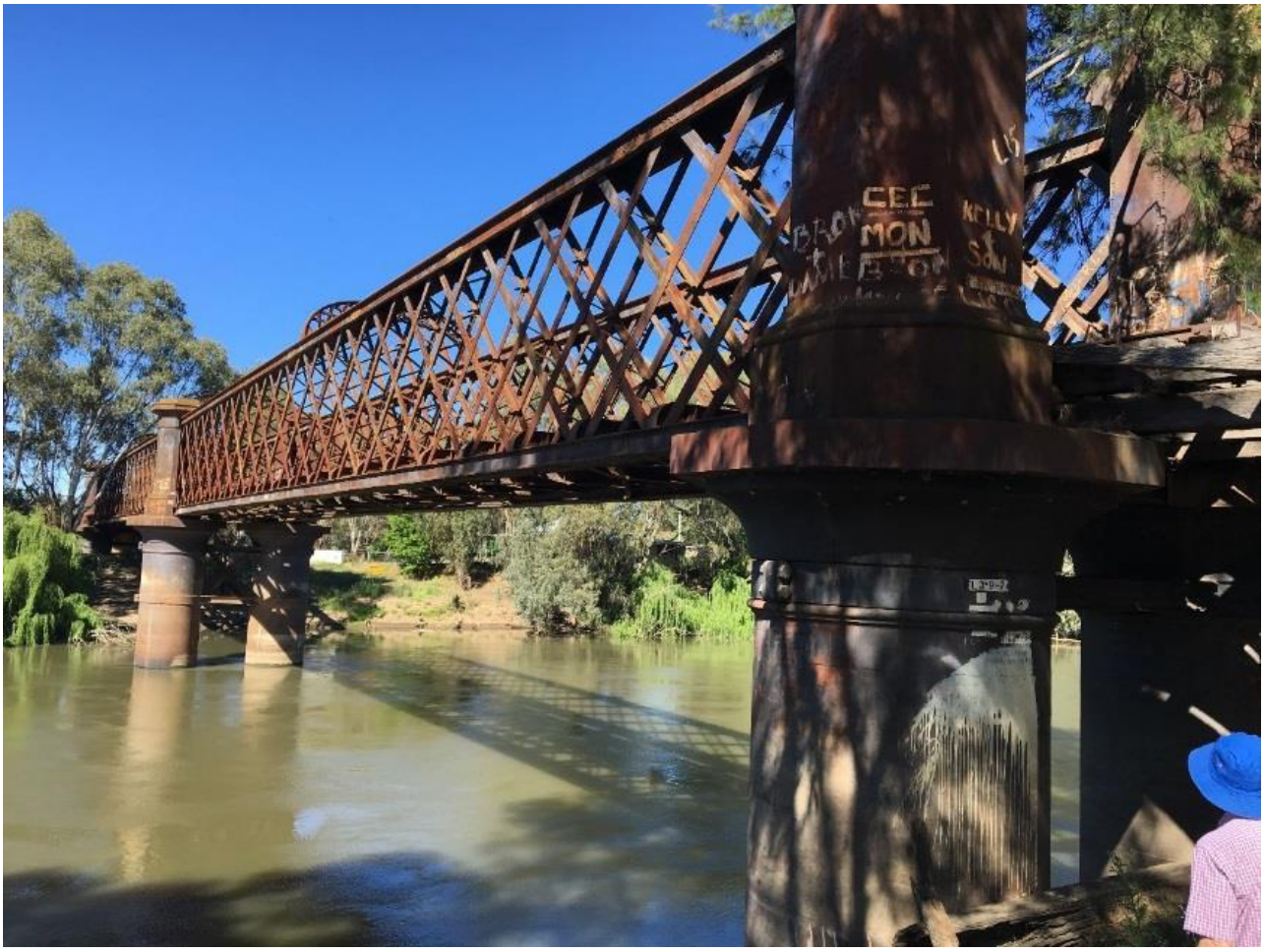

Figure 1 – Narrandera Truss Bridge across the Murrumbidgee

2 Feasibility Study Objective

The objective and scope of the Feasibility Study included a detailed analysis of the demand for usage of the line, in addition to an economic and financial analysis to determine the strength of the case for reopening. In assessing the economic case, an analysis of the existing infrastructure and upgrade requirements was required, including the identification of potential land use and environmental issues.

The study included:

- Investigating the layout, design and cost of reinstatement works
- Undertaking a detailed assessment of the project's viability on environmental, social and economic criteria, including an economic cost benefit evaluation
- Identifying any preconstruction requirements to guide the construction of the project, should it proceed.

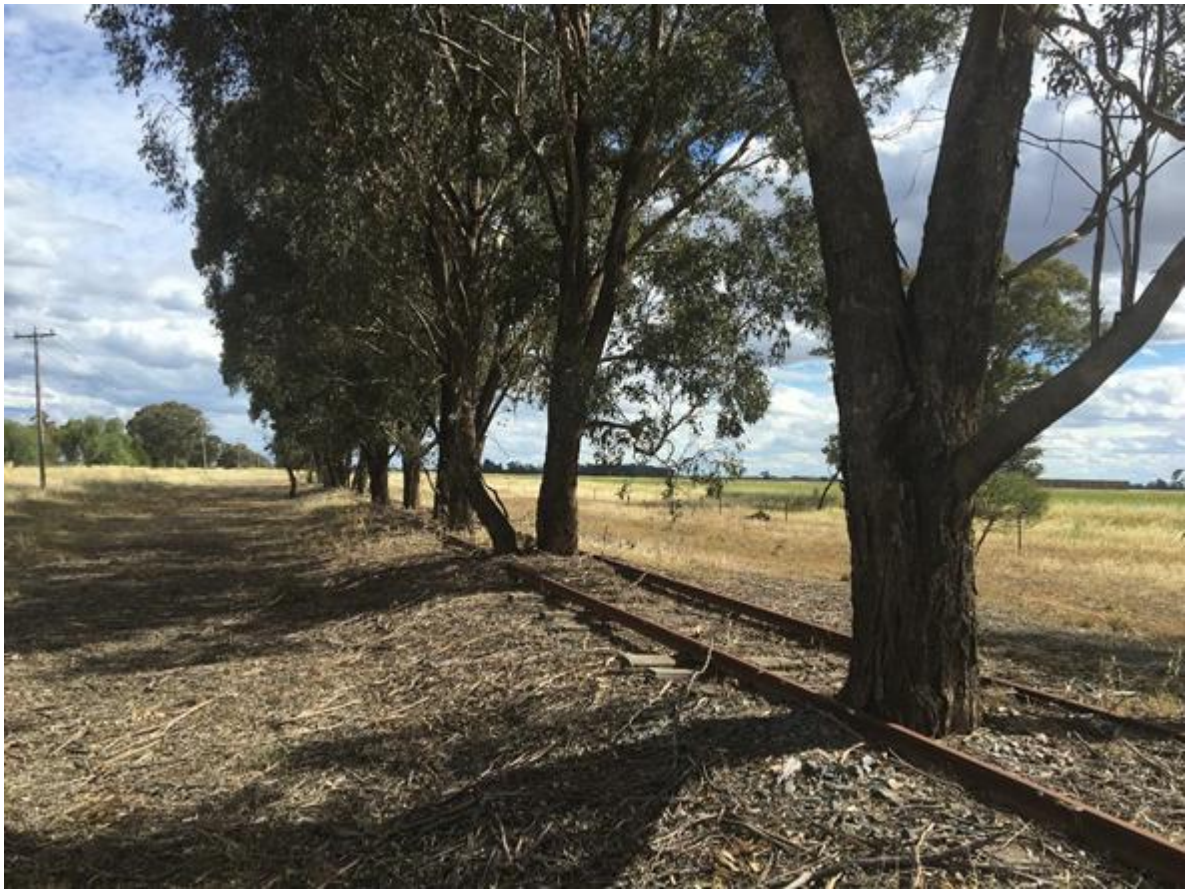

Figure 2 – Trees growing within the rail corridor north of Tocumwal

3 Background

The non-operational 180 kilometre Narrandera to Tocumwal Railway line was successively opened, initially to Jerilderie in 1884, then extended to Berrigan in 1896, Finley in 1898 and Tocumwal in 1914. There was a break of gauge at Tocumwal with the Victorian Railways Goulburn Valley Railway Line. At Narrandera, the line connects to the Griffith to Junee.

The last goods train from Tocumwal to Narrandera operated in 1985, and traffic ceased over the line south of Jerilderie in September 1986. The entire line was no longer in service in December 1988.

The region produces significant agricultural volumes including grains, rice and horticulture. The majority of goods produced for export within the identified catchment are shipped via the Port of Melbourne.

Tocumwal maintains a regular rail service on the Victorian network.

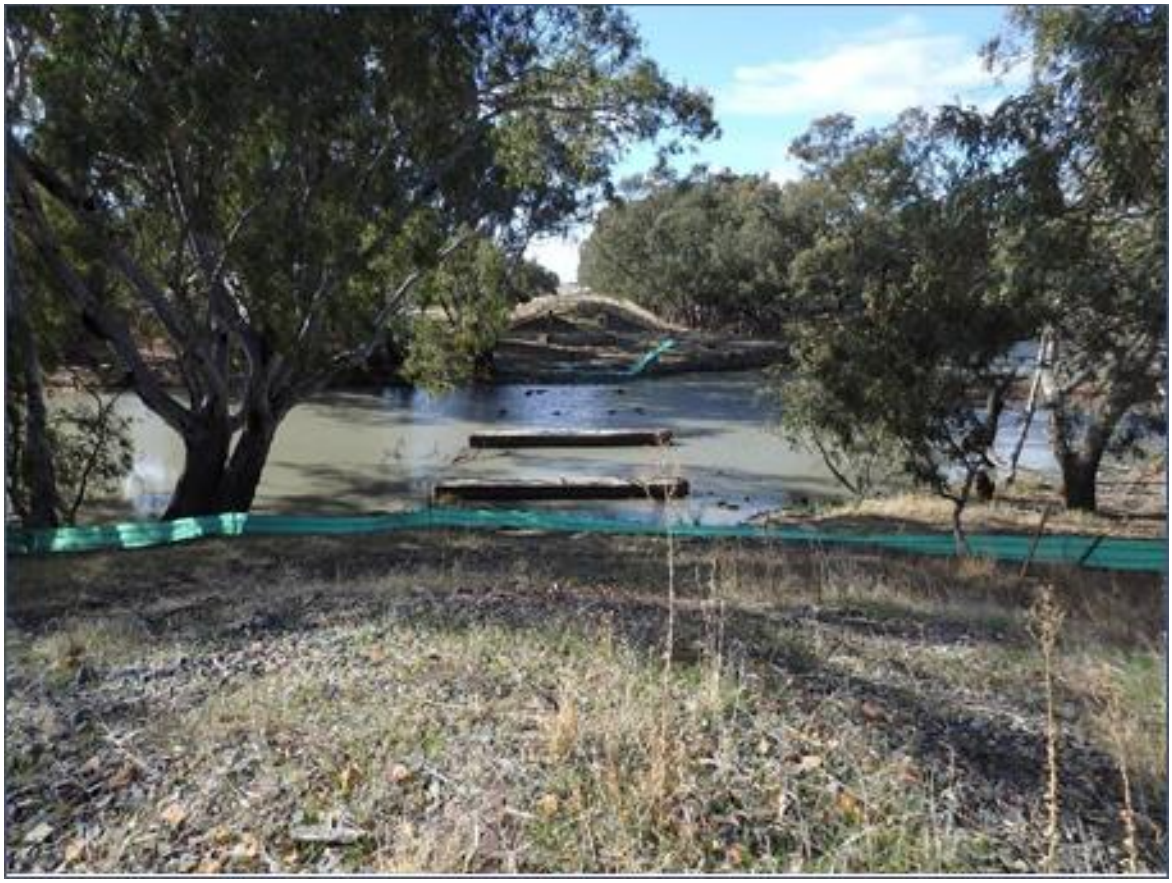

Figure 3 - Removed Underbridge over Billabong Creek, Jerilderie

4 Strategic Importance of the Project

Narrandera is centrally located to reach 80% of the Australian population within 8hrs.

Narrandera is located at the south eastern extent of the Murrumbidgee Irrigation Area (MIA), a strategically important food bowl. The major towns along the Narrandera to Tocumwal rail line are also within the rich agricultural areas covering the Coleambally Irrigation area and the Murry Valley Irrigation District.

The region is responsible for a large share of Australia's agricultural production and serves both domestic and international markets.

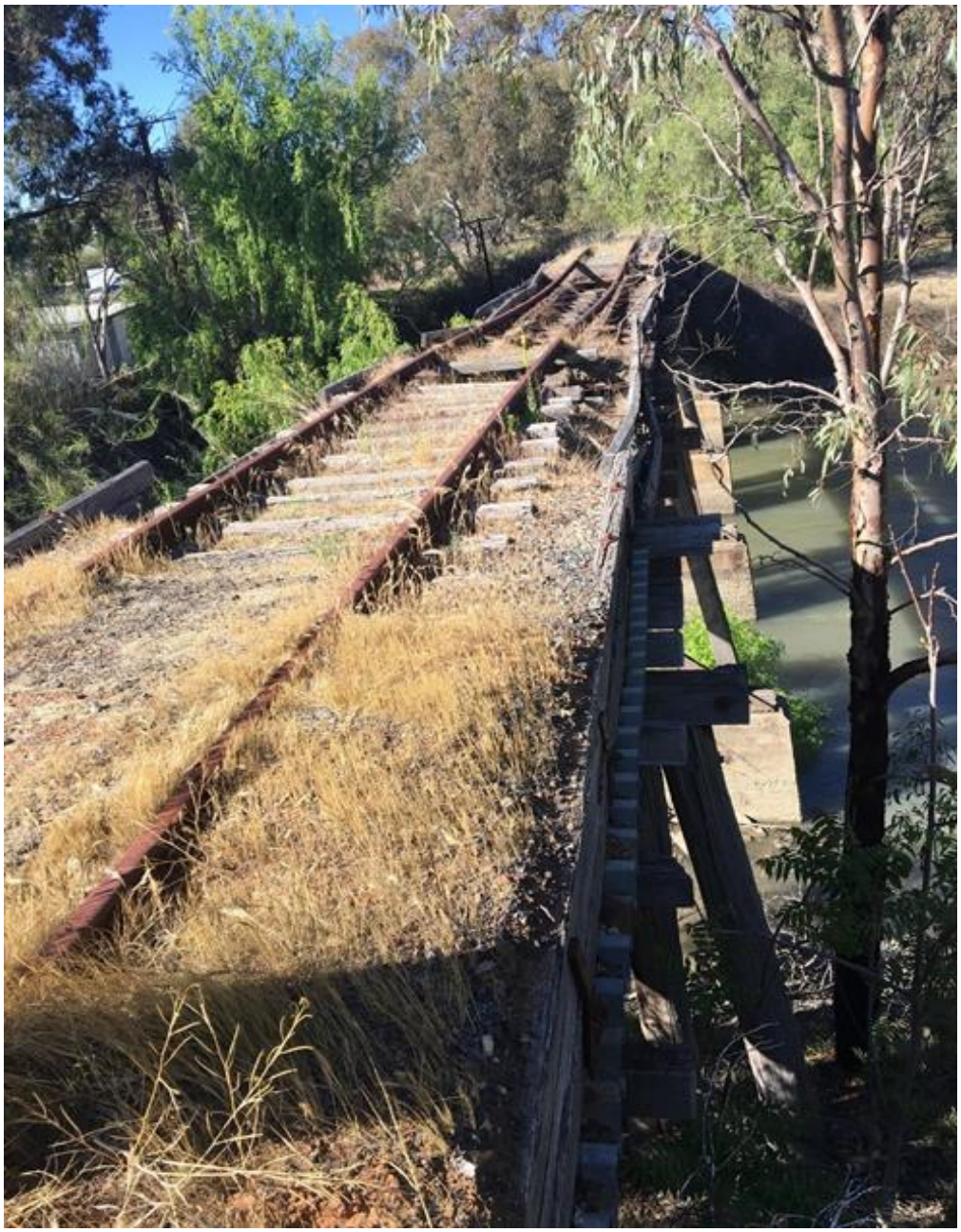

Figure 4 – Typical Timber Ballast Deck Structure

5 Options Considered

In summary a total of nine upgrade options were considered for reinstatement of the Narrandera to Tocumwal line during the assessment process. The options considered are listed below:

- Base Case: current situation (line reinstatement to previous operational capacity)
- Option 1: Re-instate at 19TAL, no connection through to Melbourne
- Option 2: Re-instate at 21TAL, no connection through to Melbourne
- Option 3: Re-instate at 25TAL, no connection through to Melbourne
- Option 4: Re-instate at 19TAL, with connection through to Melbourne
- Option 5: Re-instate at 21TAL, with connection through to Melbourne
- Option 6: Re-instate at 25TAL, with connection through to Melbourne
- Option 7: Re-instate at 19TAL, no connection to the Junee – Griffith Line with connection to Melbourne
- Option 8: Re-instate at 21TAL, no connection to the Junee – Griffith Line with connection to Melbourne
- Option 9: Re-instate at 25TAL, no connection to the Junee – Griffith Line with connection to Melbourne.

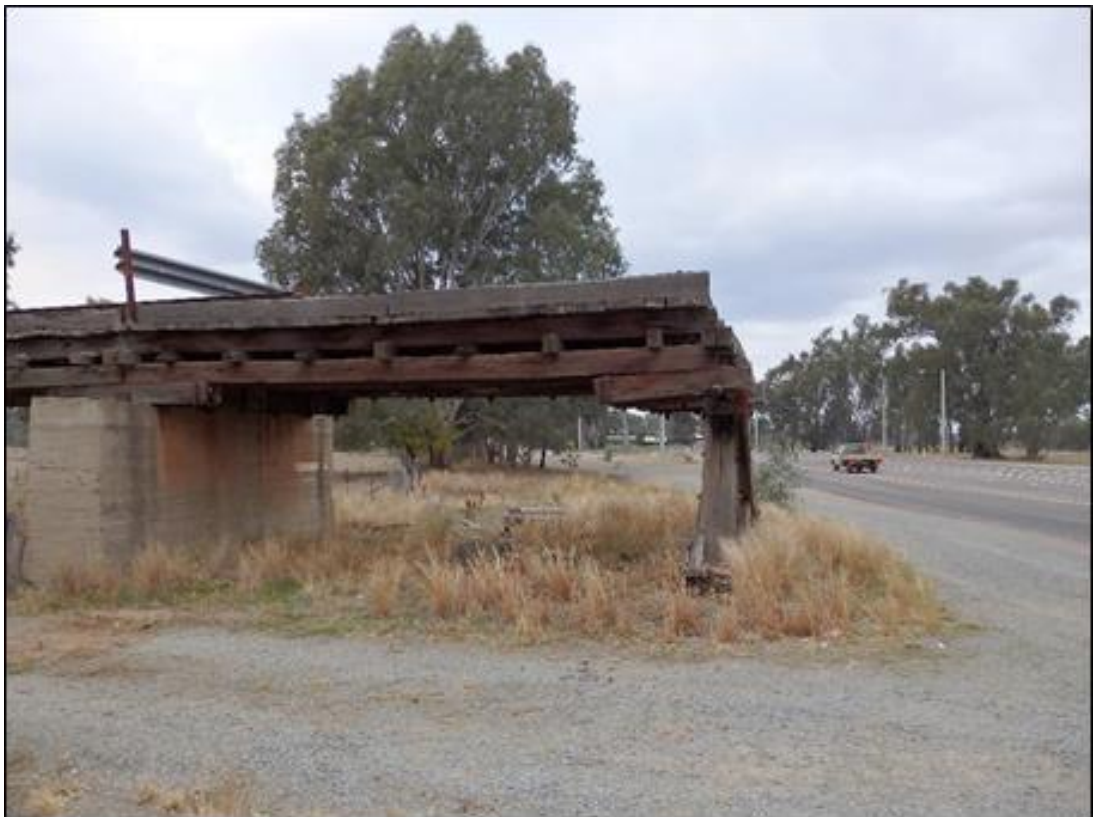

Figure 5 - Viaduct No. 2 (spans removed over the Sturt Highway)

6 Assessment Criteria

The feasibility study included:

1. Demand for usage of the line
2. Engineering Assessment
3. Land use and environmental assessment
4. Economic and financial analysis.

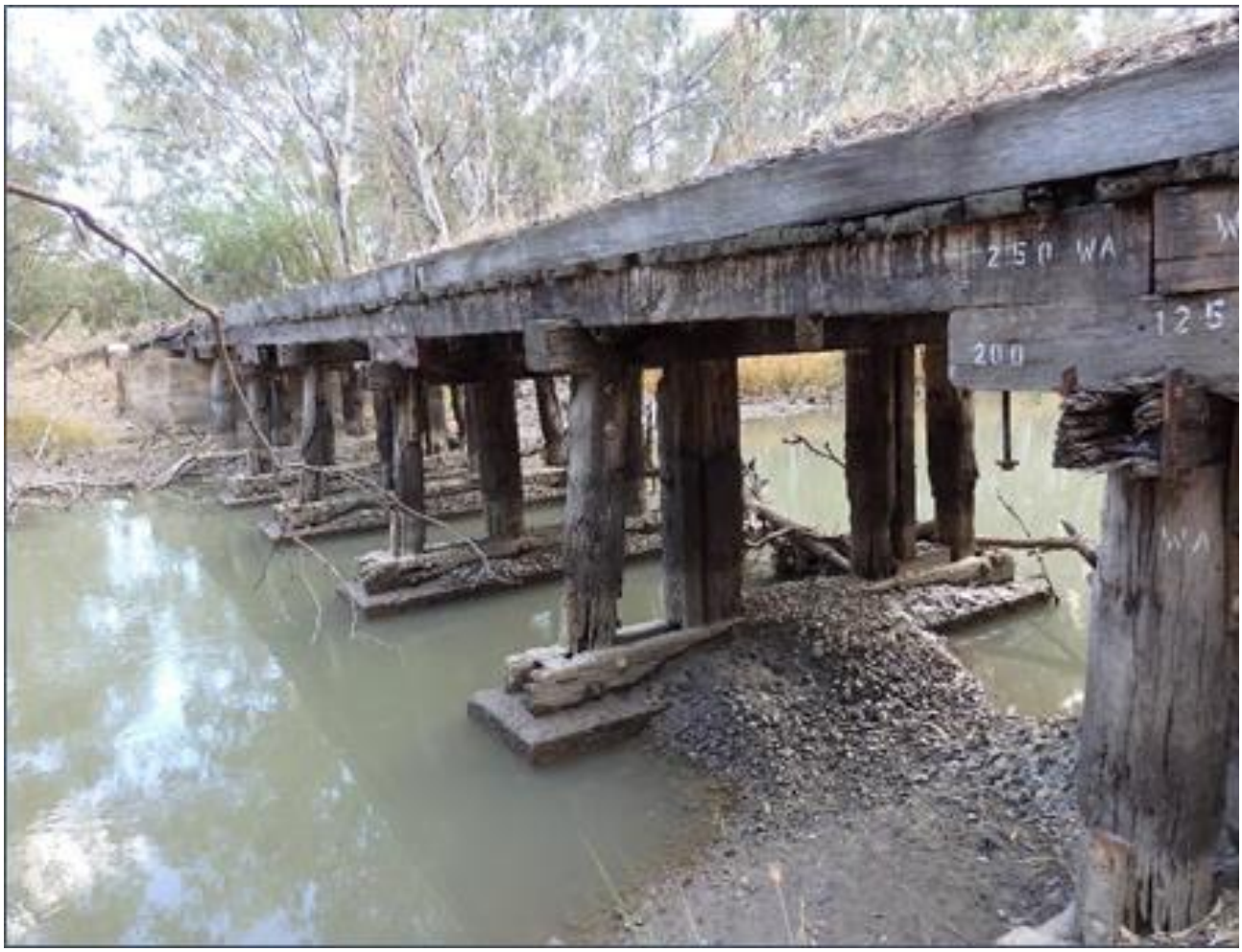

Figure 6 - Underbridge over Morundah Creek, Morundah

7 Key Findings

The following summarises the key findings of the study:

7.1 Demand for usage of the line

Reinstatement of the Narrandera to Tocumwal rail line could attract up to 1.7 million tonnes (approximately 75,500 TEU) of southbound containerised freight per annum. These volumes could include rice, wine, bagged flour, lint cotton, cotton seed and grain.

Most of these freight generators are clustered around Griffith and Leeton/Narrandera and over half of these volumes already move by rail. However, existing volumes could benefit from a shorter route to port as compared to current routings via Junee. There is over 840,000 tonnes of southbound freight currently moving by road.

Regional demand was assessed using both a statistical model and detailed stakeholder consultation. Approximately 100 stakeholders were identified and approached for the study.

Freight originating within Victoria could also attract up to 1.7 million tonnes of southbound containerised freight per annum. These volumes could include general freight, grain, dairy products, meat, cotton seed and lint.

7.2 Engineering Assessment

The rail infrastructure is mostly intact, apart from a number of rail bridges and track sections removed to accommodate main roads. The rail is in reasonable condition however the majority of timber sleepers require replacement.

Small under rail concrete culverts are in good condition however most timber components need to be replaced.

The majority of rail under bridges are timber and require replacement. Additionally, some bridges require replacement.

There are over 100 level crossings that require upgrading to current safety standards.

7.3 Land Use and Environmental Assessment

An investigation study area of 14,805 hectares traversing the Berrigan, Murrumbidgee, Narrandera and Federation local government areas was evaluated.

The main environmental issues identified included:

- Construction and operational noise and vibration impacts
- Potential for direct and indirect (e.g. visual/setting) impacts on items of historic heritage
- Discovery of Aboriginal sites and areas of archaeological potential
- Potential for direct impacts on Key Fish Habitat of the Murray River, Murrumbidgee River and related watercourses
- Potential impacts on existing surface flow patterns and floodplains
- Potential to encounter acid sulphate soils or unexpected contamination finds
- Potential for erosion and sedimentation during construction, and
- Potential for air quality impacts during construction and operation.

7.4 Economic and Financial Analysis

The feasibility study report provided an economic evaluation of the options to reinstate the Narrandera to Tocumwal rail line.

The economic evaluation combines the project benefits and costs and compares the options to the Base Case. The purpose of the analysis to compare the costs of providing reinstated rail infrastructure to the benefits of operating on the line. A Discount Rate of 7% was used.

For reinstatement to be economically viable, requires a Benefit Cost Ratio (BCR) greater than 1. None of the options considered achieved a BCR greater than 1.

Economic Outcomes	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
BCR	0.0	0.1	0.1	0.1	0.5	0.5	-0.3	0.1	0.1

Additional sensitivity analysis was completed on discount rates of 3% and 10%, with no BCR achieving greater than 1.

Based on the analysis undertaken, the proposed reinstatement of the Narrandera to Tocumwal line would not provide economic benefits that outweigh the initial upfront construction cost and ongoing operational cost.

It was determined that to provide an economic return, would require significant change, including:

- Reduce capital costs by 54%
- Increase freight volume by 41% or 1.4 million additional tonnes, or
- Increase annual volume growth of 5.5% for the entire 30 year evaluation period.