

# TECHNICAL PAPER

# 12

## Economic Impact Assessment

ILLABO TO STOCKINBINGAL ENVIRONMENTAL IMPACT STATEMENT





# Inland Rail

## Ilabo to Stockinbingal

### **Environmental Impact Statement**

### Economic Impact Assessment

Technical Report

2-0001-220-EAP-00-RP-0006 (Rev H)

12 August 2022

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# Glossary

A2I	Albury to Illabo
ABS	Australian Bureau of Statistics
ARTC	Australian Rail Track Corporation Ltd
ATAP	Australian Transport Assessment and Planning
CGE	computable general equilibrium
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EIA	economic impact assessment
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW) <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPBC Act	(Cth)
GRP	Gross Regional Product
GSD	Gross Domestic Product
GSP	Gross State Product
IA	Infrastructure Australia
LGAs	local government areas
LLS	Local Land Services
mNTK	Million net tonne kilometres
NSW	New South Wales
NTK	net tonne kilometre
OD	origin-destination
QLD	Queensland
REROC	Riverina Eastern Regional Organisation of Councils
RMS	Roads and Maritime Services
S2P	Stockinbingal to Parkes
SA4	Statistical Area Level 4
SALM	Small Area Labour Markets
SEARs	Secretary of the Department of Planning, Industry and Environment
STEM	science, technology, engineering and maths
TSR	Travelling Stock Reserves

# Executive Summary

## Introduction

The following economic impact assessment (EIA) report has been prepared to identify potential economic impacts of the proposed Illabo to Stockinbingal section of Inland Rail ('the proposal'), which forms part of the Inland Rail Program (Inland Rail). Inland Rail is a direct interstate freight rail corridor, spanning approximately 1,700 kilometres, between Melbourne and Brisbane via central-west New South Wales (NSW) and Toowoomba, Queensland (QLD).

The EIA forms part of an Environmental Impact Statement (EIS) being prepared by ARTC to seek approval from the NSW Minister for Planning under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

## Baseline and impact assessment

### Existing labour market conditions

According to the Australian Government's quarterly regional estimates of unemployment, as at December 2020 there were a total of 10,595 employed persons in the study area (46.9 percent located in Cootamundra-Gundagai).<sup>1</sup>

In the December 2020 quarter, the unemployment rate in the study area was 4.9 percent<sup>2</sup>, lower compared to NSW at 6.2 percent<sup>3</sup>. In the same period the unemployment rate was 5.1 percent in Cootamundra-Gundagai, 4.8 percent in Junee and 4.8 percent in Temora.<sup>4</sup> Over the 24 months to December 2020, the unemployment rate has improved across the study area which does not reflect State-wide unemployment trends.

The NSW unemployment rate peaked at 7.1 percent in July 2020, which reflects the economic impact from the COVID-19 health crisis.<sup>5</sup> The COVID-19 shock impacted the existing labour markets from March 2020, and NSW continues to experience higher levels of unemployment compared to 2019.

### Workforce profile

Direct employment resulting from the construction of the proposal has been estimated based on the indicative construction schedule and component activities. The proposal workforce is anticipated to peak at approximately 425 FTE.

The industrial and consumption effects of the proposal will result in the creation of indirect jobs, both due to upstream and downstream linkages between the proposal's activities and the rest of the economy, such as the stimulation of businesses further up the supply chain (e.g. manufacturers and suppliers of industry inputs), and the stimulation of activities downstream (e.g. through the provision of inputs to other sectors and the expenditure patterns of employees).

Overall, based on current labour market trends such as high youth unemployment and low labour force participation, there may be latent capacity in the youth labour force within the study area and within the regional economic catchment to support the construction and operation of the proposal.

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<sup>1</sup> National Skills Commission. December 2020. *Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020*.

<sup>2</sup> Ibid.

<sup>3</sup> ABS. December 2020. *ABS.Stat: Labour Force Status (15 Years and Over), by States and Territories*.

<sup>4</sup> Ibid.

<sup>5</sup> ABS. December 2020. *ABS.Stat: Labour Force Status (15 Years and Over), by States and Territories*.

## Local businesses and industry

The Riverina region is one of the most productive and agriculturally diverse areas in Australia, with 78 percent of the region's land mass comprised of arable agricultural land (44,627 square kilometres)

In 2017-18, the gross value of agricultural production in the Riverina region was \$2.98 billion, representing 22.5 percent of the total gross value of agricultural production in NSW. The most valuable agricultural commodities in the region are livestock slaughters (\$825 million), followed by wheat (\$441 million) and livestock products (\$369 million). Almonds are also a significant commodity of production, with the region producing 40.2 percent (\$14.7 million) of total State production.<sup>6</sup>

Across the study area, the largest proportion of businesses are in the Agriculture, Forestry and Fishing industry. This reflects the area's land use and geographic location, with 452 businesses in Cootamundra-Gundagai (43.2 percent), 276 businesses in Junee (26.4 percent) and 318 businesses in Temora (30.4 percent) operating in this industry sector.<sup>7</sup>

The construction and operation of the proposal has the potential to impact farming operations and general agricultural uses across the study area. These impacts include:

- Loss of agricultural land;
- Fragmentation or severance of agricultural properties;
- Disruption to access and infrastructure; and
- Disruption to stock and product movement.

These impacts are likely to change the value of agricultural production in the region, due to changes in accessibility, connectivity and / or productivity. Consultation with landholders is ongoing to determine the significance of these impacts, and to develop measures to mitigate and manage these impacts.

## Supply opportunities

There is a small representation of construction businesses located within the study area, with a total of 125 employing businesses and a further 165 non-employing businesses across Cootamundra-Gundagai, Junee and Temora.<sup>8</sup>

The proposal will require a range of construction supplies, including borrow material (spoil, gravel or sand) and ballast material (crushed stone), pre-cast concrete, concrete sleepers and turnout panels, steel, fencing, electrical components, fuel, consumables and water. These will be sourced from within local or regional communities where possible.

There will be significant opportunities for transport businesses located within the region to bring construction materials to laydown areas and remove waste materials and recyclables from construction compounds. EIS Chapter 11: Traffic, Transport and Access provides further detail regarding the traffic and transport impacts of the proposal.

## Accommodation and housing

The proposal will generate significant demand for accommodation, one accommodation camp will be established to address this need with a capacity of up to 450 beds. The accommodation camp will minimise the negative impacts on the private rental market and short-term accommodation which would impact accommodation available to support the tourism industry. In addition, the accommodation camp will be located in close proximity to the proposal, minimising travel times for the proposal workforce.

Details of the proposed accommodation camp, including location, are summarised in the EIS Appendix I.

## Economic benefits assessment

An economic benefits assessment has been undertaken to identify and assess the likely benefits of the proposal, as a discrete project, to the community. These economic benefits have been estimated based on the impacts of the proposal on the transport network, in particular freight operators, along with the benefits accrued

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<sup>6</sup> ABS, April 2019. *Value of Agricultural Commodities Produced, Australia 2017-18, cat. no. 7503.0*

<sup>7</sup> ABS, February 2021. *Counts of Australian Businesses, including Entries and Exits, Jun 2016 to Jun 2020, cat. no. 8165.0*

<sup>8</sup> ABS, February 2021. *Counts of Australian Businesses, including Entries and Exits, Jun 2016 to Jun 2020, cat. no. 8165.0*

by non-users (the community). Where the proposal improves the transport connectivity and efficiency between freight originators and destinations, these movements across road and rail have been assessed in the appraisal.

The results of the economic benefits assessment estimate that the proposal is expected to provide a total of \$34.57 million (\$2021) in incremental benefits to the proposal area (at a 7 percent discount rate). Observing the composition of benefits, the largest share of benefits for the proposal is improved freight availability, representing ~75 percent of the total benefits (at a 7 percent discount rate). Freight benefits more broadly (including freight time travel savings, operating cost savings, as well as improved reliability) represent the remaining ~25 percent of the total projected benefits for the proposal.

As there is no change to the distances travelled by rail, increases to trip frequencies and / or any road freight traversing the proposal area under the demand projections provided, there are no community benefits identified in the assessment. Importantly, while no community benefits are identified within the scope of the economic benefits assessment, the proposal is likely to result in a number of benefits to the local community as identified above.

The full results of the economic benefits assessment are presented in the table below.

**Table ES - 1: Results of the economic benefits assessment (\$2021)**

BENEFITS	Discount Rate		
	4%	7%	10%
<b>Freight Benefits</b>	<b>\$72.32 m</b>	<b>\$34.57 m</b>	<b>\$19.26 m</b>
<b>Travel Time Savings</b>	\$1.29 m	\$0.70 m	\$0.44 m
<b>Operating Cost Savings</b>	\$0.25 m	\$0.14 m	\$0.09 m
<b>Improved Availability</b>	\$55.11 m	\$25.95 m	\$14.20 m
<b>Improved Reliability</b>	\$15.67 m	\$7.79 m	\$4.53 m
<b>Community Benefits</b>	<b>\$0.00 m</b>	<b>\$0.00 m</b>	<b>\$0.00 m</b>
<b>Crash Reduction</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>Environmental Externalities</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>Road Decongestion Benefits</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>TOTAL BENEFITS</b>	<b>\$72.32 m</b>	<b>\$34.57 m</b>	<b>\$19.26 m</b>

Source: KPMG

### Cost Benefit Analysis: Inland Rail Program Business Case

Due to the nature of the incremental assessment approach adopted for this EIA, a project-specific CBA has not been undertaken as the results will not capture the full economic impact that is expected to be delivered upon completion of the Inland Rail Program. The entire Program is anticipated to deliver benefits above the sum of the individual benefits of each individual link.

The results of the economic analysis undertaken for the entire Inland Rail Program, as presented in the Inland Rail Program Business Case (2015), are provided in the table below. As shown, the construction and operation of Inland Rail is estimated to deliver positive net economic benefits with a cost benefit ratio above one.

**Table ES - 2: Economic appraisal results for Inland Rail (\$2015)**

	Net Present Value	Benefit Cost Ratio
<b>PV at 4% Discount Rate</b>	\$13,928 m	2.62
<b>PV at 7% Discount Rate</b>	\$116.1 m	1.02

Source: Inland Rail Program Business Case 2015 Note: Assumes complementary investment on the QR network (Western Line and Brisbane metropolitan network).



## Regional impact analysis

A regional economic impact assessment for the proposal has been undertaken by identifying and quantifying the impacts of the proposal on the regional, State and national economy using an equilibrium modelling framework. The regional economy is represented by the Riverina labour market region.

A CGE model (KPMG-SD) was developed to examine the direct and indirect (flow-on) effects arising from the construction of the proposal on the broader economy. The modelling framework assesses the direct and indirect effects of significant net government expenditure on traditional measures of regional economic performance, such as Gross Regional Product (GRP), Gross State Product (GSP) and Gross Domestic Product (GDP). KPMG-SD also provides estimates of employment supported through these investment shocks, noting that estimates of employment produced by the model reflect the direct and indirect jobs generated across the economy.<sup>9</sup>

The key impacts of the proposal on the Riverina region during the construction phase are summarised in the table below.

**Table ES - 3: Summary of the direct and indirect economic impacts of the proposal on the Riverina region over the construction phase**

	Riverina	
Measure	Slack Labour Markets	Tight Labour Markets
Additional real Gross Regional Product (\$2019-20)	\$67 m	\$26 m
Average annual additional direct and indirect employment (persons)	176	43

During the construction phase, real GRP for the Riverina region is projected to be \$67 million higher than the baseline level under the assumption of slack labour markets. This increase is more than halved if labour markets are assumed to be tight (\$26 million).

The importance of the labour market assumption is reflected in the employment results. In the slack labour market scenario, it is estimated that an additional 176 direct and indirect jobs are generated.<sup>10</sup> Note that this is the average number of jobs per annum during the construction period. With tight labour markets, the increase in jobs is significantly less at 43 jobs. Under tight labour markets, wages are bid up to attract currently employed workers to the businesses contracted to construct the proposal. That is, the labour market response is dominated by workers moving from their current job to a higher paying job. With slack labour markets, there are sufficient unemployed and under-employed workers to accommodate the increase in demand for labour without increasing real wages.

At the time of construction, among other factors, this will be determined by cumulative and competing demand for trades and construction labour resulting from concurrent construction periods for infrastructure projects occurring in the adjacent or surrounding areas. Prior to the COVID-19 shock, the known major infrastructure projects in the adjacent and surrounding areas, including those associated with Inland Rail, had the potential to put some pressure on labour markets if inopportune scheduling resulted in cumulative and competing demand for trades and construction labour.

Due to the dynamic nature of local and regional labour markets, ARTC has identified that an analysis of the likely availability of construction labour from the region will be undertaken prior to construction, to enable the refinement of local and regional recruitment and training strategies to maximise employment opportunities within local economies.

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<sup>9</sup> As compared to the direct jobs determined through the indicative construction schedule and component activities as described in the workforce profile.

<sup>10</sup> To put this in context, the planned workforce requirements (direct employment) of the proposal during the construction phase peak at approximately 300 personnel. Almost 90 per cent of the proposal CAPEX (see Appendix A for how CAPEX was derived) is expended in 2021 and 2022 based on the cost profile provided by ARTC. We estimate that the number of jobs in this year for Riverina is about 478 under slack labour market conditions and 118 under tight labour market conditions.

## Cumulative economic impacts

Several concurrent and overlapping construction projects have the potential to contribute to cumulative economic impacts alongside those of the proposal. As selected by ARTC, these projects include Inland Rail's adjacent Albury to Illabo (A2I) and Stockinbingal to Parkes (S2P) projects.

The concurrent construction of interacting projects has the potential to increase the demand for labour in the local and regional economy, particularly for workers with trade and construction skills / knowledge. The demand for construction workers within a similar timeframe will lead to cumulative demands on construction labour, not only within the local and regional economy, but also across NSW and potentially nationally. The results of the regional economic impact assessment indicate that it is reasonable to assume that the regional labour market will have the capacity to supply a portion of the workforce requirements of the proposal without major disruption.

## Mitigation and management strategies

The proposal will result in a number of economic impacts, with potential economic benefits realised at a local and regional level. To maximise the positive outcomes of the proposal, a number of strategies to avoid, reduce or mitigate the negative economic impacts, and enhance and facilitate the capture of positive impacts, have been proposed by ARTC.

## Conclusions

A detailed EIA has been undertaken for the proposal link of the Inland Rail Program, in accordance with the requirements under Section 10 of the SEARs. The findings of this EIA suggest:

- The proposal will present opportunities to encourage, develop and grow local businesses through the supply of resources and materials for the construction and operation of the proposal. ARTC has developed a Sustainable Procurement Policy which will ensure that local and regional businesses will have opportunities to supply the proposal.
- The proposal will unlock opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses in close proximity to the construction footprint. The expansion in construction activity is also likely to support additional temporary flow-on demand and additional spending by the construction workforce in the local community.
- The proposal alignment has been designed to minimise impacts to local business and industry, however the proposal is likely to result in disruption to agricultural businesses through the loss of agricultural land (through disturbance, acquisition, or sterilisation), disruption to farm management, or changes in accessibility or connectivity to market.
- The economic benefits assessment estimates that the proposal is expected to provide a total of \$34.57 million (\$2021) in incremental benefits (at a 7 percent discount rate). These benefits result from improvements in freight productivity, reliability and availability.
- The proposal will promote regional economic growth across the Riverina region. Using recent labour market trends and projected construction sector activity to inform workforce capacity and capability within the local region. It is likely that the labour market conditions that are expected during the construction phase of the proposal will be most consistent with the slack labour market scenario. Under this scenario, over the construction phase, real GRP for the Riverina region is projected to be \$67 million higher than the baseline level under the assumption of slack labour markets.
- Under a slack labour market scenario, the proposal is also expected to deliver an additional 176 jobs (direct and indirect) per year over the construction period.

# 1 Introduction

## 1.1 Overview

The Australian Government has committed to delivering a significant piece of national transport infrastructure by constructing a high performance and direct interstate freight rail corridor between Melbourne and Brisbane. Inland Rail involves the design and construction of a new inland rail connection, about 1,700 kilometres in length, between Melbourne and Brisbane. Inland Rail is a major, national proposal that will enhance Australia's existing national rail network and serve the interstate freight market.

Australian Rail Track Corporation Ltd (ARTC) is seeking approval to construct and operate the Illabo to Stockinbingal section of Inland Rail ('the proposal'), which consists of about 42.5 kilometres, including about 39 kilometres of new, single track standard gauge railway between Illabo and Stockinbingal. The proposal requires approval from the NSW Minister for Planning under Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposal is also a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and requires approval from the Minister for the Environment.

This report has been prepared by KPMG as part of the environmental impact statement (EIS) for the proposal. The EIS has been prepared to accompany the application for approval of the proposal and addresses the environmental assessment requirements of the Secretary of the Department of Planning, Industry and Environment (the SEARs), issued on 30 April 2021.

## 1.2 Assessment requirements

The following assessment addresses the specific economic requirements of Section 10 of the SEARs.

**Table 1: SEARs requirements - Socio-economic, Land Use and Property**

<b>Desired Performance Outcome</b>	<p>The project minimises adverse economic impacts and capitalises on opportunities potentially available to affected communities.</p> <p>The project minimises impacts to property and business including agricultural enterprises and accommodation and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.</p>
<b>Current Guidelines</b>	<p>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (RMS, 2013)</p> <p>New England North West Regional Plan 2036 (DPIE, 2017)</p> <p>Infrastructure Proposals on Rural Land, Primefact 1063, second edition (DPI, 2013)</p> <p>NSW Invasive Species Plan 2018-202 (DPI, 2018)</p> <p>Land Use Conflict Risk Assessment (LUCRA) Guide (DPI, 2011)</p> <p>NSW Infrastructure Skills Legacy Program</p> <p>NSW Aboriginal Participation in Construction Policy 2018</p>

EIS Requirement	EIS Section
Economic impacts in accordance with the current guidelines.	Addressed in section 6 of this technical report and in Technical paper 12: Social Impact Assessment
Economic impacts from construction and operation on potentially affected properties, businesses, recreational users and land and water users, including property acquisitions/adjustments, access, amenity and relevant statutory rights.	Addressed in section 4 of this technical report and in Technical paper 12: Social Impact Assessment
Opportunities and processes to prioritise local industry participation practices to source construction goods and services, including training and employment targets within communities along or near the rail alignment.	Addressed in section 6 of this technical report and in Technical paper 12: Social Impact Assessment
<p>Agricultural land use impacts in accordance with the current guidelines including:</p> <ul style="list-style-type: none"> <li>(a) current and potential Biophysical Strategic Agricultural Land and Class 1, 2 and 3 Agricultural land Classes, including land capability and agricultural productivity;</li> <li>(b) division or fragmentation of property and changes to property management which could lead to the loss of viability;</li> <li>(c) property access and the efficient and safe crossing of the rail corridor by machinery and livestock</li> <li>(d) impacts to changes in water regimes;</li> <li>(e) connectivity of property infrastructure severed by the rail corridor; and</li> <li>(f) livestock exclusion/management to minimise harm and losses.</li> </ul>	Addressed in Chapter 18: Land Use and Property
Biosecurity risks and management measures relating to the potential for spread of pests, diseases or weeds along the length of the project alignment, in accordance with the 'general biosecurity duty' under the <i>Biosecurity Act 2015</i> .	Addressed in Chapter 18: Land Use and Property
Economic impact of temporary accommodation for construction workers on communities near the project site.	Addressed in section 6 of this technical report and in Technical paper 12: Social Impact Assessment
The temporary and permanent interface with road reserves, Crown Land and Travelling Stock Routes and the use and management of these landholdings affected by the proposal.	Addressed in Chapter 18: Land Use and Property

## 1.3 Guidelines

As identified in the SEARs, the following EIA has been undertaken in accordance with the guidance provided by the NSW Department of Planning, Industry and Environment (DPIE) Social Impact Assessment Guideline 2020, Roads and Maritime Services' (RMS) Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (Roads and Maritime, 2013). The EIA has also been drafted in accordance the Draft Social Impact Assessment Guideline 2020 (NSW Department of Planning, Industry and Environment, 2020).

RMS' socio-economic practice note provides a framework for assessing socio-economic impacts, and defines the process as: *'analysing, monitoring and managing the social and economic consequences of development. It involves identifying and evaluating changes to or impacts on, communities, business and industry that are likely to occur as a result of the proposed development, in order to mitigate or manage impacts and maximise benefits.'*

## 1.4 The proposal

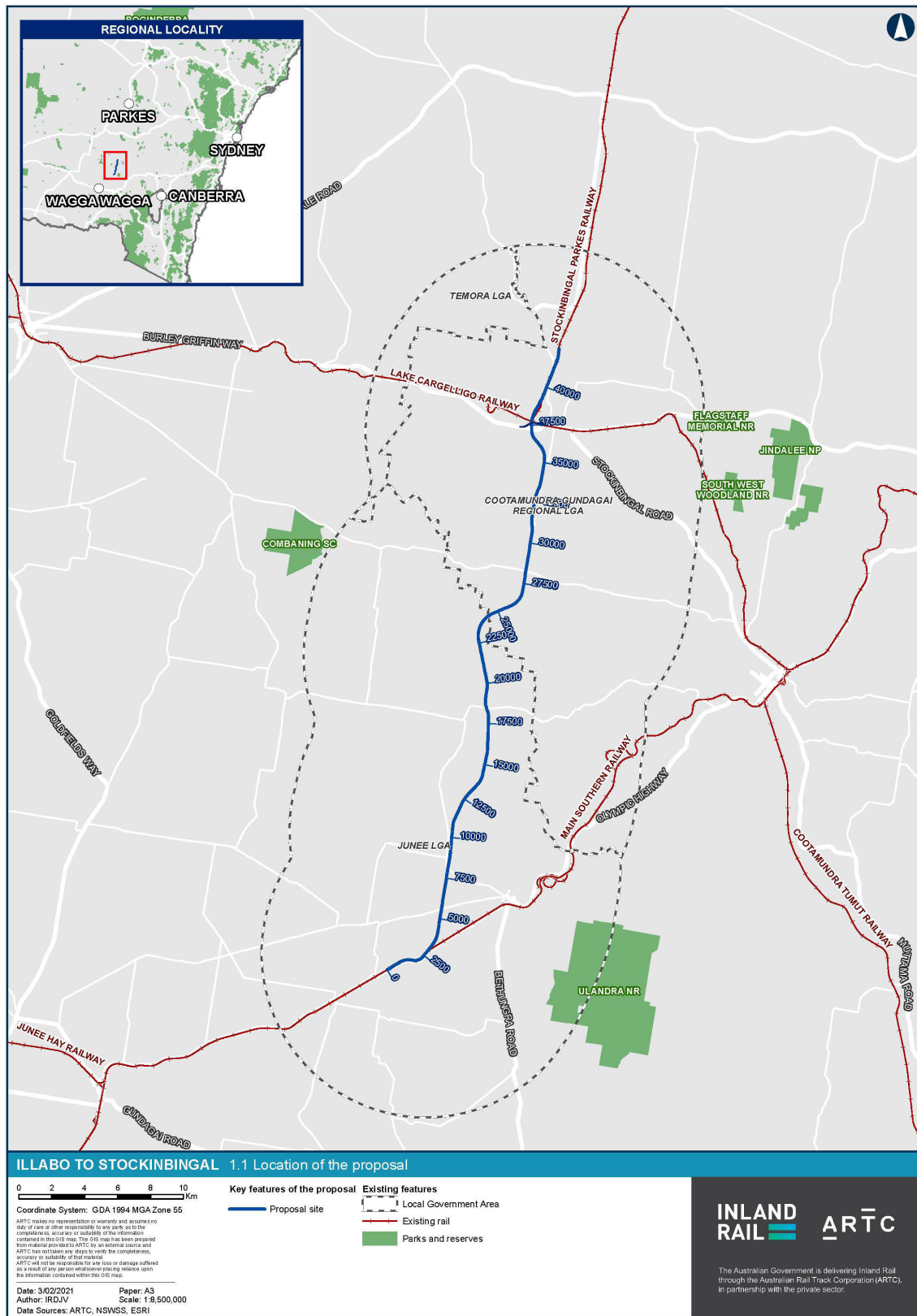
The proposal involves constructing and operating a greenfield section of Inland Rail between the towns of Illabo and Stockinbingal in NSW. The proposal is 42.5 kilometres in length with approximately 39 kilometres of new, greenfield single track standard gauge railway and associated. The Main South line, Lake Cargelligo line and the Stockinbingal to Parkes line, are existing operational rail lines that join the proposal. These lines would continue to operate following construction of the proposal. Accordingly, only the relevant direct impacts on these existing lines form part of the proposal.

The proposal passes through agricultural and rural properties in the Riverina region of NSW, and broadly follows the existing cadastral boundaries and roads between the towns of Illabo and Stockinbingal. Modifications to the tie-in points at Illabo and Stockinbingal are also included in the proposal to allow for trains to safely enter and exit this section of Inland Rail.

### 1.4.1 Location

The proposal is located between Illabo and Stockinbingal within the Riverina region of NSW. The proposal would link the Albury to Illabo section of Inland Rail located southern NSW, with the Stockinbingal to Parkes section of Inland Rail located in central-west NSW. The proposal location is shown in Figure 1.

Figure 1: Location of the proposal



Source: ARTC

## 1.4.2 Key features

The key design features of the proposal are detailed in the table below.

Key Component	
Start and finish point	Illabo and Stockinbingal
Local government areas	Cootamundra-Gundagai Regional Council Junee Regional Council Temora Shire Council  <i>Note: the proposal traverses both Cootamundra-Gundagai and Junee LGAs. Temora LGA is included in the economic assessment due to its close proximity.</i>
Length of alignment	42.5km including about 39 kilometres of new, greenfield single track standard gauge railway between Illabo and Stockinbingal
Key features	<ul style="list-style-type: none"><li>• a combination of track vertical alignments on existing ground level, on embankments and in cuttings</li><li>• 8 new bridges at watercourses, two road overbridges and one grade separated (road over rail) at Burley Griffin Way</li><li>• one crossing loop and associated maintenance siding</li><li>• construction of new and upgrades to existing level crossings (including public roads and private accesses)</li><li>• stock underpasses and other vehicular crossings on private land to allow for the movement of livestock and vehicles across the rail line</li><li>• installation and upgrade of 88 new culverts of varying types and sizes</li><li>• removal of redundant sections of track along the existing Stockinbingal to Parkes line and Lake Cargelligo line at Stockinbingal</li></ul>
Train lengths	The trains would be diesel powered, and would be a mix of grain, intermodal (freight), and other general transport trains of up to 1,800m in length.
Construction	Subject to approval, construction is planned to commence in mid 2024 and is expected to take 24 months. Construction is currently expected to be completed in mid-late 2026.
Employment	Construction employment is expected to peak at approximately 425 FTE.

Source: ARTC

## 1.5 Structure of this report

The following report is structured as follows:

- Section 1 – provides an introduction to the report, including a description of the proposal.
- Section 2 – describes the methodology for the assessment and outlines the planning context of the proposal.
- Section 3 – provides an overview of the existing economic environment of the study area.
- Section 4 – identifies and describes the potential economic impacts arising from the construction and operation of the proposal.
- Section 5 – identifies the potential cumulative impacts.
- Section 6 – outlines the recommended impact mitigation, management and enhancement measures for the identified impacts.
- Section 7 – provides a conclusion to the report.



# 2 Methodology

## 2.1 Study area

The proposal traverses two local government areas (LGAs) - Cootamundra-Gundagai and Junee and is in close proximity to Temora, which have been used to establish and analyse the existing economic and social environment of the proposal. Combined, these LGA boundaries form the **study area** for assessing the local economic impacts of the proposal, reflecting a local catchment for workers and economic activity.

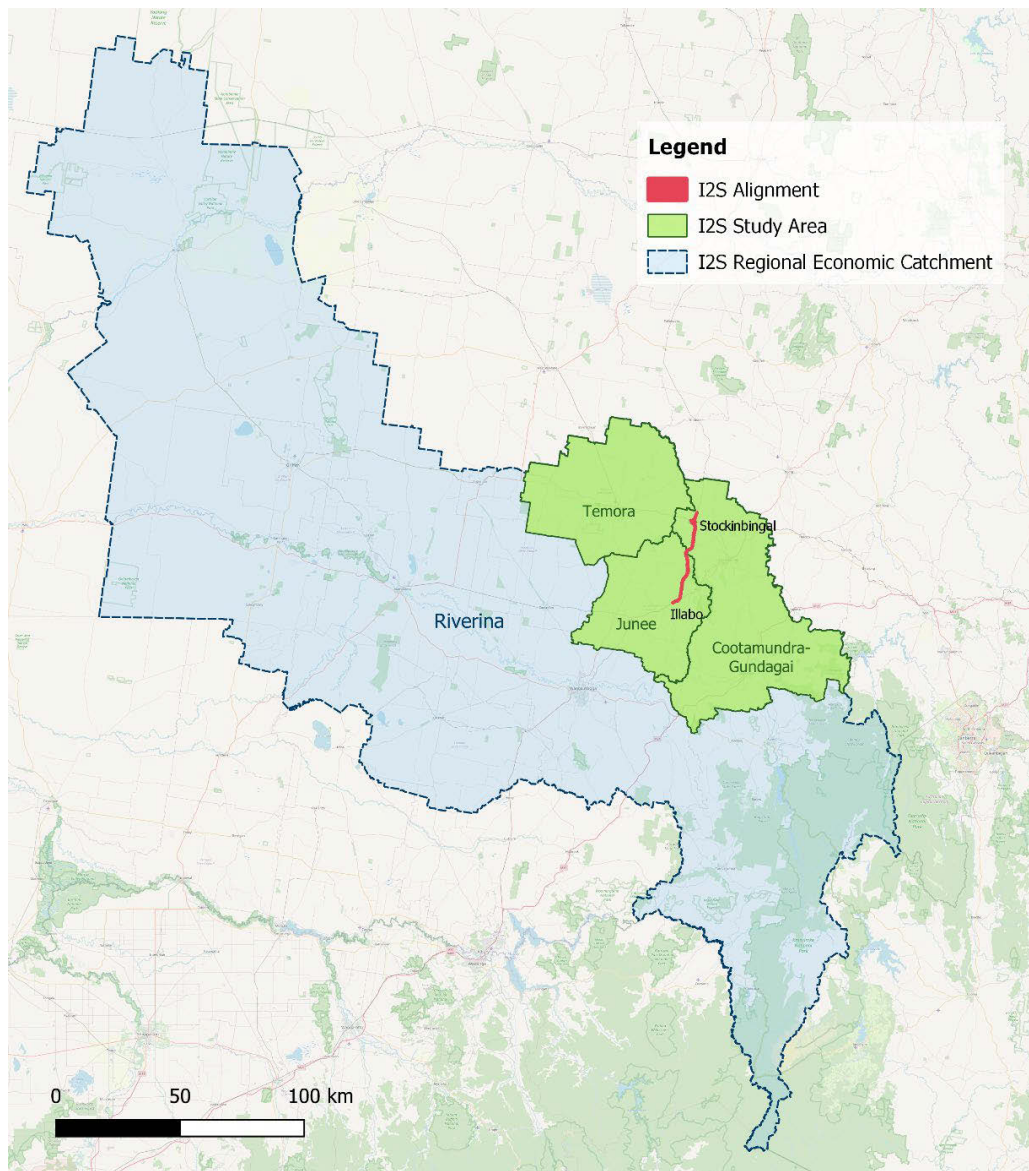
For the purposes of the regional impact analysis, the **regional economic catchment area** is defined as the Australian Bureau of Statistics' (ABS) labour market region boundaries of the Australian Statistical Geography Standard that captures the integrated regional economy within which the proposal is located. The proposal is located within the Riverina labour market region and, as such, this region is defined as the regional economic catchment area.

### Area Definitions:

- **Study area:** Cootamundra – Gundagai, Junee and Temora LGAs
- **Regional economic catchment area:** Riverina Statistical Area Level 4 (SA4)

These study areas are identified in Figure 2.

**Figure 2: The proposal study area and regional economic catchment**



Source: ARTC

The proposal connects two small regional communities – Illabo and Stockinbingal.

### **Illabo**

Illabo is located at the southern end of the proposal, 16 kilometres north-east of Junee and 32 kilometres south-west of Cootamundra. The rural town is located on the Olympic Highway, with a population of approximately 144 persons.<sup>11</sup>

### **Stockinbingal**

Stockinbingal is located at the northern end of the proposal in the Cootamundra-Gundagai LGA, 19 kilometres north-west of Cootamundra. The town is located on Burley Griffin Way between Temora and Harden and has a population of approximately 202 persons.<sup>12</sup>

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<sup>11</sup> ABS. June 2016. 2016 Census of Population and Housing, Urban centres and localities. According to the ABS, the density threshold for defining an urban area is 200 persons per square kilometre.

<sup>12</sup> Ibid.

There are three key regional population centres (State Suburbs – ABS defined) located in close proximity of the proposal, as described below.

### **Wagga Wagga**

Wagga Wagga is located within the Wagga Wagga LGA, midway between Sydney and Melbourne (450 kilometres in either direction). It is located approximately 50 kilometres south of the proposal alignment and serves as the major regional centre for the Riverina and South West Slopes regions. Wagga Wagga is an important agricultural, military and transport hub in Australia, connected by the Sturt Highway from the east and west, and the Olympic Highway from the north and south. The town has a population of approximately 54,411 persons.<sup>13</sup>

### **Young**

Young is located in the Hilltops LGA and is the largest town in the Hilltops region. It is located approximately 370 kilometres south-west of Sydney and 130 kilometres north-west of Canberra. The town is a rural service centre and the commercial centre for the surrounding agricultural district. Young is situated north-east of the proposal alignment and access to the town is provided by the Olympic Highway. The town has a population of approximately 7,170 persons.<sup>14</sup>

### **Cootamundra**

Located within the Cootamundra-Gundagai LGA, Cootamundra is approximately 390 kilometres south-west from Sydney and 160 kilometres north-east from Canberra. Cootamundra is situated to the east of the proposal alignment, located on the Olympic Highway at the point where it crosses the Muttama Creek, between Junee and Cowra. The town has a population of approximately 5,669 persons.<sup>15</sup>

### **Temora**

Temora is a small township located within the Temora LGA. Temora is situated north-west of the proposal alignment and located on the Olympic Highway. In 2016, the town had a population of approximately 4,693 persons.<sup>16</sup>

### **Junee**

Junee is a small township located within the Junee LGA, on the Olympic Highway. Junee is situated south-west of the proposal alignment. In 2016, the town had a population of approximately 4,759 persons.<sup>17</sup>

## **2.2 Assessment methodology**

The following methodology outlines the key activities that have been undertaken to inform the EIA and meet the requirements of the SEARs.

### **2.2.1 Existing economic environment**

This section describes the existing economic profile of the study area and provides a baseline for assessment of the potential economic impacts of the proposal. The economic baseline includes key socio-economic characteristics and identifies existing economic activities in the study area.

This section has been developed based on data and information sourced from:

- Strategic economic development, transport and community plans for the study area and regional economic catchment;
- ABS 2016 Census of Population and Housing;

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<sup>13</sup> ABS. June 2016. 2016 Census of Population and Housing, Urban centres and localities

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

- ABS Regional Population Growth, 2017-18;
- 2019 NSW population and household projections;
- ABS, Labour Force Survey, Australia, December 2020;
- Australian Government's Small Area Labour Markets publication, December 2020; and
- Consultation with local businesses and the community undertaken by ARTC.

### **2.2.2 Local economic impact assessment**

This section describes potential economic impacts resulting from the proposal on local business, industry and the community. This assessment has been developed based on:

- Consultation with the local community undertaken by ARTC; and
- The outcomes of the Social Impact Assessment (Technical paper 12) process to identify local and regional business capacity, aspirations and initiatives.

### **2.2.3 Economic benefits assessment**

A large proportion of the benefits of the Inland Rail Program stem from improving the connection between regional producers and markets, through to both domestic markets in cities and international markets through ports. As such, an incremental CBA approach assessing each link of the Inland Rail Program individually and in isolation of the whole Program will not capture the full impact that is expected to be delivered upon completion of the entire Melbourne to Brisbane connection. Put simply, the benefits of Inland Rail will outweigh the sum of the individual projects.

Accordingly, for the purposes of this EIA, there are two components to the assessment:

1. Evaluation of the likely benefits of the discrete proposal (economic benefits assessment). This analysis assesses only those impacts that would be likely if freight operators were to respond to the completion of the individual project.
2. Description of the CBA economic performance measures calculated for the Inland Rail Program as a whole (as per the Inland Rail Program Business Case (2015)).

The approach to the economic benefits assessment taken in this Technical Report draws from the existing literature and guidelines surrounding the economic appraisal of infrastructure projects, including, but not limited to:

- Infrastructure Australia's (IA) Assessment Framework;
- Transport for NSW's Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (2018); and
- The Australian Transport Assessment and Planning (ATAP) guidelines.

### **2.2.4 Regional impact analysis**

A regional impact analysis has been undertaken to highlight the economic impacts of the proposal on the regional, State and national economies using an equilibrium modelling framework. For the purposes of this analysis, a computable general equilibrium (CGE) model has been developed to examine the flow-on impacts arising from the proposal on the broader economy. These impacts have been modelled using KPMG-SD, a proprietary regional CGE model of the Australian economy developed and maintained by KPMG.

KPMG-SD is ideally suited to quantifying the industry, regional and economy-wide impacts of major projects like Inland Rail because it can capture the upstream and downstream linkages between a proposal's activities and the rest of the economy. KPMG-SD also provides estimates of employment supported through these investment shocks, noting that estimates of employment produced by the model reflect the direct and indirect jobs generated across the economy.

As described above, the regional economy is represented by the Riverina labour market region.

### **2.2.5 Cumulative impact assessment**

The cumulative economic impact assessment refers to the potential impact of cumulative stimulus to the economy resulting from a set of existing or planned projects within or adjacent to the study area.

Specifically, the EIA considers the potential impacts of Inland Rail's adjacent Albury to Illabo (A2I) and Stockinbingal to Parkes (S2P) projects, and other State significant projects which have been deemed to have a relationship to the proposal by the ARTC. This relationship has been determined by ARTC according to the following criteria:

- The proposal location – projects in close proximity to the proposal where there is potential for impacts to spatially overlap. This included potential for shared use of roads for construction access.
- The proposal timeframe and planning approval – only projects likely to be built concurrently or sequentially with the proposal were considered.
- The proposal size – projects considered in this assessment are typically large-scale developments that would involve one or more of the following criteria:
  - Substantial temporary changes to existing traffic conditions, including traffic generation and changes to traffic flows, large truck movements and disruptions to key access routes;
  - Substantial temporary changes to the existing noise environment;
  - Impacts on numerous and / or significant heritage items; and
  - Substantial changes to the existing land use.

The cumulative economic impact of interacting projects was assessed by developing a construction and operation timeline (including workforce profile) to evaluate the spatial and temporal relationship between the proposal and other projects. The cumulative impact on local business and industry, and demand for labour and material was assessed.

### **2.2.6 Limitations of the assessment methodology**

The findings of this EIA are subject to the following limitations:

- This assessment has not been prepared to inform financial or commercial decision-making processes. The sole purpose of the impact assessment is to present potential economic impacts as a result of the development of the proposal to meet the requirements of the SEARs.
- Demand inputs to the economic benefits assessment have been sourced from the freight demand projections developed by ACIL Allen Consulting for the Inland Rail Program Business Case (2015). These values have been apportioned based on the information available to represent freight movements that would benefit from the improved rail connectivity provided by the proposal, and to represent those that are reasonably likely to make use of the proposal as an independent project.
- The assessment assumes capital expenditure consistent with the Inland Rail Program Business Case (2015).
- A large proportion of the benefits of the Inland Rail Program stem from improving the connection between producers and markets, through to both domestic markets in cities and international markets through ports. As such, an incremental EIA approach assessing each link of the Inland Rail Program individually and in isolation of the whole Program will not capture the full impact that is expected to be delivered upon completion of the entire Melbourne to Brisbane connection.

### ARTC Statement

*Although further costs and other technical and economic data is expected as each project progresses through design development, the 2015 Inland Rail Program Business Case endorsed by the Australian Government is currently the most detailed assessment for the Inland Rail Program. For this reason, and in the interests of maintaining consistency, cost and demand profiles for the Inland Rail project economic impact assessments have been based on the 2015 Inland Rail Program Business Case.*

## 2.3 Policy and planning

Across Federal, State and Local Government, there are a number of strategic policy and planning documents that align to the economic objectives and intent of the development of the proposal. These documents are discussed below.

### 2.3.1 Australian Government

#### **The National Freight and Supply Chain Strategy 2019, Transport and Infrastructure Council**

The National Freight and Supply Chain Strategy (August 2019) was developed by the Transport and Infrastructure Council to provide the strategic direction to facilitate growth in Australia's freight task, to maintain and increase Australian competitiveness through productivity and efficiency enhancements (through transport).

The Strategy commits to national action in four critical areas, two of which are directly relevant to the construction and operation of the proposal:

- Smarter and targeted infrastructure – infrastructure supports growing freight needs, ensuring freight is moved in the most efficient and effective manner.
- Enable improved supply chain efficiency – freight needs are serviced by efficient and competitive supply chains underpinned by collaboration and accessible data.

Inland Rail, as a complete program supported by the proposal, delivers on these critical areas of the Strategy by providing additional capacity within the transport system to support growing freight demand. Inland Rail also offers opportunities to support the efficiency of local export industries by driving savings in freight costs (by increasing the competition between road and rail freight modes).

#### **Australian Infrastructure Plan 2016, Infrastructure Australia**

The Australian Infrastructure Plan (the Plan) was developed by Infrastructure Australia as a long-term plan for infrastructure reform and investment in Australia. The Plan is guided by four headline aspirations:

- Productive cities, productive regions
- Sustainable and equitable infrastructure
- Efficient infrastructure markets
- Better decisions and better delivery.

Within the 'productive cities, productive regions' aspiration, the Plan recognises that, at a national level, the efficient movement of freight into, out of and across Australia is critical to the nation's ongoing productivity, growth and competitiveness. The Plan identifies a number of challenges facing the freight network and supply chains, including constraints such as missing links, pinch points, operational restrictions, and first and last mile access challenges.

The Plan highlights the importance of the Melbourne to Brisbane freight corridor in supporting population, production and employment precincts along the east coast of Australia. Inland Rail will improve the efficiency, effectiveness and safety of freight movements travelling along this corridor. As a greenfield project, the proposal will contribute to the realisation of these benefits, including improvements to the productivity and competitiveness of Australia's freight sector.



## 2.3.2 New South Wales Government

### Transport for NSW Future Transport Strategy 2056

The Future Transport Strategy 2056 (the Strategy) is an update of the 2012 Long Term Transport Master Plan for NSW. The Strategy sets a 40 year vision to ensure NSW is prepared and responsive to rapid changes in technology and innovation that are likely to disrupt the transport sector in the future.

The Strategy's vision is that 'transport is an enabler of economic and social activity and contributes to long term economic, social and environmental outcomes. The Strategy is built on six outcomes: customer focused, successful places, a strong economy, safety and performance, accessible services and sustainability.

The Strategy recognises the importance of innovation and new service models across the freight network to ensure reliability, efficiency and certainty, and to maximise productivity, lower costs, and reduce energy intensity. Within the Strategy, the Inland Rail program is recognised as a project of national significance; Inland Rail will optimise the movement of freight in NSW through efficient links to ports and economically sustainable freight hubs. The proposal is a key link in the Inland Rail program and is required to achieve these outcomes.

### Transport for NSW Future Transport – Regional NSW Services and Infrastructure Plan 2056

The Regional NSW Services and Infrastructure Plan focuses on supporting businesses, industry and communities in regional NSW by supporting freight and port projects to better connect regional NSW to global markets. The Plan supports the overarching Future Transport Strategy 2056 (summarised above), alongside the Greater Sydney Services and Infrastructure Plan and a suite of supporting plans.

The Regional NSW Services and Infrastructure Plan outlines the vision and customer outcomes that will inform detailed transport planning in each region and will support future decision making. Inland Rail is a major infrastructure feature of the Plan, in addition to other key freight issues such as ensuring efficient and effective networks. A key focus of the Plan is to ensure that Inland Rail optimises the movement of freight in regional NSW through efficient port and freight hubs.

### NSW Freight and Ports Plan 2018 – 2023

The NSW Freight and Ports Plan 2018 – 2023 provides direction to business and industry for managing and investing in the NSW freight industry to make the freight task more efficient and safe. Promoting collaboration between the private and public sectors, the Plan has four key objectives for business and industry:

- Drive economic growth;
- Increase efficiency, connectivity and access by recognising that time is money;
- Deliver greater capacity by investing and enabling regional growth; and
- Improve safety and sustainability by doing more together.

The Plan recognises the role of Inland Rail in improving the capacity of the NSW rail network, delivering on all four of the Plan's objectives by improving the efficiency and safety of rail freight, promoting greater rail mode share and driving economic growth. Inland Rail will improve the efficiency of freight movements in regional NSW, and the Plan recognises the catalytic relationship between the proposal and the development of new intermodal terminals along the route. At a local level, as a greenfield development, the proposal is a critical link that will contribute to the overarching benefits delivered by Inland Rail.

## 2.3.3 Regional Plans

### Riverina Murray Regional Plan 2036

The Riverina Murray Regional Plan sets a vision for "*a diversified economy founded on Australia's food bowl, iconic waterways and a network of vibrant connected communities*". To achieve this vision, the Plan acknowledges the importance of the region's activity centres and their proximity to, and export potential with, Victoria.

Labelled the 'food bowl of Australia', the region is one of the most productive and diverse agricultural regions in Australia. By supporting the agriculture, manufacturing and forestry industries, the Plan recognises the essential role of efficient freight corridors, and productive freight and logistic hubs, in enabling long term economic

growth. The Plan highlights the increasing freight demand travelling to Port of Melbourne and Port Botany from the region.

The Plan acknowledges that the development of the proposal has the potential to reshape how freight is moved throughout the region, by improving the efficiency of the region's rail freight corridor and promoting further business and industry growth. The proposal will complement the region's existing freight and logistics infrastructure, such as the Western Riverina Intermodal Freight Terminal, and will support the existing trend of freight and logistics companies relocating to the Riverina Murray, to leverage its land availability and workforce.

#### **Regional Freight Transport Plan 2016, Riverina Eastern Regional Organisation of Councils (REROC)**

The REROC Regional Freight Transport Plan considers the future direction and goals for freight transport in the eastern Riverina region. The Plan highlights the integral role of freight and logistics to the economic well-being of the eastern Riverina.

The REROC is a voluntary association of 14 local government bodies, located in the eastern Riverina region of NSW. The members of REROC are the councils of Bland, Coolamon, Cootamundra-Gundagai, Greater Hume, Junee, Lockhart, Snowy Valleys, Temora, Wagga Wagga, Goldenfields Water and Riverina Water County Councils.

The proposal supports the achievement of Goal Two of the Plan to '*Develop a network of identified freight corridors that facilitate the efficient and effective movement of freight within and through the region.*' The Plan acknowledges the challenges of moving freight across large geographic regions to port and identifies the role of efficient and effective rail, supported by a series of well-placed intermodal hubs. The development of the proposal and the broader Inland Rail Program has the potential to improve the efficiency of the local freight industry, enhancing the effectiveness of the rail freight corridor to the Port of Melbourne. As critical trunk infrastructure, the proposal may promote future investment in ancillary infrastructure and links to future intermodal facilities.

### **2.3.4 Local Plans**

#### **Cootamundra-Gundagai Community Strategic Plan 2018 – 2028, Cootamundra-Gundagai Regional Council**

The Cootamundra-Gundagai Community Strategic Plan sets a vision for a "*vibrant region, attracting people, investment and business through innovation, diversity and community spirit*". The Plan is underpinned by four key strategic directions which will guide policy and investment over the next 10 years:

- A vibrant and supportive community;
- A prosperous and resilient economy;
- Sustainable natural and built environments; and
- Good governance.

The Plan recognises the strength of the region's agriculture industry, underpinned by abundant productive land, and highlights the ongoing role of agriculture in supporting a prosperous economy. The proposal, as a critical greenfield link in the broader Inland Rail Program, will improve access to and between regional markets, particularly for agricultural freight from the Cootamundra-Gundagai region. Subsequent changes in freight efficiency has the potential to improve the productivity of the local agricultural industry, promoting greater regional economic activity.

The Plan also acknowledges the development of Inland Rail as a catalyst for further investment in the local agriculture industry, to support the long-term sustainability of the local economy in Cootamundra-Gundagai.

#### **Cootamundra-Gundagai Economic Development Strategy 2017, Cootamundra-Gundagai Regional Council**

The Cootamundra-Gundagai Economic Development Strategy (2017) outlines the Economic Development Framework for the region to promote long-term, sustainable economic growth.

The Strategy highlights the economic strengths of the region, including productive agricultural land, a strong agribusiness sector, and good freight and logistic access. The proposal is an opportunity to support these



economic strengths, enhancing local freight access and efficiency, particularly for local livestock and cereal / grain raw material production.

The development of the proposal, as part of the broader Inland Rail Program, will contribute to the fulfilment of a number of initiatives identified in the Strategy, primarily through the improvement of rail infrastructure to support product movements from the region. These initiatives include:

- Grow the economy through existing and new businesses; and
- Work with government to encourage economic infrastructure investment.

#### **“making tracks” 2035, Junee Shire Council**

“making tracks” 2035 (the Plan) sets a 10-year vision for the Junee region, as identified and developed by the community. The vision is focused on preserving and fostering the local identity and the prosperity of the economy. The vision is comprised of four key themes:

- Liveable
- Prosperous
- Sustainable
- Collaborative.

Within the ‘Prosperous’ theme, the Plan identifies the role of planning, developing and maintaining the ‘right infrastructure’ in expanding the local economy, by providing opportunities for employment and investment.

The development of the proposal is a significant opportunity for the region. The construction of the proposal has the potential to support local employment and promote further investment into the local agricultural sector. This will support the achievement of the Plan’s objective – “to grow our local economy”.

#### **Temora Community Strategic Plan (“Temora Shire 2030”), 2016 Temora Shire Council**

The Temora Community Strategic Plan aims to operationalise the Council’s vision and mission which are, respectively:

- *“To sustain and grow the Temora Shire as a rural community of choice for current and future residents, being united in our heritage yet open to growth and diversity.”*
- *“To achieve the best possible outcomes for our community.”*

The long-term plan was developed with community consultation and initially commissioned in 2011. It covers 20 years up to 2030.

The plan encompasses six themes:

- Retaining our Quality of Life
- Engaging and Supporting the Community
- Building our Shire Economy
- Preserving our Beautiful Surrounds
- Embracing and Developing Aviation
- Maintenance of Infrastructure to Support Agriculture.

The Temora Community Strategic Plan 2011 was developed prior to the 2015 Inland Rail Program Business Case, as such, there are no references to the proposal. The plan has a focus on agriculture infrastructure under the ‘Maintenance of Infrastructure to Support Agriculture’ theme. The delivery of Inland Rail aligns with the intent of this theme and would support the delivery of the objectives through the provision of infrastructure to support agricultural productivity.

# 3 Existing economic environment

The following section describes the key demographic and socio-economic characteristics of the study area including the local population, and the existing regional and local economic environment. Unless otherwise stated, all information contained within this section has been drawn from the ABS 2016 Census of Population and Housing.

## 3.1 Population summary

### Population profile

In June 2020, the study area had an estimated resident population of 24,175 people. Between 2010 and 2020, the population grew at an average annual rate of 0.36 percent. The marginal growth rate was contributed to by negative growth in Cootamundra-Gundagai (-0.04 percent) and low growth in Junee (0.9 percent) and Temora (0.53 percent). In comparison, the population in NSW grew at an average annual rate of 1.35 percent over the same period. The population within the study area is projected to decline at an average annual rate of -0.32 percent to 2026.

The study area population is projected to decline from 2020 by 1,905 persons to reach 21,792 residents by 2041 (at a compounded average annual rate of -0.49 percent). In absolute terms, this decline will be most significant in Cootamundra-Gundagai, where an average of 91 persons are projected to leave the area each year from 2020 to 2041.

**Table 2: Estimated resident population and projections, study area**

	2010 <sup>1</sup>	2020 <sup>1</sup>	2026 <sup>2</sup>	Compound average annual growth 2010 – 2020	Compound average annual growth 2026– 2041
<b>Cootamundra-Gundagai LGA</b>	11,274	11,225	10,671	-0.04%	-0.90%
<b>Junee LGA</b>	6,105	6,676	6,784	0.90%	-0.55%
<b>Temora LGA</b>	5,951	6,274	6,261	0.53%	-0.04%
<b>Study area</b>	23,330	24,175	23,716	0.36%	-0.56%
<b>NSW</b>	7,144,292	8,167,532	9,011,01	1.35%	1.07%

Source:

<sup>1</sup> ABS, June 2020. ABS.Stat: Estimated Resident Population by LGA (ASGS 2020), 2001 to 2020.

<sup>2</sup> NSW Government. 2020. 2019 LGA population projections.

The declining population within the study area reflects an ongoing trend in rural NSW as the population, particularly young people, leave rural areas and relocate to larger, urbanised areas to access employment, education and social opportunities.<sup>18</sup> By 2041, the proportion of young people (0 to 24 years) residing in the study area is projected to decline to represent approximately one-quarter (24.0 percent) of the study area's population in 2041 (from 28.4 percent in 2021).<sup>19</sup>

<sup>18</sup> ABS. 2014. *Australian Social Trends*, cat.no. 4102.0

<sup>19</sup> NSW Government. 2020. *2019 LGA population projections*.

The current age profile of the study area reflects a marginally lower working age population (15 to 64 years) of 58.5 percent, compared to the NSW state average of 64.5 percent.<sup>20</sup> By 2041, this population segment is projected to decline to represent 53.7 percent of the study area's population (50.3 percent in Cootamundra-Gundagai, 59.5 percent in Junee and 53.2 percent in Temora).<sup>21</sup> A declining working population may reduce the available local supply of relevant qualified skilled or non-skilled workers which may act as a barrier to regional population and economic growth.

It should be noted that the 2016 ABS data does not capture recent trends associated with COVID-19. More recent data to capture demographic changes associated with COVID-19 is not currently available.

### **Indigenous population**

The study area has a higher Indigenous population than the NSW average, with 4.9 percent of the population identifying as Indigenous (Aboriginal, Torres Strait Islander, or both) compared to 2.9 percent for NSW. Within the study area, Junee has a higher Indigenous population, representing 7.9 percent of the total population compared to 4.6 percent in Cootamundra-Gundagai and 2.4 percent in Temora.

## **3.2 Description of the economy**

### **3.2.1 Labour market and employment characteristics**

#### **Employment by industry<sup>22</sup>**

Figure 3 shows the sectoral distribution of employment for local residents within the study area compared to NSW state averages. The Agriculture, Forestry and Fishing industry employs the largest number of local residents (1,574 workers), representing 17.1 percent of the total workforce (compared to the NSW average of 2.1 percent). Within Agriculture, Forestry and Fishing, the primary source of employment is in Sheep, Beef Cattle and Grain Farming (1,146 workers).

As shown in Figure 3, following Agriculture, Forestry and Fishing, the largest industry sectors by employment include Health Care and Social Assistance (11.0 percent), Manufacturing (9.2 percent), Retail Trade (8.7 percent), and Education and Training (7.9 percent).

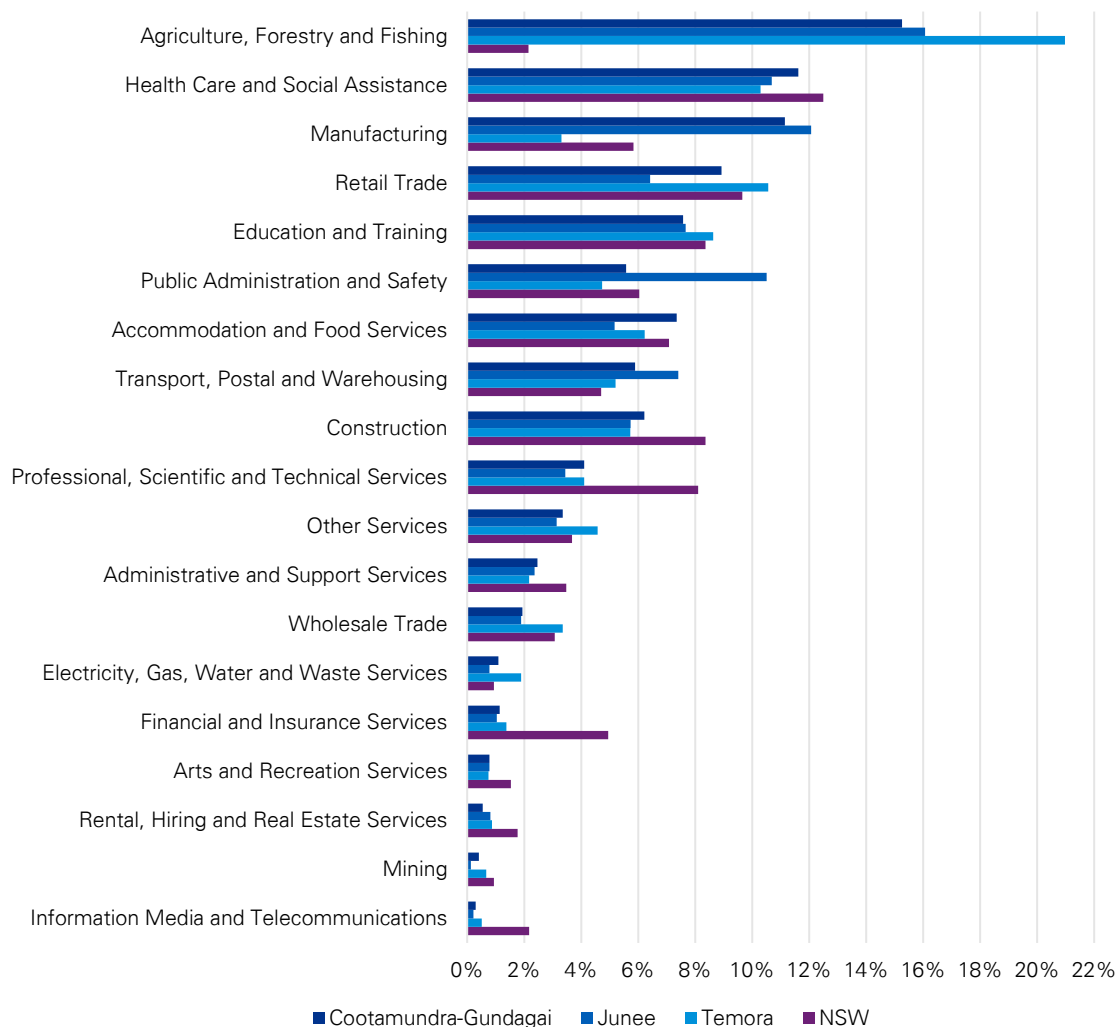
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<sup>20</sup> NSW Government. 2020. *2019 LGA population projections*.

<sup>21</sup> Ibid.

<sup>22</sup> Employment by industry (and industry by employment) from the ABS Census) is unable to discern the specific level of activity in the tourism or defence industries. This is because there are difficulties in trying to link a commodity classification with an Australian and New Zealand Standard Industrial Classification (ANZSIC) type industry classification; any one supplier category may overlap several product categories.

**Figure 3: Employment by industry, study area, 2016**



Source: ABS, 2016 Census of Population and Housing

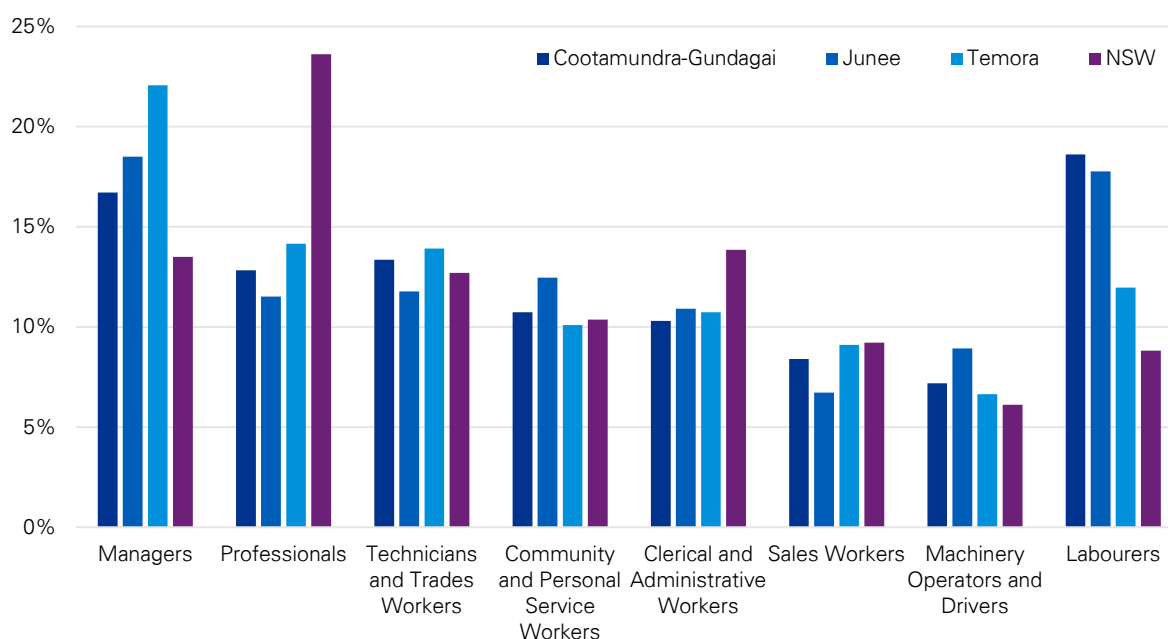
Within the study area, there is employment in directly relevant industry sectors and occupations to support the construction of the proposal. Of the total workforce, 6.0 percent were employed in the Construction industry (549 workers), with the largest proportion employed in Construction Services (304 workers), followed by Building Construction (146 workers) and Heavy and Civil Engineering Construction (70 workers). Across the Riverina region, 4,822 workers were employed in the Construction industry, with 2,951 workers in Construction Services and 529 workers in Heavy and Civil Engineering Construction.

### Occupation

The study area's primary occupations of employment reflect the area's industry profile and distribution of employment industries.

As shown in Figure 4, the study area has a higher proportion of Managers (22.1 percent) and Labourers (16.6 percent) compared to the NSW average (13.5 percent and 8.8 percent respectively). The study area has a lower proportion of Professionals (12.8 percent) and Clerical and Administrative Workers (10.6 percent) compared to the NSW average (23.6 percent and 13.8 percent respectively). The largest proportion of the study area's workforce are employed as Farmers and Farm Managers (11.4 percent), reflective of the study area's highly developed agricultural sector.

**Figure 4: Local workers occupation, study area, 2016**



Source: ABS, 2016 Census of Population and Housing

#### *Construction labour availability*

In June 2021, construction industry reports outlined that COVID-19 has disrupted labour supply chains and is continuing to cause fluctuating labour availability and conditions, particularly due to changing government restrictions. Despite this, the reports forecast strong rail construction industry activity over the next five years, underpinned by several landmark projects especially in capital cities. Revenue and employment are expected to peak in 2023-24 during the core stages of many of these projects, then subsequently decrease to below current levels upon their staged completion. In line with this, the average rail construction wage is predicted to increase until 2024 then fall.<sup>23,24</sup>

These labour supply constraints are a contributing factor to the rising input costs for rail projects which is exerting ongoing pressure on profit margins and increasing the total cost of project delivery. Over the past 15 years, labour has become a proportionally larger cost for rail projects compared to capital. Currently, for every dollar invested in capital, \$14.82 is spent on labour – which is higher than the construction sector average of \$13.69.<sup>25,26</sup> Railway track construction wage costs represent 25.2 percent of revenue, whereas the broader industry spend only accounts for 17.8 percent.<sup>27,28</sup> With workforce demand expected to peak in 2023-24, labour sourcing difficulties are expected to remain. Shortages in labour availability is most likely for specific trades requiring specialist skills.

#### **Labour force**

According to the Australian Government's quarterly regional estimates of unemployment, as at December 2020 there were a total of 10,595 employed persons in the study area (46.9 percent located in Cootamundra-Gundagai).<sup>29</sup>

In the December 2020 quarter, the unemployment rate in the study area was 4.9 percent<sup>30</sup>, lower compared to NSW at 6.2 percent<sup>31</sup>. In the same period the unemployment rate was 5.1 percent in Cootamundra-Gundagai,

<sup>23</sup> Kelly, A. (2021, June). *Australia Industry (ANZSIC) Report E: Construction in Australia*.

<sup>24</sup> Kelly, A. (2021, June). *Australia Specialized Industry Report OD5135: Railway Track Construction in Australia*.

<sup>25</sup> Kelly, A. (2021, June). *Australia Industry (ANZSIC) Report E: Construction in Australia*.

<sup>26</sup> Kelly, A. (2021, June). *Australia Specialized Industry Report OD5135: Railway Track Construction in Australia*.

<sup>27</sup> Kelly, A. (2021, June). *Australia Industry (ANZSIC) Report E: Construction in Australia*.

<sup>28</sup> Kelly, A. (2021, June). *Australia Specialized Industry Report OD5135: Railway Track Construction in Australia*.

<sup>29</sup> National Skills Commission. December 2020. *Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020*.

<sup>30</sup> Ibid.

<sup>31</sup> ABS. December 2020. *ABS.Stat: Labour Force Status (15 Years and Over), by States and Territories*.

4.8 percent in Junee and 4.8 percent in Temora.<sup>32</sup> Over the 24 months to December 2020, the unemployment rate has improved across the study area which does not reflect State-wide unemployment trends.

The NSW unemployment rate peaked at 7.1 percent in July 2020, which reflects the economic impact from the COVID-19 health crisis.<sup>33</sup> The COVID-19 shock impacted the existing labour markets from March 2020, and NSW continues to experience higher levels of unemployment compared to 2019.

The labour force participation rate in each of the LGAs is lower than the State average (see Table 3).

**Table 3: Summary of labour force characteristics, December 2020**

	Labour force <sup>1</sup>	Participation rate <sup>2*</sup>	Unemployed persons <sup>1</sup>	Unemployment rate <sup>1</sup>	24 month change in unemployment rate (percentage points) <sup>1</sup>
<b>Cootamundra-Gundagai LGA</b>	5,234	50.7%	265	5.1%	-1.1
<b>Junee LGA</b>	2,905	47.0%	138	4.8%	-0.2
<b>Temora LGA</b>	3,004	53.5%	145	4.8%	-0.7
<b>NSW</b>	4,117,616	59.2%	270,280	6.2%	+2.0

Source:

<sup>1</sup> LGA data from *National Skills Commission. December 2020. Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020*; State data from *ABS, Labour Force, Australia, Detailed, cat.no. 6291.0.55.001, December 2020 (original data - not seasonally adjusted)*

<sup>2</sup> ABS. June 2016. *2016 Census of Population and Housing*.

\*Participation rate for working age population 15 years and over as at June 2016.

#### *Indigenous labour force*

Within the study area, the Indigenous population is inadequately represented in the workforce, reflected in the high rates of Indigenous unemployment and low labour force participation.

Overall, the study area has an Indigenous unemployment rate of 16.5 percent and an Indigenous labour force participation rate of 37.4 percent. Notably, within the Junee LGA (where the proportion of the population that identify as Indigenous is nearly three times the NSW average), the Indigenous unemployment rate (16.9 percent) is more than three times the unemployment rate of the total Junee population, and the Indigenous labour market participation rate is significantly low at just 20.5 percent.

**Table 4: Indigenous labour force**

	Indigenous labour force		Total Labour Market	
	Unemployment rate	Participation rate	Unemployment rate	Participation rate
<b>Cootamundra-Gundagai LGA</b>	12.7%	50.6%	5.1%	50.7%
<b>Junee LGA</b>	16.9%	20.5%	4.8%	47.0%
<b>Temora LGA</b>	28.3%	57.0%	4.8%	53.5%

Source: ABS, *2016 Census of Population and Housing (most recent data is from 2016 Census)*; Unemployment data from *National Skills Commission. December 2020. Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020*;

<sup>32</sup> Ibid.

<sup>33</sup> ABS. December 2020. *ABS.Stat: Labour Force Status (15 Years and Over)*, by States and Territories.

### Youth labour force

As shown in the table below, youth (15 to 24 years) unemployment rates are high across the study area. In all three LGAs, the youth unemployment rate is more than double the total unemployment rate. High youth unemployment is a key factor in the continuing trend for young people to leave rural areas and relocate to larger population centres.

**Table 5: Youth labour force**

	Youth Labour Market (15-24)		Total Labour Market	
	Unemployment rate	Participation rate	Unemployment rate	Participation rate
<b>Cootamundra-Gundagai LGA</b>	10.6%	61.2%	5.1%	50.7%
<b>Junee LGA</b>	12.3%	47.7%	4.8%	47.0%
<b>Temora LGA</b>	10.3%	57.1%	4.8%	53.5%

Source: ABS, 2016 Census of Population and Housing (most recent data is from 2016 Census); Unemployment data from National Skills Commission, December 2020. Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020;

Note: Participation rate for working age population 15 years and over.

As shown in Table 4, the youth labour force participation rate within the study area and regional economic catchment is lower than the total population participation rate.

Lower levels of labour force participation indicate that a high proportion of young people are either not able to work or are not actively looking for work (for example students, or those who are voluntarily inactive). Within Junee, just 43.9 percent of young persons who are not in the labour market are studying full time. This is significant in the context of the area's low labour market participation rate. This is contrasted to Cootamundra-Gundagai and Temora, where 74.4 percent and 76.5 percent, respectively, of young persons who are not in the labour market are studying full time.

Overall, the youth labour market profile (high unemployment and low labour force participation) indicates that there may be some latent capacity in the youth labour force, and current job seekers may have the skills, or ability to be up-skilled, to be engaged in the proposal. Local workforce participation programs may be required to support youth employment.

### Household income

The distribution of the population by total household income level in the study area and regional economic catchment are compared in Table 5 below. As a measure of socio-economic disadvantage, household income levels reflect relative disadvantage across the study area and regional economic catchment compared to NSW. The proportion of households earning more than \$1,250 per week is between 38.1 and 45.4 percent compared to 57.1 percent for NSW. In all three LGAs, over one-fifth of the population earn less than \$500 per week which is higher than the NSW and regional proportions.

These observations are reflected in the median weekly household income, which is highest in Junee (\$1,139) followed by Temora (\$1,033) and Cootamundra-Gundagai (\$964). The study area has a lower median income compared to \$1,232 for the regional economic catchment area and \$1,486 for NSW.

**Table 6: Distribution of population by weekly household income, June 2016**

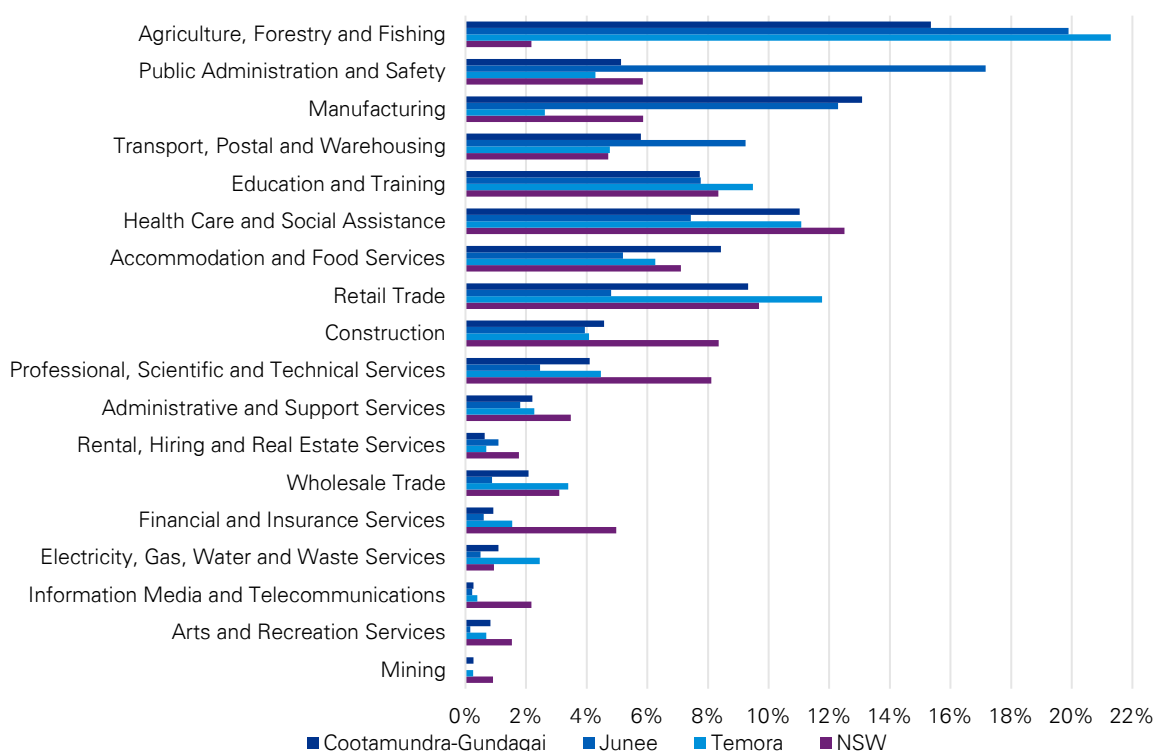
	< \$500	\$500 - \$1,249	> \$1,250	Median Income
<b>Cootamundra-Gundagai LGA</b>	22.8%	39.0%	38.1%	\$964
<b>Junee LGA</b>	20.2%	34.4%	45.4%	\$1,078
<b>Temora LGA</b>	21.3%	38.1%	40.6%	\$1,033
<b>Riverina region</b>	17.5%	33.2%	49.3%	\$1,232
<b>NSW</b>	15.2%	27.7%	57.1%	\$1,486

Source: ABS. June 2016. 2016 Census of Population and Housing. Note: Excludes partial and incomplete income declaration responses.

### 3.2.2 Business and industry

#### Industry by employment

The study area is a place of work for approximately 8,298 persons (who live both within and outside the catchment area).<sup>34</sup> Industry by employment in the study area is shown in the figure below.

**Figure 5: Industry by employment, study area, 2016**

Source: 2016 Census of Population and Housing

Agriculture, Forestry and Fishing is the largest industry of employment in the study area, accounting for 16.7 percent of all jobs (1,497 jobs). This industry represents 15.4 percent of jobs in Cootamundra-Gundagai, 19.9 percent in Junee and 21.3 percent in Temora. Within this industry, most workers are employed in the Sheep, Beef Cattle and Grain Farming sector (1,111 persons) which is reflected in the local business and industry profile below (Section 3.3). The Manufacturing industry supports 10.0 percent of total jobs (826 jobs),

<sup>34</sup> Industry by employment is used to analyse the sectoral distribution of jobs located within a defined geographic area, it captures all jobs located within an area which may be occupied by residents or workers who travel to the area for employment.



predominately in meat and meat product manufacturing (567 jobs). This reflects the region's economic strength in livestock slaughtering, with cattle and calves representing close to 10 percent of gross value of agricultural production in the Riverina region.

Employment is also supported by tertiary, service-based industries such as Health Care and Social Assistance (10.2 percent), Retail Trade (9.0 percent) and Education and Training (8.2 percent). These sectors are important in meeting the demand of the local population.

The strength of the study area's agricultural sector highlights the importance of supply chain efficiency in supporting the area's economy. There are opportunities offered by the proposal to improve the productivity of the local industry by reducing the distance between dispersed agricultural activities to processing and markets. These impacts are outlined in the economic benefits assessment (Section 4.4).

## 3.3 Local businesses and industry

### 3.3.1 Agriculture

The Riverina region is one of the most productive and agriculturally diverse areas in Australia, with 78 percent of the region's land mass comprised of arable agricultural land (44,600 square kilometres).<sup>35</sup> A generous supply of water for irrigation is provided by the Murrumbidgee and Murray Rivers, with the Riverina region traversing the draining basins of these significant waterways. The most common land use in the area is grazing modified pastures which occupies 39 percent (22,091 square kilometres) of the region's land mass.<sup>36</sup> As such, the agriculture industry offers significant export opportunities for the region, particularly for agricultural and livestock products.

In 2018-19, the gross value of agricultural production in the Riverina region was \$2.5 billion, representing 21 percent of the total gross value of agricultural production in NSW.<sup>37</sup> The most valuable agricultural commodities in the region were cattle and calves (\$334 million), followed by wheat (\$301 million) and poultry (\$272 million).<sup>38</sup> Almonds are also a significant commodity of production, with the region producing 40.2 percent (\$14.7 million) of total State production.<sup>39</sup>

At a local level, the value of annual agricultural production in Cootamundra-Gundagai is approximately \$103 million, with 60 percent of this value represented by livestock products.<sup>40</sup> Just over 96 percent of land in Cootamundra-Gundagai is zoned as rural, with the majority (95 percent) zoned for Primary Production. Pastures for sheep and cattle comprise 50 percent of the land use in the area, with a further 40 percent used for cropping such as wheat, canola and hay.<sup>41</sup> In Junee, farmland is almost exclusively characterised as broad acre farming, being labour intensive and highly mechanised. Typically, land is run by large, family-owned acreages.<sup>42</sup> In Temora, approximately 93 percent of land is used as farmland.<sup>43</sup> 96 percent of farming businesses produce crops or livestock, and together the farming sector provides half of Temora's rates revenue.

The largest proportion of businesses in the study area are in the Agriculture, Forestry and Fishing industry. This reflects the area's land use and geographic location, with 452 businesses in Cootamundra-Gundagai (43.2 percent), 276 businesses in Junee (26.4 percent) and 318 businesses in Temora (30.4 percent) operating in this industry sector.<sup>44</sup>

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<sup>35</sup> Land use of Australia 2010-11 access at ABARES, About My Region – Riverina NSW, 2018-2019

<sup>36</sup> Land use of Australia 2010-11 access at ABARES, About My Region –Riverina NSW, 2018-2019

<sup>37</sup> ABARES, About My Region – Riverina NSW, 2018-2019

<sup>38</sup> *ibid*

<sup>39</sup> ABS, *Value of Agricultural Commodities Produced, Australia 2017-18*, cat. no. 7503.0

<sup>40</sup> Agricultural production recorded for 2011. Cootamundra-Gundagai Regional Council, *Rural Lands Strategy - Farm Holdings and Land Use*, October 2018

<sup>41</sup> Cootamundra-Gundagai Regional Council, *Rural Lands Strategy - Farm Holdings and Land Use*, October 2018

<sup>42</sup> Junee Shire Council, *Annual Report 2017-2018*, 2018

<sup>43</sup> Temora Shire Council, *Temora Agricultural Innovation Centre (TAIC) Crown Reserve Plan of Management*.

<sup>44</sup> ABS, 2021. *Counts of Australian Businesses, including Entries and Exits, Jun 2016 to Jun 2020*, cat. no. 8165.0.

### 3.3.2 Local businesses

#### Construction

##### *Material and Services*

There is a small representation of construction businesses located within the study area, with a total of 125 employing businesses and a further 165 non-employing businesses across Cootamundra-Gundagai, Junee and Temora.<sup>45</sup>

There are a number of operations in the extractive industries sector within close proximity to the proposal that may have the capacity to engage with the proposal's construction. These local quarries include:

- Eulonga Quarries – Coolac;
- Milbrae Quarries – Cootamundra and Walleroobie;
- Bald Hill Quarry – Jugiong and Gundagai; and
- Murcury Group (trading as Supermix Concrete) – North Wagga Wagga.

Construction water supply options would continue to be explored during detailed design and would include ongoing consultation with Goldenfields Water to access the local reticulated network, recycled water from local sewerage treatment plants and groundwater.

#### Local Resource Interests

There are no mining, mineral exploration or petroleum exploration leases within the study area.

#### Transport

While transport is not a significant industry within the study area, there are several large transport companies based in the study area and regional economic catchment, which may have the capacity to support the construction of the proposal, such as:

- Sutherlands Transport (Cootamundra) which services Cootamundra, Wagga Wagga, Cowra, Dubbo, Griffith, Hay, Bourke, Tamworth, Canberra, Melbourne and Sydney;
- Bethungra Transport;
- Boxsell Transport;
- ABC Freighters;
- Maddens Haulage;
- Macauley Transport and Spreading Services; and
- QUBE Logistics, located at the Harefield Intermodal Terminal in Harefield.

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<sup>45</sup> ABS. February 2021. *Counts of Australian Businesses, including Entries and Exits, Jun 2016 to Jun 2020, cat. no. 8165.0*

# 4 Impact assessment

## 4.1 Inland Rail Program impacts

As per the requirements of the SEARs, this EIA has focussed on the specific economic impacts resulting from the construction and operation of the proposal. However, the assessment acknowledges the role of the proposal, and the remaining project links, in collectively delivering the benefits of the Inland Rail Program. In its entirety, Inland Rail will enhance Australia's existing national rail network and serve the interstate freight market. As per the Inland Rail Program Business Case (2015), key economic impacts of the Inland Rail Program include:

- Lower prices for consumers as a result of lower intercapital freight transport costs, which reduces the cost of living for households.
- Positive direct net economic benefits, driven by improvements in freight productivity, reliability and availability, and benefits to the community from reduced environmental externalities, reduced road congestion and improved safety benefits. The Program is stated to be economically viable with a benefit cost ratio of 1.02 at a 7 percent discount rate (2.62 at a 4 percent discount rate).
- Economic growth as increased profits (for industries and producers where intercapital freight is an input or output) and incomes are multiplied through the economy. The Program is anticipated to deliver a net positive impact of \$16 billion (\$2015) on GDP over its 10 year construction period and operation.
- Nationally, the Program is also expected to deliver an additional 16,000 jobs at the peak of construction, and an average of 700 additional jobs per annum over the construction period.
- Enhanced competition between rail and road freight, by providing a credible transport alternative, which will drive further innovation and efficiency.
- Potential to promote the expansion and development of freight precincts around Inland Rail terminals as a result of the benefits from co-location and clustering of industries (as a result of reduced transport costs to warehousing, economies of scale and knowledge-sharing opportunities).

## 4.2 Workforce impacts

### 4.2.1 Direct employment

The proposal will result in a number of direct employment opportunities across the construction and operational phases of the proposal. These jobs have been estimated based on the indicative construction schedule and component activities.

#### Construction

For the construction period, the size and composition of the workforce will vary depending on the construction activities being undertaken and the staging strategy adopted. The construction of the proposal is scheduled for commencement in mid-2024 and is expected to take about 24 months. Construction is currently expected to be completed in mid-2026. The proposal construction workforce is anticipated to peak at approximately 425 FTE.

The core construction workforce will consist of professional staff, supervisors, trade workers and plant operators, with earthworks crews, bridge structure teams, capping and track-works crews working at different periods through the construction phase.

## Operation

Once operational, the proposal will be staffed by the Sydney to Narromine and Albury interstate teams. Staff allocated from the Cootamundra and/or Wagga Wagga Provisioning Centres would be responsible for maintenance activities.

## Local employment

Overall, the proposal has a significant opportunity to support local employment. Local employment is dependent on a number of factors, including labour market conditions, skills availability and the existence of local workforce training and participation programs to support Indigenous and youth employment.

Based on current labour market trends, and industries and occupations of the local workforce, there may be latent capacity and capability within the impact assessment area and regional economic catchment to support the construction and operation of the proposal. According to Technical paper 12: Social Impact Assessment, it is expected that 80 percent of workers would be sourced from outside the study area.

The proposal represents a source of potential training and career pathway development for local workers (including Indigenous and youth workers) in the study area. As detailed in the Social Impact Assessment, high levels of unemployment and low levels of education represent opportunities to provide up-skilling and apprentice / trainee development.

ARTC established the Inland Rail Skills Academy to help create opportunities for education, training, skills development and employment for communities along the Inland Rail Program alignment. The Inland Rail Skills Academy includes a number of partnerships and programs, including undergraduate scholarships, science, technology, engineering and maths (STEM) education, training programs, and a partnership between ARTC and the Australasian Railway Association.

## Changes to housing and accommodation

As a major infrastructure project, a number of changes to property and housing could occur as a result of the proposal, including:

- An increase in housing demand during construction, with the potential to inflate rents and displace low income rental households; and
- Potential impacts to property prices due to noise, severance and visual amenity factors associated with the proposal.

According to Technical paper 12: Social Impact Assessment, the construction workforce is more likely to create demand for short-term accommodation facilities rather than for private housing leases. Current social trends such as strong regional migration and improved economic conditions have resulted in a highly competitive private market.

The proposal will generate significant demand for accommodation, one accommodation camp will be established to address this need with a capacity of up to 450 beds. The accommodation camp will minimise the negative impacts on the private rental market and short-term accommodation which would impact accommodation available to support the tourism industry. In addition, the accommodation camp will be located in close proximity to the proposal, minimising travel times for the proposal workforce.

Details of the proposed accommodation camp, included location, are included in the EIS Appendix I.

### 4.2.2 Indirect employment

The industrial and consumption effects of the proposal will result in the creation of indirect jobs both due to upstream and downstream linkages between the proposal's activities and the rest of the economy, such as the stimulation of businesses further up the supply chain (e.g. manufacturers and suppliers of industry inputs), and the stimulation of activities downstream (e.g. through the provision of inputs to other sectors and the expenditure patterns of employees). The regional economic modelling results (Section 4.5) indicate that indirect employment will be generated in the Professional, Scientific and Technical Services and Wholesale Trade sectors, reflecting the importance of these two sectors in the construction sector's supply chain. The development of the proposal will not only provide employment opportunities in local construction activities, but

will create indirect employment in occupations such as engineering and consulting (e.g. feasibility assessment) during project planning, and in the supply chain for construction materials during the proposal's construction.

## 4.3 Business and industry impacts

The following business and industry impacts have been identified through local consultation and analysis of local businesses undertaken by ARTC.

### 4.3.1 Agriculture

The construction and operation of the proposal has the potential to impact high-value farming operations and general agricultural uses across the study area. These potential impacts include:

- Loss of agricultural land;
- Division and fragmentation or severance of agricultural properties;
- Disruption to property access and infrastructure; and
- Disruption to livestock and product movement.
- Biosecurity

These impacts are likely to change the value of agricultural production in the region, due to changes in accessibility, connectivity and / or productivity. Consultation with landholders is ongoing to determine the significance of these impacts, and to develop measures to mitigate and manage these impacts.

#### Loss of agricultural land

According to Chapter 18: Land Use and Property, the area of highly productive agricultural land directly affected by the proposal is not material in the context of the regional agricultural industry. The proposal's permanent disturbance footprint covers 458.6 ha, which comprises 0.14 percent of total agricultural land across the Cootamundra-Gundagai and Junee LGAs (328,436 ha total agricultural land). The temporary disturbance footprint (158 ha or 0.048 percent of total agricultural land) will be rehabilitated and returned to its former land use.

#### Division and fragmentation or severance of agricultural properties

The proposal may fragment, sever or isolate parcels of agricultural land that may prohibit or limit internal movements.

##### *Fragmentation*

As detailed in Chapter 18: Land Use and Property, the permanent disturbance footprint will result in the fragmentation of 11 land holdings, creating 19 small, fragmented areas totalling 110 ha. It is likely that approximately 64 ha of this land could be practically incorporated into neighbouring properties, and therefore remain under agricultural production. The remaining area of approximately 46 ha consists of small land fragments which are likely to be permanently unable to be used for agriculture. This area represents 0.014 percent of the total agricultural holdings in Cootamundra-Gundagai and Junee.

##### *Severance*

A total of 19 agricultural properties will be directly impacted by the proposal corridor. Ten of these properties will be severed by the permanent disturbance footprint into two or more relatively large areas (greater than 30 hectares). These large, severed areas may contribute a material proportion of the total income-generating potential of these farm businesses. Paddocks may also be fragmented into two or more paddocks by the proposal site. If paddock fragments are adjacent to other similar land it will usually be possible to reference the fragments into larger paddocks. However, if fragmented areas are small and severed from the remainder of the property, it may be impractical to continue operating them as part of the original agricultural business. ARTC aims to avoid property severance where possible. Fair compensation for the impacts of the proposal pursuant to the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) should enable impacted farming businesses to maintain current levels of viability.

## **Disruption to property access and infrastructure**

### *Farm Dam Catchments*

According to Chapter 18: Land Use and Property, there are a number of locations along the rail corridor where water drainage lines (which supply farm dams) cross the corridor. At each of these 16 locations, a culvert under the rail corridor will be required to ensure that the water catchment areas of the existing farm dams are maintained.

### *Restricted Movement*

The construction and operation of the proposal will restrict movements by some landholders across the rail corridor, including to properties and public roads. It is most likely that these restrictions will be experienced by small and large road vehicles, cropping equipment and conduits for services. Consultation is ongoing with stakeholders to identify appropriate management measures.

## **Disruption to livestock and product movement**

As detailed in EIS Chapter 18: Land Use and Property, NSW Local Land Services (LLS) identifies Travelling Stock Reserves (TSR), which include parcels of crown land for the purposes of grazing stock, and stock routes, which are corridors (ranging from 60 metres to almost two kilometres wide) that connect smaller watering and camping reserves, generally spaced 10 to 20 kilometres apart (based on a day's walk for cattle or sheep).

TSR's are managed through the Travelling Stock Reserves State-wide Plan of Management (LLS, 2019).

Travelling stock reserves are located in the general areas of:

- Stockinbingal
- Stockinbingal Road
- Old Cootamundra Road
- Dimaseer Road
- Illabo.

Crown land occurs in the study area in the form of road reserves and other reserves

The proposal does not impact on any travelling stock reserves. The introduction of the rail corridor across agricultural land has the potential to inhibit the movement of livestock and farm vehicles more generally across properties. Extensive consultation with landowners has been undertaken and a number of stock underpasses under the rail line and occupational (private) crossings for vehicular access have been proposed.

## **Biosecurity**

There are risks that animal diseases, plant diseases, feral pests and (especially) weeds could be introduced or spread to surrounding properties during the construction or operation phases of the proposal. A biosecurity breach of this nature is likely to increase costs and decrease the income of surrounding properties.

### **4.3.2 Local businesses**

#### **Construction**

The proposal will have significant construction materials and services requirements which may provide local businesses with the opportunity to supply the proposal. ARTC has developed the Inland Rail Sustainable Procurement Policy which will ensure that local and regional businesses will have opportunities to supply the proposal.

#### **Materials**

The proposal will require a range of construction supplies, including borrow material (spoil, gravel or sand) and ballast material (crushed stone), pre-cast concrete, concrete sleepers and turnout panels, steel, fencing, electrical components, fuel and consumables.

The primary opportunities for supply to the construction phase include fuels, equipment replacement and quarried material, as most other components would be sourced from other major centres in NSW. According to EIS Chapter 8: Construction of the proposal, local quarries in Coolac, Cootamundra, Walleroobie, Juglong, Gundagai and North Wagga Wagga have been identified as having the potential to be used for structural fill, capping and ballast.

### **Services**

In addition to supply materials, there are a number of services that could potentially be sourced from within local or regional communities, including fencing, electrical installation (excluding rail systems) and instrumentation, rehabilitation and landscaping, trades services, professional services (e.g. human resources), and community adaptation to the rail corridor (e.g. community and economic development services).

### **Transport**

During construction, there will be significant opportunities for the transport businesses located within the region to bring construction materials to laydown areas and remove waste materials and recyclables from construction compounds.

EIS Chapter 11: Traffic, Transport and Access provides further detail regarding the traffic and transport impacts of the proposal.

### **Local resource interests**

According to EIS Chapter 18: Land Use and Property, there are no known operational mines or extractive resource sites in the study area. As a result, the proposal will not result in any adverse economic impacts to local mineral resources and extractive industries.

### **Accommodation and Housing**

As detailed in Technical paper 12: Social Impact Assessment, the accommodation assessment outlines there is currently strong demand for short term accommodation in the study area from tourism and strong agricultural seasons requiring additional seasonal workers. Consultation with accommodation providers identified that while there is sufficient capacity to accommodate the proposal workforce in the low season, there is significant demand during peak seasons that constrains accommodation supply. Further, many local providers have also existing contractual arrangements with other companies to withhold stock from the market to satisfy their workforce demands.

To avoid negatively impacting local business and industry, the proposal will establish one accommodation camp with a capacity of up to 450 beds.

## **4.4 Economic benefits assessment**

### **4.4.1 Introduction**

An economic benefits assessment has been undertaken to identify and assess the likely benefits of the proposal, as a discrete project, to the community.<sup>46</sup> This analysis assesses only those impacts that would be likely if freight operators were to respond to the completion of the individual proposal. These economic benefits have been estimated based on the impacts of the proposal on the transport network, in particular freight operators.<sup>47</sup> Where the proposal improves the transport connectivity and efficiency between freight origins and destinations, these movements across road and rail have been assessed in the appraisal.

In the context of the proposal, this assessment measures the incremental benefit of providing a new link between Illabo and Stockinbingal, which avoids the Bethungra Spiral, providing existing (north-south) rail traffic with a more direct route between regional New South Wales and Victoria and Queensland. As a greenfield

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<sup>46</sup> The economic benefits assessment has been undertaken prior to the refinements made to the construction program. The impact of this refinement would have a minor effect on the economic benefits identified however explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

<sup>47</sup> The benefits associated with the entire Inland Rail Program are well established and are presented in the Inland Rail Business Case.

corridor, the new route will provide for improved journey times by offering a more direct north-south connection. In this regard, the net freight benefits are expected to be modest within the context of the total Program.

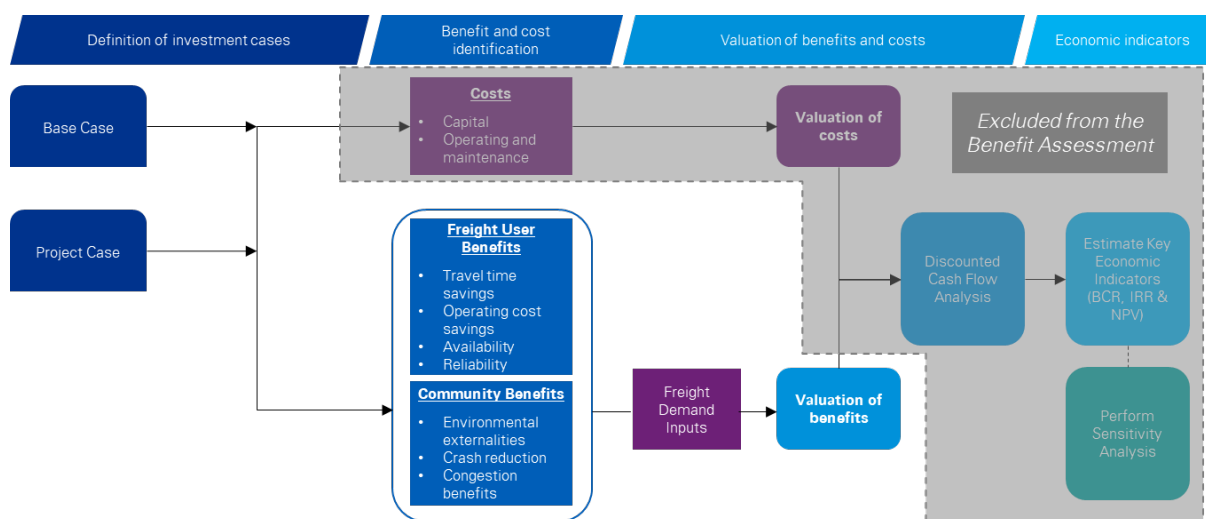
#### 4.4.2 Methodology

The approach below reflects the three-step benefits assessment modelling process adopted for the purposes of the EIS:

1. **Define base and investment cases:** a clear articulation of the problem, investigation and definition of Base Case and Project Case options, and future demand drivers.
2. **Identify benefits:** identification of relevant economic, social and environmental benefits associated impact groups which can be measured for the proposal.
3. **Monetise benefits:** quantification, monetisation and assessment of benefits over the project appraisal period.

The figure below outlines a typical CBA approach and its application to the assessment of the proposal.

**Figure 6: CBA approach and the economic benefits assessment**



Source: KPMG

Critically, the key difference between the complete CBA approach and the economic benefits assessment approach adopted in this analysis is the exclusion of costs. As a consequence, the estimation of economic indicators is not applicable to this analysis; rather, the discounted present values of the benefits is the focus of the assessment.

#### 4.4.3 Base Case and Project Case

The benefits assessment measures the incremental benefits derived by the proposal, by defining two network performance scenarios:

- The **Base Case** adopted for this benefits assessment is a 'do nothing' scenario, where it is assumed that no other sections of the Inland Rail Program are progressed, and freight continues to be moved via either coastal rail or the road network.
- The **Project Case** adopted for this benefits assessment is the proposal. The economic benefits estimated as part of the analysis assess only those impacts that would be likely if freight operators were to respond to the completion of this individual project.

Key assumptions and parameters adopted for use in the benefits assessment are presented in Table 6.



**Table 7: Economic benefits assessment assumptions**

Parameter	Value	Source
<b>Discount rate</b>	A 7 percent real discount rate is used for the central case with sensitivity tests conducted at 4% and 10%. This is consistent with jurisdictional requirements for project evaluation and those of Infrastructure Australia.	Infrastructure Australia Business Case Assessment Template 2016
<b>Price year</b>	2021	
<b>Discount reference year</b>	2021	
<b>Appraisal period</b>	50 years from the year of opening. First year of measured benefits is 2024 (first full year of benefits). <sup>48</sup>	Australian Transport Assessment and Planning (ATAP) Guidelines (Category 4, section 2.4)
<b>Temporal treatment of benefits and costs</b>	Demand model outputs for 2024, 2054 and 2074 were used as the basis for analysis. Linear interpolation has been undertaken to estimate benefits between these years.	Inland Rail Program Business Case (2015) and KPMG analysis
<b>Indexation</b>	Unit costs and parameter values indexed to the price year by the appropriate price indices (see parameters in the following sections).	Australian Bureau of Statistics
<b>Annualisation</b>	Demand projections are presented in annual terms.	Inland Rail Program Business Case (2015)

Sources: Identified in table.

#### 4.4.4 Freight demand

At the request of ARTC, demand inputs to the benefits assessment have been sourced from the freight demand projections developed by ACIL Allen for the Inland Rail Program Business Case (2015). The assumptions underpinning these demand projections are documented in Chapter 7 of the Inland Rail Program Business Case (2015). This section outlines how these demand projections have been adopted for the proposal EIA.

The demand projections developed by ACIL Allen are presented in terms of 66 different origin-destination (OD) pairs for both the Base Case and Project Case. These OD pairs span the entire Program length and, as discussed above, many represent freight movements that would not be impacted if the proposal were to be constructed independently of the overarching Inland Rail Program.

To enable an incremental economic benefits assessment to be undertaken for the proposal, selected OD pairs were chosen which represent freight movements that would benefit from the improved rail connectivity associated specifically with the proposal. The selected OD pairs, which are considered likely to traverse the proposal, consist of:

- Albury - Brisbane
- Shepparton - Brisbane
- Albury Region - Moree Region
- Maldon - Narromine Region
- Narromine Region - Riverina Region
- Parkes Region - Melbourne Port
- Parkes Region - Riverina Region
- Riverina Region - Moree Region

<sup>48</sup> While noting that the operational life of the proposal is 100 years, the benefits assessment has been conducted for a 50 year appraisal period in line with best practice methodologies, as specified in the ATAP guidelines.

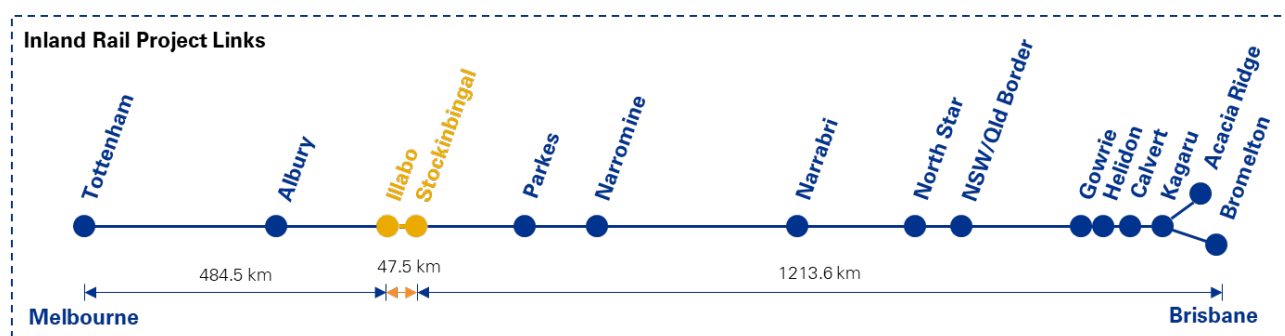
- Maldon - Parkes Region
- Manildra - Melbourne Port
- Manildra - Riverina Region
- Werris Creek Region - Albury Region
- Werris Creek Region - Riverina Region.

The transport network and surrounding areas impacted by these freight movements represent the project area for the purposes of the economic benefits assessment.

As the projected travel time (both in terms of net tonne hours and hours travelled) for these OD pairs are dependent on downstream upgrades, the benefits associated with these freight movements have been apportioned. The factor used to scale these benefits is the ratio of the length of track upgrades that forms the proposal, and the total length of proposed track upgrades from Narromine to the Inland Rail Program extent at Tottenham (e.g. 42.5 km / 808 km).<sup>49</sup>

Notably, some freight movements are not presented in terms of OD pairs and instead are presented by commodity (e.g. 'agriculture'). To account for these general freight movements, the proportion of freight movement associated with the proposal has been estimated using the ratio of the length of track upgrades that forms the proposal and the total length of track upgrades as part of Inland Rail (e.g. 42.5 km / 1,740.6 km). Notably, this does not include any induced freight demand.

**Figure 7: Inland Rail Program - proposal extents**



Source: ARTC

#### 4.4.5 Benefit categories

The economic benefits assessment considers a range of benefit types, which have been categorised into two broad benefit streams:

- **Freight benefits:** these benefits include the changes in the cost to freight operators by switching mode from road to rail; and
- **Community benefits:** these benefits include the changes in costs to the community resulting from a reduction in delays on the road network, and other externalities such as crash reductions and reduced environmental impacts.

A description of each of the benefits included in the assessment are provided in the following table.

<sup>49</sup> The track length used in the economic benefits assessment is based off the Inland Rail alignment published in February 2017.

**Table 8: Benefit category descriptions**

Benefit Category	Description
<b>Freight Benefits</b>	
<b>Travel time savings</b>	Freight travel time cost savings represent the value to the economy associated with freight arriving at its destination more efficiently as a result of improvements to the rail network that enable shorter distances, faster travel times, and subsequently, increased capacity. Where freight demand is induced (either diverted from road to rail, or new generated freight travel) as a result of improvements to the rail network, the rule of half <sup>50</sup> has been used to estimate the benefits to the new rail freight. Notably, there is no induced freight demand assumed for the proposal.
<b>Operating cost savings</b>	Operating cost savings represent the reduction in costs associated with fuel, crew, maintenance and depreciation to both road and rail freight operators as a result of operators making use of the proposal. Many of the benefits in this category are derived from the savings associated with shifting freight from road onto rail which has lower operating costs per net tonne-kilometre.
<b>Improved service availability</b>	Improved service availability represents the increased flexibility in arrival and departure times afforded to the rail freight network as a result of the proposal. This is due to fewer restrictions on freight service times provided by the increased network capacity. Freight service availability benefits have been estimated based on the values presented in the Inland Rail Program Business Case (2015). These benefits were derived by ARTC in 2015 and have been apportioned to individual projects for the purposes of this incremental benefits assessment. The values calculated by ARTC have been escalated to a 2021 price year using PPI Rail Freight Transport (A2314067L).
<b>Improved service reliability</b>	Improved service reliability represents the certainty in transit time and subsequent economic efficiency gains to freight operators. This provides reduced wait times at points of loading / unloading along the network, allowing goods to reach their destinations in a more timely manner. As with availability benefits, reliability benefits have been estimated based on the values presented in the Inland Rail Program Business Case (2015). These benefits were derived by ARTC in 2015, and have been apportioned to individual projects for the purposes of this incremental benefits assessment. The values calculated by ARTC have been escalated to a 2021 price year using PPI Rail Freight Transport.
<b>Community Benefits</b>	
<b>Crash reduction</b>	Crash cost savings represent the reduced costs associated with fatal and serious injuries resulting from both road and rail incidents.
<b>Environmental externalities</b>	Reduced environmental externality costs represent reductions in air pollution and greenhouse gas emissions due to the proposal. The majority of these benefits can be attributed to the mode shift from road freight to rail freight.
<b>Road decongestion benefits</b>	As the proposal encourages greater movement of freight by rail, the reduced truck movements that are projected upon completion of the proposal result in reduced congestion in urban areas.

Source: KPMG

<sup>50</sup> If people change mode in response to an infrastructure project or public transport service improvement, their perceived benefits (B) are valued at half the unit benefits to existing users (A). Source: Australian Transport Assessment and Planning, 2021, Economic analysis framework

## Freight Benefits

The freight benefits have been quantified and monetised using demand assumptions from the Inland Rail Program Business Case (2015) and the parameters set out in the table below.

Value of freight per tonne hour unit rates have been derived from the previous analysis completed for the Inland Rail Program Business Case (2015) and escalated to current year prices using appropriate producer price indices.

The analysis estimated a range of rail operating costs for both the Base Case and Project Case. The rates provided in the table below demonstrate the efficiency improvements gained in rail operations through the completion of the proposal, with improved transit times resulting in lower rail operating parameters (unit rates drop from \$0.037 – \$0.029 per net tonne kilometre (NTK) in the Base Case down to \$0.034 – \$0.025 NTK in the Project Case for agricultural freight over the 50 year period 2024 to 2074). These parameters have been estimated based on the outputs from the Inland Rail Program Business Case (2015) and Transport for NSW's Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (2018).

The freight service improvements utilise the previous analysis completed for the Inland Rail Program Business Case (2015) and have been escalated to current year prices and apportioned to the proposal.

**Table 9: Freight benefit parameter values (\$2021)**

Parameter Value		Variable/s	Source/s
<b>Freight Travel Time</b>			
<b>Value of Freight (Rail)</b>		\$1.72 tonne hour	ATAP, Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
<b>Operating Cost</b>			
<b>Agricultural</b>	<b>Rail Operating Cost – Base Case</b>	2024: 0.037 \$/ntk 2054: 0.031 \$/ntk 2074: 0.029 \$/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
	<b>Rail Operating Cost – Project Case</b>	2024: 0.034 \$/ntk 2054: 0.028 \$/ntk 2074: 0.025 \$/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
<b>Freight Service</b>			
<b>Freight Service Availability</b>		2024: \$16.98 m 2054: \$185.20 m 2074: \$303.35 m	Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
<b>Freight Service Reliability</b>		2024: \$11.32 m 2054: \$45.98 m 2074: \$82.19 m	Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)

Source: KPMG

The total freight demand for the proposal consists of agricultural freight traversing the proposal area between Illabo and Stockinbingal. This includes freight from regional Victoria (including Maldon and Albury), southern NSW (including the Riverina region) destined for north of the proposal area, as well as from regional NSW (including Narromine, Parkes, Werris Creek and Manildra) destined for south of the proposal area. Consistent with the Inland Rail Program Business Case (2015), induced freight demand has only been modelled for the entire extents

of Inland Rail (e.g. Melbourne to Brisbane and Brisbane to Melbourne) and, as such, no induced demand has been included in the analysis for the proposal.<sup>51</sup>

Under the demand projections, existing rail freight users will benefit from a reduction in average travel times by rail in the Project Case (from 8.45 hours in the Base Case to 4.72 hours in the Project Case in 2054). As in the Base Case, all contestable freight travels by rail, and there is no resultant shift of the total freight task from road freight to rail - the total tonnes carried is the same between the Base Case and the Project Case. Notably, as there is no road freight traversing the proposal area in the Base Case or Project Case, the total NTK travelled remains the same in the Project Case.<sup>52</sup>

Freight benefits have been estimated using the appropriate change in freight demand (such as mNTK (million net tonne kilometres)) by mode type by the relevant parameter unit. The estimated freight benefits for the proposal are provided over a 50 year analysis period as outlined in the table below. Overall, the proposal's freight benefits represent an incremental \$34.57 million in present value terms over the Base Case.

**Table 10: Estimated freight benefits (\$2021)**

Benefit	Undiscounted - \$m	Present Value (7%) - \$m
<b>Freight Time Savings</b>	\$3.89 m	\$0.70 m
<b>Operating Cost Savings</b>	\$0.76 m	\$0.14 m
<b>Freight Service Availability</b>	\$197.25 m	\$25.95 m
<b>Freight Service Reliability</b>	\$53.42 m	\$7.79 m
<b>TOTAL</b>	<b>\$255.32 m</b>	<b>\$34.57 m</b>

Source: KPMG

Freight service availability and reliability represent a combined \$33.74 million in present value terms to freight benefits (~98 percent). This is apportioned to the proposal on the basis of the combined service improvements from the broader Inland Rail Program and represent the expected benefit from improved freight service within the proposal area.

Freight time savings provide \$0.70 million in present value terms to freight benefits (~2 percent) as a result of faster travel times only (note there is no shift of freight between rail to road and the distances travelled in the demand projections provided are equal in the Base Case and Project Case).

Operating cost savings represent the remaining (<1 percent) freight benefits of \$0.14 million in present value terms. As with freight time savings, this is only representative of the efficiency improvements to travel speeds, with no mode shift occurring in either the Base Case or Project Case under the demand projections.

### Community Benefits

As there is no change to the distances travelled by rail, increases to trip frequencies and / or any road freight traversing the proposal area under the demand projections provided, there are no community benefits (e.g. crash reduction, environmental externalities and road decongestion benefits) identified in the assessment. Importantly, while no community benefits are identified within the scope of the economic benefits assessment, the proposal is likely to result in a number of benefits to the local community as identified above.

<sup>51</sup> No new, independent demand modelling has been undertaken to validate the assumptions contained within the Inland Rail Program Business Case (2015).

<sup>52</sup> It should be noted that given the proposal provides a new more direct route for existing rail traffic between Illabo and Stockinbingal, the expected impact would be a drop in distances travelled, and subsequently a reduction in the total mNTK. However, the demand modelling used for the assessment does not indicate any change to distances travelled for trips traversing the project area. KPMG analysis of the demand assessment identifies that there is no modelled net change in total distance between the Base Case and Project Case.

#### 4.4.6 Economic benefits assessment results

The results of the economic benefits assessment estimate that the proposal is expected to provide a total of \$34.57 million (\$2021) in incremental benefits to the proposal area (at a 7 percent discount rate).

Observing the composition of benefits, the largest share of benefits for the proposal is improved freight availability, representing ~75 percent of the total benefits (at a 7 percent discount rate). Freight benefits more broadly (including freight time travel savings, operating cost savings, as well as improved reliability) represent the remaining ~25 percent of the total projected benefits for the proposal.

The full results of the economic benefits assessment are presented in the table below.

**Table 11: Results of the economic benefits assessment (\$2021)**

BENEFITS	Discount Rate		
	4%	7%	10%
<b>Freight Benefits</b>	<b>\$72.32 m</b>	<b>\$34.57 m</b>	<b>\$19.26 m</b>
<b>Travel Time Savings</b>	\$1.29 m	\$0.70 m	\$0.44 m
<b>Operating Cost Savings</b>	\$0.25 m	\$0.14 m	\$0.09 m
<b>Improved Availability</b>	\$55.11 m	\$25.95 m	\$14.20 m
<b>Improved Reliability</b>	\$15.67 m	\$7.79 m	\$4.53 m
<b>Community Benefits</b>	<b>\$0.00 m</b>	<b>\$0.00 m</b>	<b>\$0.00 m</b>
<b>Crash Reduction</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>Environmental Externalities</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>Road Decongestion Benefits</b>	\$0.00 m	\$0.00 m	\$0.00 m
<b>TOTAL BENEFITS</b>	<b>\$72.32 m</b>	<b>\$34.57 m</b>	<b>\$19.26 m</b>

Source: KPMG

#### 4.4.7 Cost Benefit Analysis: Inland Rail Program Business Case

As detailed above, due to the nature of the incremental assessment approach adopted for this EIS, a proposal-specific CBA has not been undertaken as the results will not capture the full impact that is expected to be delivered upon completion of the Inland Rail Program. Instead, the results of the economic analysis undertaken for the Inland Rail Program Business Case (2015) are provided to illustrate the anticipated net economic impact of Inland Rail to the community as a whole.

The results of this analysis, as presented in the Business Case, are provided in the table below.

**Table 12: Economic appraisal results for Inland Rail (\$2015)**

	Net Present Value	Benefit Cost Ratio
<b>PV at 4% Discount Rate</b>	\$13,928 m	2.62
<b>PV at 7% Discount Rate</b>	\$116.1 m	1.02

Source: Inland Rail Program Business Case 2015 Note: Assumes complementary investment on the QR network (Western Line and Brisbane metropolitan network).

The CBA results indicate that Inland Rail is estimated to be economically viable, with an economic benefit cost ratio of 1.02 at a 7 percent discount rate (2.62 at a 4 percent discount rate). By beneficiary, intercapital freight users account for ~68 percent of total benefits, followed by regional freight (16 percent). A further 13 percent of benefits accrue to the broader community.

## 4.5 Regional impact analysis

A regional impact analysis has been undertaken to highlight the economic impacts of the proposal, a component of the Inland Rail Program on the regional, state and national economies using a general equilibrium modelling framework.<sup>53</sup> For the purposes of this analysis, a CGE model (KPMG-SD) has been applied to examine the economic impacts, including flow-on effects, arising from the proposal on the broader economy.

As described throughout this report, the regional economy is represented by the Riverina (ABS Statistical Area level 4) region.

### 4.5.1 Key considerations

The direct and indirect economic impacts of the proposal during its construction phase are modelled using a comparative-static version of KPMG-SD. In comparative static mode, KPMG-SD does not trace out the dynamics of how the economy adjusts through time to accommodate the construction of the proposal. Rather, in comparative static mode, KPMG-SD provides estimates of how the economy is impacted over the construction phase period, during which the proposal's capital expenditure (CAPEX) program is completed.

Under this configuration, KPMG-SD provides two snapshots of the structure and size of the economy for the proposal:

- The first snapshot is the **baseline** representation of the economy. For the construction phase, the baseline is a representation of the size and structure of the economy before the commencement of the CAPEX program associated with the proposal's rail development.
- The second snapshot is a **revised** representation of the economy that includes the impacts of the proposal. For the construction phase, this revised snapshot is a representation of the size and structure of the economy during the period where the CAPEX program associated with the development of the proposal is completed.

The key modelling assumptions and inputs that underpin the regional economic assessment are provided in Appendix B. We note that the analysis in this report was largely completed before the COVID-19 crisis impacted the economy. In particular, the baseline representation of the economy does not explicitly account for the COVID-19 impacts.

### 4.5.2 Limitations

It is important to note that the results of the CGE modelling are subject to the following limitations:

#### Construction phase

The capital expenditure program associated with the development and construction of the proposal is modelled in KPMG-SD as a transitory expenditure shock to the economy. Accordingly, modelling the construction phases of the 13 individual project links that comprise Inland Rail in isolation is reasonable. If there is significant overlap in the timing of the construction phases of the other links in Inland Rail, modelling each link in isolation may result in an under-estimation of the pressures on resource availability, particularly labour. This could also be exacerbated by other construction projects in the surrounding region. In recognition of this possibility, the assessment considers the construction phase of each link under two labour market scenarios:

- In the first scenario, it is assumed that labour markets are characterised by the availability of unemployed and under-employed workers with relevant skills so that any increases in the demand for labour can be accommodated without increasing real wages ('slack labour market').
- In the second scenario, it is assumed that real wages respond to additional labour market demand ('tight labour market').

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<sup>53</sup> The regional impact analysis has been undertaken prior to the refinements made to the construction program. The impact of this refinement would have a minor effect on the economic benefits identified however explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

## Operational phase

- Due to the nature of the proposal, the economic impacts of the proposal's operations will only be fully realised once all components of Inland Rail are completed. Assessing each link of Inland Rail individually and in isolation of the whole program will not capture all the benefits expected to be generated upon completion of the entire project connecting Melbourne to Brisbane connection.
- In the context of the regional impact analysis, when modelling each link of Inland Rail in isolation, the capital expenditure (CAPEX) is disproportionate to the benefits directly attributable to that particular link. If the proposal link was built but no other link was completed, the benefits would be insufficient to justify the investment. From a modelling perspective, it would appear as if there had been a significant over-investment in rail infrastructure. That is, the supply of rail services is greater than the demand for these services. This excess supply of rail services can be eliminated by a combination of reducing the price of rail service (to stimulate demand), writing off the investment and subsidising the rail operations. Each of these mechanisms has a distortionary impact on the economy. These distortions are an artefact of the requirement to consider the benefits of the proposal link in isolation rather than a reflection of what will actually happen in the economy. For this reason, the operational phase modelling results are not included in this EIA.

### 4.5.3 Regional economic impact analysis results

The headline impacts of the proposal on the Riverina region during the construction phase are summarised in the table below.

**Table 13: Summary of the direct and indirect economic impacts of the proposal construction**

Measure	Riverina	
	Slack Labour Markets	Tight Labour Markets
Additional real Gross Regional Product (\$2019-20)	\$67 m	\$26 m
Average annual additional direct and indirect employment (persons)	176	43

Source: KPMG

During the construction phase, real GRP for the Riverina region is projected to be \$67 million higher than the baseline level under the assumption of slack labour markets. This increase is more than halved if labour markets are assumed to be tight (\$26 million).

The importance of the labour market assumption is reflected in the employment results. In the slack labour market scenario, it is estimated that an additional 176 direct and indirect jobs are generated.<sup>54</sup> Note that this is the average number of jobs per annum during the construction period. With tight labour markets, the increase in jobs is significantly less at 43 jobs. Under tight labour markets, wages are bid up to attract currently employed workers to the businesses contracted to construct the proposal. That is, the labour market response is dominated by workers moving from their current job to a higher paying job. With slack labour markets, there are sufficient unemployed and under-employed workers to accommodate the increase in demand for labour without increasing real wages.

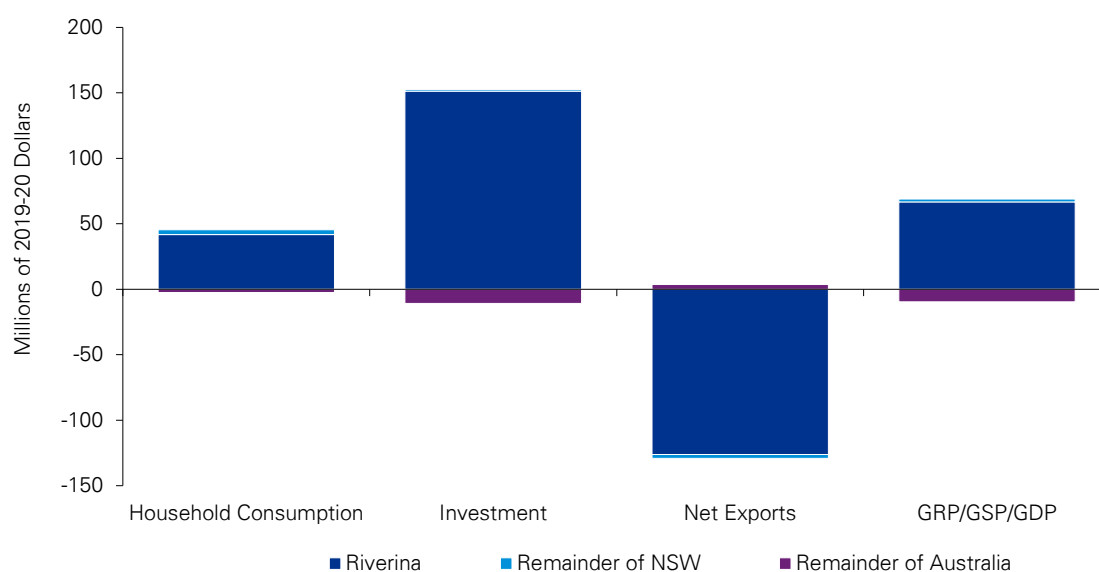
Figure 8 and Figure 9 summarise the macroeconomic results for the Riverina region in the context of the rest of the NSW and Australian economies. Employment results at the industry level are presented in Figure 9.

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<sup>54</sup> To put this in context, the planned workforce requirements (direct employment) of the proposal during the construction phase peak at approximately 300 personnel. Almost 90 per cent of the proposal CAPEX (see Appendix A for how CAPEX was derived) is expended in 2021 and 2022 based on the cost profile provided by ARTC. We estimate that the number of jobs in this year for Riverina is about 478 under slack labour market conditions and 118 under tight labour market conditions.

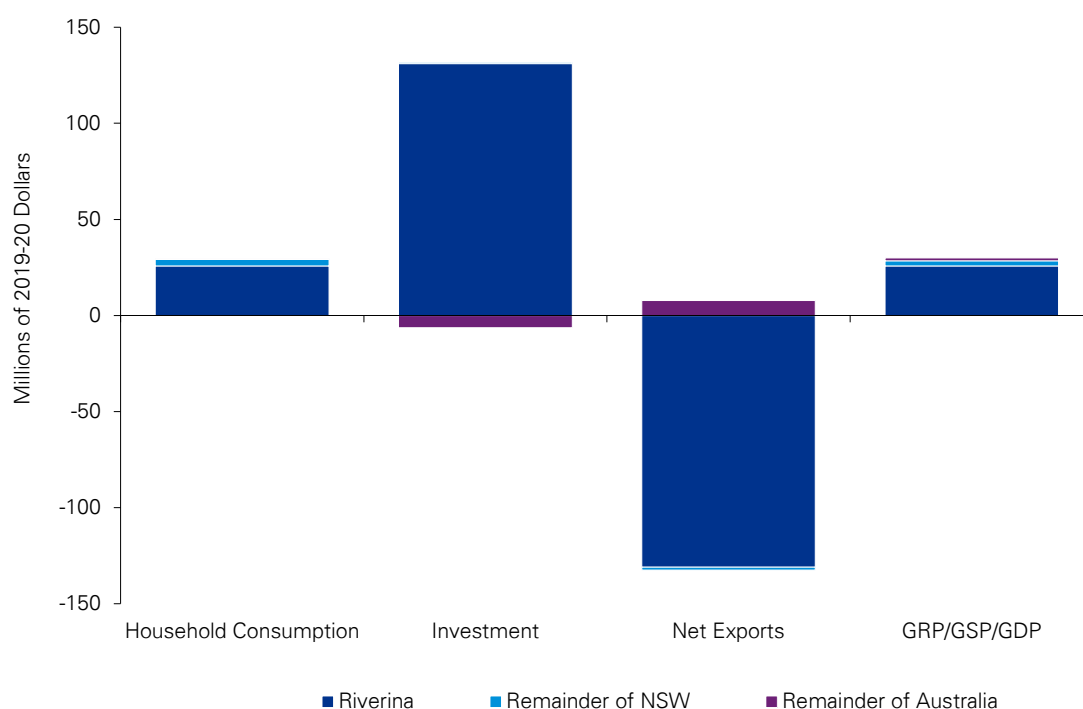


**Figure 8: Macroeconomic results: construction phase, slack labour markets**



Source: KPMG

**Figure 9: Macroeconomic results: construction phase, tight labour markets**



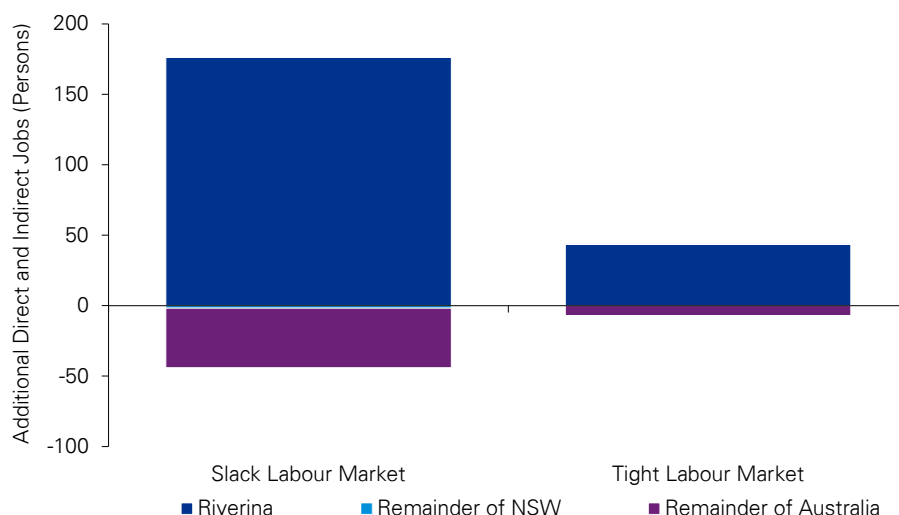
Source: KPMG

The simulation results indicate that the economic impacts of the proposal during the construction phase are concentrated in the Riverina region. Net exports, which include inter-regional and international exports and imports, are negatively impacted. The resources required to complete the construction of the proposal are sourced locally and from interstate and overseas suppliers. At the local level, higher costs induce the cost-

sensitive trade-exposed sectors to release resources to accommodate the investment demands of the proposal.<sup>55</sup>

The modelled direct and indirect impacts of the proposal on employment are presented in the figure below.

**Figure 10: Direct and indirect employment results**



Source: KPMG

The labour market conditions that are expected to prevail during the construction phase of the proposal will be most consistent with the “slack” labour market scenario.

Recent labour market trends can be used to inform workforce capacity and capability within the local region. In Riverina, over the four quarters ending in the June quarter 2020, the unemployment rate averaged 5 percent<sup>56</sup>, and the participation rate averaged 80.3 percent over the 12 months ending in June 2020.<sup>57</sup> Labour market conditions in Riverina have deteriorated since the end of 2019 with the unemployment rate increasing from 3.4 percent in the September quarter 2019 to 5 percent in the June quarter 2020. Rising unemployment rates coupled with relatively strong participation rates suggest that pressures in the labour market in the Riverina have eased. However, it is important to consider these statistics in a broader context, including with regard to labour market conditions at the state and national levels.

At the time of writing, the latest available regional labour market statistics in the Small Area Labour Markets (SALM) publication contained data to June 2020. More recent macro-economic data suggest that labour market conditions have deteriorated further with the economic shock associated with the COVID-19 pandemic adding considerable downside risks to the broader economy in the short to medium term. The National Accounts data for the September quarter 2020 reveals while domestic demand advanced 4.5 percent compared with the June quarter 2020 as states and territories began to relax their lockdown restrictions, it remained 3.5 percent lower than in the same period a year before. The recovery in economic conditions is anticipated to be modest and characterised by a high degree of uncertainty. In this environment national and regional labour markets are unlikely to be stretched, supporting our assessment that labour market conditions expected to prevail during the proposal’s construction phase will be most consistent with the “slack” labour market scenario. This

<sup>55</sup> The proposed CAPEX program associated with the proposal constitutes a temporary expenditure shock to the economy. Some of the goods and services purchased by customers in the Riverina economy are imported from interstate and overseas. CAPEX, particularly at the regional level, is more import intensive than other types of expenditure. This means that a CAPEX shock will, other things being equal, result in net exports contracting. In addition, we have assumed that businesses do not respond to the temporary shock by increasing their productive capacity through investment in fixed capital. Instead, businesses use more labour with their existing fixed assets (e.g. plant and equipment), which increases costs and reduces competitiveness. Where it is profitable to do so, businesses switch some of their productive capacity towards accommodating the demands associated with the proposal and away from sales to other customers (e.g. to interstate and overseas customers). The results reported in Figure 8 and Figure 9 are roughly linear for small deviations in the assumed CAPEX. For example, if the proposal CAPEX was increased by 5 per cent (from \$134 million to \$141 million) then net exports for Riverina would fall by a further 5 per cent.

<sup>56</sup> Based on Australian Government’s Small Area Labour Markets (SALM) publication, June 2020

<sup>57</sup> Participation rate of working-age population 15 – 64 years; ABS, Labour Force Survey 2020, cat. no. 6291.0.55.001. Released 28 January 2021.

characterisation of the labour market does not preclude pressure being placed on specific construction skills during the construction phase. This possibility is discussed below.

Looking specifically at skilled labour capacity, recent Labour Force Survey results indicate that a relatively high proportion of unemployed workers were last employed in the Construction sector.<sup>58</sup> In NSW, during the reference week in the quarter ended November 2020, 25,100 unemployed persons (approximately 9.6 percent) reported that their last job was in Construction, representing a 23.8 percent increase from the corresponding quarter in the previous year. Nationally, over the same period, 13.2 percent of unemployed persons who reported losing their job last worked in the Construction industry. These indicators suggest a degree of spare capacity in the Construction sector. The industry and occupational profile of the Riverina workforce, together with evidence that labour supply for the Construction sector is not currently stretched, means that it is reasonable to assume that the regional labour market has the capacity to supply a significant portion of the workforce requirements of the proposal without major disruption.<sup>59</sup>

The possibility of some tightness in the labour market cannot be completely dismissed. More recently the ABS has estimated that as at November 2020, job vacancies in the Construction sector have risen from a trough in May 2020 to be about 7.8 percent higher than in the same period in 2019.<sup>60</sup> If the government's health and economic policy responses to the pandemic are highly effective, the economy may grow much faster than is expected resulting in significantly more activity in the construction sector than anticipated. For example, the government may seek to bring forward projects to stimulate the economy. If this transpires then labour market conditions may tend towards somewhere between the "slack" and "tight" scenarios. Prior to the COVID-19 shock, the known major infrastructure projects in the adjacent and surrounding areas, including those associated with Inland Rail, had the potential to put some pressure on labour markets if inopportune scheduling resulted in cumulative and competing demand for trades and construction labour. KPMG's assessment is that the overall labour demands of the various infrastructure projects expected to be constructed are modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Riverina and national labour markets, as well as the ability of workers to mobilise to project locations, suggest that the risks of labour market disruption are limited. This risk has now been further reduced by the uncertainty posed by the COVID-19 shock.

It is noted that there may be benefits from having additional infrastructure projects in the adjacent and surrounding areas around the same time as the proposal. These benefits come in the form of lowered mobilisation costs and transfer of labour experience and skills to projects, particularly those constructed in the period leading up to and the period following the proposal's construction phase.

Due to the dynamic nature of local and regional labour markets, ARTC has identified that an analysis of the likely availability of construction labour from the region will be undertaken prior to construction, to enable the refinement of local and regional recruitment and training strategies to maximise employment opportunities within local economies.

Employment results at the industry level are presented in Figure 11 and Figure 12. Although the patterns are the same under the two labour market scenarios, it is evident that, under the tight labour market assumption, there is a greater displacement of workers.

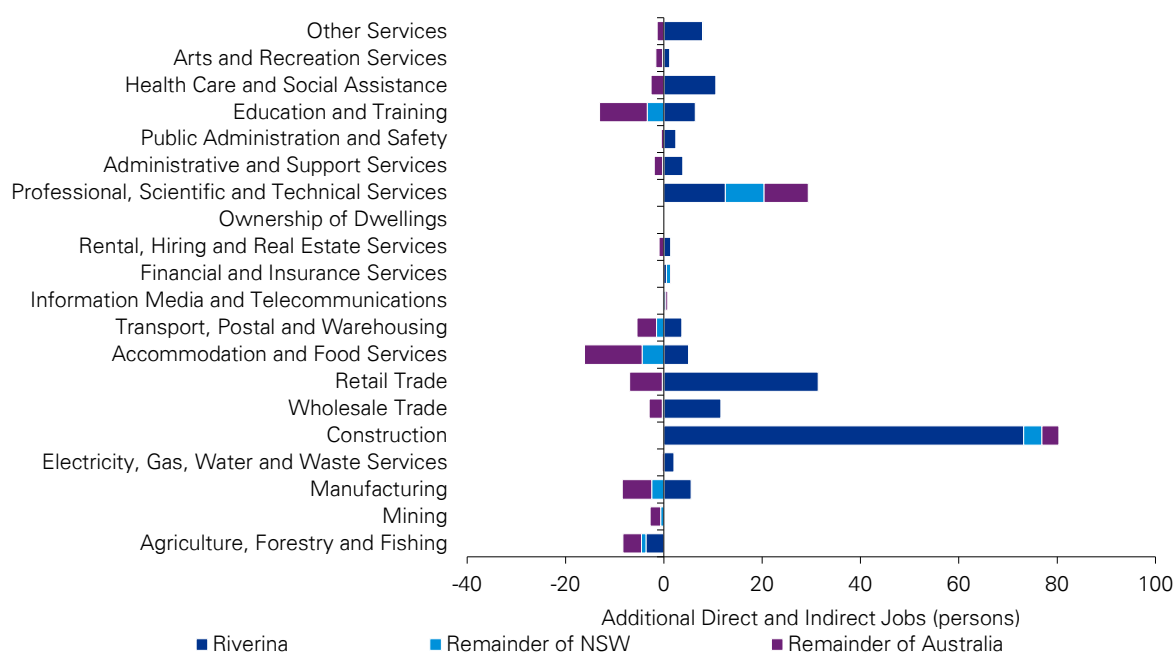
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<sup>58</sup> Based on ABS, Labour Force Survey, Quarterly, November 2020, cat no. 6291.0.55.003. Released 23 December 2020.

<sup>59</sup> Workers with specialist skills may be sourced from outside of the local region.

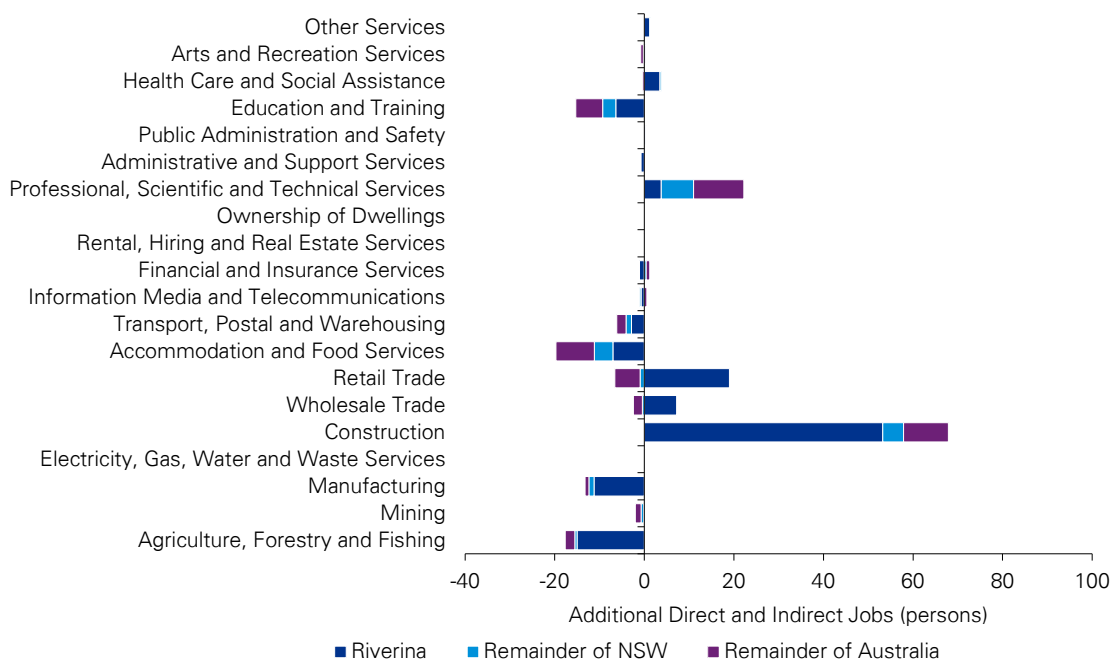
<sup>60</sup> Based on ABS, Job Vacancies, November 2020, cat no. 6354.0. Released 13 January 2021.

**Figure 11: Industry employment results: construction phase, slack labour markets**



Source: KPMG

**Figure 12: Industry employment results: construction phase, tight labour markets**



Source: KPMG

The Construction sector, which benefits directly from the proposal CAPEX program, is anticipated to expand employment by the greatest number of jobs. The results also indicate the expansion of employment in the Professional, Scientific and Technical Services and Wholesale Trade sectors. This reflects the importance of these two sectors in the Construction industry's supply chain. The increase in demand for resources to complete the construction of the proposal tends to increase costs. This has negative impacts on traditional cost-sensitive trade-exposed sectors, such as Agriculture, Forestry and Fishing, Mining, and Manufacturing and on non-traditional trade-exposed sectors such as Accommodation and Food Services, and Education and Training. As a result, these sectors contract and release resources to the construction-related sectors.

Under slack labour market conditions, the increase in the demand for workers can be partially accommodated by drawing from the ranks of the unemployed (or under-employed) and, accordingly, the displacement of workers from existing jobs is less pronounced. With slack labour markets, the benefits from increased labour demand are primarily in the form of additional jobs. Under tight labour markets, as businesses compete for workers who are already employed, the benefits from increased labour demand are primarily in the form of higher real wages resulting in the displacement of workers from lower paying jobs to higher paying jobs.

# 5 Cumulative impacts

## 5.1 Interacting projects

In considering the cumulative impacts of the proposal, it is necessary to identify potential projects, within or adjacent to the study area, that may contribute to local and regional economic impacts. Cumulative impacts may result from the spatial and / or temporal interaction between the projects.

Specifically, the EIA considers the potential impacts of Inland Rail's adjacent A2I and S2P projects, and other State significant projects which have been determined to have a relationship to the proposal by ARTC. This relationship has been determined by ARTC according to the conditions detailed in Section 2.5.5.

The details provided below reflect known information as at the time of drafting this report. Due to the availability and completeness of relevant economic data, the potential cumulative impacts resulting from interacting projects are assessed qualitatively in this EIA. Further details on the cumulative impacts of the proposal can be found in Chapter 26: Cumulative and Residual Impacts.

**Table 14: Projects with the potential to interact with the construction of the proposal**

Project	Relationship to the proposal
<b>Albury to Illabo (Inland Rail)</b>	<ul style="list-style-type: none"> <li>The construction of A2I is anticipated to begin in late 2023 and be complete by early 2026. During the overlapping construction period, the cumulative impact of the projects may include: <ul style="list-style-type: none"> <li>Potential labour draw from the regional economic catchment</li> <li>Potential draw on construction materials from the regional economic catchment</li> <li>Businesses within the catchment area are likely to benefit from the proposal as a result of a cumulative increase in local expenditure from construction personnel</li> <li>Potential impact on rental housing availability and affordability</li> </ul> </li> </ul>
<b>Stockinbingal to Parkes (Inland Rail)</b>	<ul style="list-style-type: none"> <li>The construction of S2P is anticipated to begin in mid 2023 and be complete by late 2024. During the overlapping construction period, the cumulative impact of the projects may include: <ul style="list-style-type: none"> <li>Potential labour draw from the regional economic catchment</li> <li>Potential draw on construction materials from the regional economic catchment</li> <li>Businesses within the catchment area are likely to benefit from the proposal as a result of a cumulative increase in local expenditure from construction personnel</li> <li>Potential impact on rental housing availability and affordability</li> </ul> </li> </ul>

Source: ARTC, EIA Chapter 26: Cumulative and Residual Impacts

### 5.1.1 Cumulative labour market impacts

The concurrent construction of interacting projects has the potential to increase the demand for labour in the local and regional economy, particularly for workers with trade and construction skills / knowledge. The demand for construction workers within a similar timeframe will lead to cumulative demands on construction labour, not only within the local and regional economy, but also NSW, and potentially nationally.

The subsequent labour market impact of this cumulative demand to the local and regional economy will be dependent on the workforce profile and construction schedule of the interacting projects and the state of the labour market at any point in time.

As detailed in Section 4.5, the results of the regional economic impact assessment indicate that it is reasonable to assume that the regional labour market will have the capacity to supply a portion of the workforce requirements of the proposal without major disruption. The industry and occupational profile of the Riverina workforce, together with evidence that labour supply for the Construction sector is not currently stretched, means that it is reasonable to assume that the regional labour market has the capacity to supply a significant portion of the workforce requirements of the proposal without major disruption.

However, in the context of cumulative labour market demand, the possibility of some tightness in the labour market cannot be completely dismissed. The interacting projects in the adjacent and surrounding areas (listed above), including those associated with Inland Rail, have the potential to put some pressure on labour markets if inopportune scheduling results in cumulative and competing demand for trades and construction labour. If the economy grows much faster than expected, and there is significantly more activity in the construction sector than is anticipated, then labour market conditions may tend towards somewhere between the slack and tight scenarios.

In addition, further benefits may be generated by the concurrent and sequential construction of infrastructure projects within or adjacent to the study area. These benefits come in the form of lowered mobilisation costs and transfer of labour experience and skills to projects that continue to occur after the end of the proposal's construction phase.

### **5.1.2 Cumulative impacts on local businesses**

The expansion in construction activity and regional employment (with a subsequent increase in temporary and non-resident population) has the potential to increase demand for a range of local infrastructure and services, including housing, health care, childcare, and education. Further, spending on consumer orientated products by the construction workforce has the potential to benefit local retail businesses by increasing their trading levels.

### **5.1.3 Cumulative supply chain impacts**

Cumulative supply chain impacts are likely to be realised where construction timeframes occur concurrently and comparable material is required, e.g. the adjacent Inland Rail projects. Opportunities to supply these projects may include the supply of fuels, equipment and quarried material. Where materials are sourced within the surrounding regions, increased local expenditure is likely to increase local and regional economic activity.

However, should the demand for material surpass supply, resulting in a shortage of available material, input costs to the proposal may increase (due to increased prices of materials) driving up the total construction cost, negatively impacting on the economic return of the proposal.

# 6 Impact Management

As outlined throughout this report, the proposal will result in a number of economic impacts. Where these impacts cannot be avoided, a range of measures have been proposed by ARTC to carefully manage and mitigate these impacts. Opportunities are also proposed to enhance economic benefits. These mitigation, management and enhancement measures are summarised in the table below with further details provided in Chapter 18: Land Use and Property, and Technical Paper 12: Social Impact Assessment.

**Table 15: Summary of proposed management and mitigation measures**

Impact	Proposed Mitigation / Management Measures
<b>Agricultural Impacts</b>	
<b>Land operations and management</b>	<p><b>Pre-construction</b></p> <p>Property owners and occupants would be consulted in accordance with the Inland Rail Communications and Engagement Strategy (mitigation measure SE-1), to ensure that owners/occupants are informed about:</p> <ul style="list-style-type: none"> <li>• The timing and scope of activities in their area;</li> <li>• Any potential property impacts/changes, particularly in relation to potential impacts on access, services, or farm operational activities that have the potential to impact livestock; and</li> <li>• Individual property agreements would be developed in consultation with landowners/occupants, with respect to the management of construction on or immediately adjacent to private properties, where appropriate. These would detail any required adjustments to fencing, access, farm infrastructure, and relocation of any impacted structures, as required.</li> </ul> <p><b>Construction</b></p> <p>Where construction is located on or immediately adjacent to private properties and has the potential to affect farm operational arrangements/properties. Feasible and reasonable property-specific measures would be identified and implemented in consultation with landholders to address identified issues where feasible and reasonable and implemented during construction, where construction is located on or immediately adjacent to private properties and has the potential to affect farm operational arrangements. The measures would include, as appropriate:</p> <ul style="list-style-type: none"> <li>• Arrangements in terms of works timing and practices;</li> <li>• Any required adjustments to fencing;</li> <li>• Access, and farm infrastructure; and</li> <li>• Relocation of any impacted structures.</li> </ul>
<b>Land acquisition</b>	<p><b>Pre-construction</b></p> <p>The design and construction planning would continue to be refined to minimise potential impacts on land uses and properties as far as reasonably practicable.</p> <p>Where land is not purchased on the open market, land for the construction of the works will be acquired in accordance with the requirements of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i>.</p>



Impact	Proposed Mitigation / Management Measures
<b>Land severance</b>	<p><b>Pre-construction</b></p> <p>Where any legal access to a property is permanently affected and a property has no other legal means of access, alternative access to and from a public road would be provided to an equivalent standard, where feasible and practicable. Where alternative access is not feasible or practicable, and a property is left with no access to a public road, negotiations would be undertaken with the relevant land owner for the acquisition of the property.</p>
<b>Restricted movements</b>	<p><b>Pre-construction</b></p> <p>ARTC would consult with adjoining landowners regarding temporary construction impacts on viability and productivity. This may include consideration of temporary farm infrastructure to maintain farm management practices and/or modification of construction activities and footprint</p> <p>Access to individual residences, services and businesses, and for livestock across the rail corridor would be maintained during construction where reasonably practicable. The traffic, transport and access plan included in the construction environmental management plan would include measures in relation to property access during construction</p> <p>Where alternative access arrangements need to be made, these would be developed in consultation with affected property owners/occupants, and Local Land Services for travelling stock reserves.</p>
<b>Stock Routes</b>	<p><b>Pre-construction</b></p> <p>Interface agreements would be required for all private crossings on Inland Rail and would be put in place to assist in the safe movement of stock and non-standard machinery across the rail corridor.</p> <p>Where a property is severed, where required a process would be put in place to assist in the safe movement of stock and non-standard machinery across the rail corridor.</p> <p>Farm water pipelines, dams and drainage channels would be replaced or reinstated to ensure continuity of stock and domestic water supplies prior to the removal of existing impacted infrastructure.</p> <p>Stock fencing must be in accordance with the Inland Rail fencing standards and be constructed prior to the removal of existing fencing or any works being carried out on the subject land unless otherwise agreed with the landowner. Where fencing is required, the relevant landowner will select the type of fencing in a like-for-like fashion from ARTC's standard fence and gate types, to suit the farm operations. Internal fencing matters will be considered, as appropriate, during the land acquisition process.</p>
<b>Accommodation</b>	
<b>Temporary workforce accommodation</b>	<p><b>Pre-construction</b></p> <p>A temporary workforce accommodation plan would be prepared to guide the design and provision of temporary accommodation. The plan would be developed in accordance with ARTC's Inland Rail Program Accommodation Principles, relevant council development codes and guidelines, and the following overarching principles:</p> <ul style="list-style-type: none"> <li>• temporary workforce accommodation is designed to be integrated into, and minimise the impacts on, the existing communities</li> <li>• temporary workforce accommodation adequately provides for occupants and has a high level of on-site amenity.</li> </ul> <p>The plan would define:</p> <ul style="list-style-type: none"> <li>• the arrangement and layout of facilities to minimise amenity impacts on surrounding sensitive receivers (including noise, visual amenity, lighting</li> </ul>

Impact	Proposed Mitigation / Management Measures
	<p>and privacy)</p> <ul style="list-style-type: none"> <li>proposed built form heights to ensure heights are appropriate within their surrounding context</li> <li>opportunities for retention of screening vegetation (where present) and provision of additional landscaping as required</li> <li>how services (such as water, waste, stormwater and wastewater) would be provided and managed to ensure consistency with relevant codes and guidelines and minimise potential impacts on local infrastructure networks and the environment</li> <li>location, design, service and amenity requirements for mobile accommodation facilities including amenities for workers</li> <li>include a complaints process including a mechanism for reporting and managing anti-social behaviour</li> <li>a plan of management for on-site amenities, activities and facilities</li> <li>provision of adequate parking on site</li> <li>how sites would be decommissioned and rehabilitated consistent with the rehabilitation strategy for the proposal</li> <li>investigate opportunities to upgrade or leave legacy infrastructure such as sewerage treatment, water or power facilities.</li> </ul> <p>The plan would be developed in consultation with relevant key stakeholders, including the relevant local Councils.</p>
<b>Access to housing and accommodation</b>	<p><b>Pre-construction</b></p> <p>The principal contractor will liaise with councils to understand average and peak tourist demand patterns.</p> <p>The principal contractor will liaise with councils and local agricultural bodies to understand demand patterns associated with seasonal agricultural workers.</p> <p>The principal contractor will liaise with local short-term accommodation providers to understand seasonal peaks and identify constraints.</p> <p>The principal contractor will prepare a workforce housing and accommodation plan which outlines:</p> <ul style="list-style-type: none"> <li>proposed workforce housing options</li> <li>management measures to ensure sufficient supply of short term accommodation so as to not impact local supply for tourism, season workforce and highway traveller demand while maximising opportunities for local supply</li> <li>plans for supporting the safe movement of workers to and from the work site daily.</li> </ul> <p><b>Construction</b></p> <p>The principal contractor will monitor the implementation of the workforce housing and accommodation plan by:</p> <ul style="list-style-type: none"> <li>consulting with local real estate agents and local short-term accommodation providers to ensure the construction program is not having a material impact on availability</li> <li>monitoring the local rental market to identify any changes in supply</li> <li>if supply constraints become apparent, the principal contractor will work with councils and local accommodation providers to identify causes and amend the workforce housing and accommodation plan appropriately.</li> </ul> <p>The principal contractor will ensure workforce compliance with commuting and driver fatigue measures.</p>
<b>Workforce, Business and Industry</b>	

Impact	Proposed Mitigation / Management Measures
<b>Local business and industry engagement</b>	<p><b>Pre-construction</b></p> <p>ARTC would continue to support local employment in accordance with the Australian Jobs Act 2013 and Australian Industry Participation National Framework, and through the Inland Rail Skills Academy, to leverage training programs, upskill local residents, and connect businesses with Inland Rail opportunities and key regional industries.</p> <p>The principal will develop a proposal specific workforce management plan which will include measures to manage local employment and procurement requirements. The plan would address the requirements of the Australian Jobs Act 2013, the Australian Industry Participation National Framework.</p> <p>The principal contractor will liaise with business development and industry support groups, including the Temora Business Enterprise Group, Junee Business and Trades Association Inc., and Cootamundra Development Corporation to understand the capacity of businesses to supply the proposal.</p> <p>ARTC and the principal contractor will promote the Inland Rail website and supplier portal to businesses in the region.</p> <p>ARTC and the principal contractor will support training and business capacity building programs.</p> <p><b>Operation</b></p> <p>ARTC would support Councils, business chambers and other local industry bodies to promote the opportunities for further development once the rail line is operational.</p>

# 7 Conclusions

As detailed, this EIA has been undertaken for the Illabo to Stockinbingal section of Inland Rail Program, in accordance with the requirements under Section 15 of the SEARs.

As per the requirements of the SEARs, this EIA has focussed on the specific economic impacts resulting from the construction and operation of the proposal. However, the assessment acknowledges the role of the proposal, and the remaining project links, in collectively delivering the benefits of the Inland Rail Program. In its entirety, Inland Rail will enhance Australia's existing national rail network and serve the interstate freight market. As per the Inland Rail Program Business Case (2015), key economic impacts of the Inland Rail Program include:

- Lower prices for consumers as a result of lower intercapital freight transport costs, which reduces the cost of living for households.
- Positive direct net economic benefits, driven by improvements in freight productivity, reliability and availability, and benefits to the community from reduced environmental externalities, reduced road congestion and improved safety benefits. The Program is stated to be economically viable with a benefit cost ratio of 1.02 at a 7 percent discount rate (2.62 at a 4 percent discount rate).
- Economic growth as increased profits (for industries and producers where intercapital freight is an input or output) and incomes are multiplied through the economy. The Program is anticipated to deliver a net positive impact of \$16 billion on GDP (\$2015) over its 10 year construction period and operation.
- Nationally, the Program is also expected to deliver an additional 16,000 jobs at the peak of construction, and an average of 700 additional jobs per annum.
- Enhanced competition between rail and road freight, by providing a credible transport alternative, which will drive further innovation and efficiency.
- Potential to promote the expansion and development of freight precincts around Inland Rail terminals as a result of the benefits from co-location and clustering of industries (as a result of reduced transport costs to warehousing, economies of scale and knowledge-sharing opportunities).

At a local level, the economic impact of the proposal will promote community development by supporting local and regional employment, businesses and industries:

- The proposal will present opportunities to encourage, develop and grow local businesses through the supply of resources and materials for the construction and operation of the proposal. ARTC has developed a Sustainable Procurement Policy which will ensure that local and regional businesses will have opportunities to supply the proposal.
- The proposal will unlock opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses in close proximity to the construction footprint. The expansion in construction activity is also likely to support additional temporary flow-on demand and additional spending by the construction workforce in the local community.

The proposal alignment has been designed to minimise impacts to local business and industry as far as practicable, however, the proposal is likely to result in disruption to agricultural businesses through the loss of agricultural land (through disturbance, acquisition, or sterilisation), disruption to farm management, or changes in accessibility or connectivity to market.

This has the potential to negatively impact the productive capacity and total economic value add from the local agricultural industry, including impacting potential exports from the study. It is anticipated however that the total scale of this impact is not anticipated to be material. ARTC will work with individual land owners to develop suitable management solutions based on individual farm management practices to mitigate and manage these impacts.

The results of the economic benefits assessment estimate that the proposal is expected to provide a total of \$34.57 million (\$2021) in incremental benefits to the proposal area (at a 7 percent discount rate). These benefits result from improvements in freight productivity, reliability and availability.

The proposal will promote regional economic growth across the Riverina region. Using recent labour market trends and projected construction sector activity to inform workforce capacity and capability within the local region. It is likely that the labour market conditions that are expected during the construction phase of the proposal will be most consistent with the slack labour market scenario. Under this scenario, over the construction phase, real GRP for the Riverina region is projected to be \$67 million higher than the baseline level under the assumption of slack labour markets.

Under a slack labour market scenario, the proposal is also expected to deliver an additional 176 jobs (direct and indirect) per year over the construction period. It should be noted that COVID-19 has disrupted labour supply chains and is continuing to cause fluctuating labour availability and conditions, particularly due to changing government restrictions, resulting in some future uncertainty in the delivery of the proposal.

# TECHNICAL PAPER 12

Economic Impact Assessment

## **Appendix A** Regional economic assessment—assumptions

ILLABO TO STOCKINBINGAL ENVIRONMENTAL IMPACT STATEMENT



# Appendix A: Regional economic assessment - assumptions

The choice of exogenous variables determines the economic environment in which the construction of the proposal will be assessed. The construction phase CAPEX required to construct the proposal can be thought of as a temporary shock to the economy. That is, it is a one-off increase in investment expenditure.

The economic impacts of the construction phase of the proposal are directly related to the stimulus that is provided to the economy through the boost to expenditure required to construct the proposal. Analysis of the construction phase of the proposal is best undertaken in the context of a short run economic environment to recognise the temporary nature of the stimulus that this phase of the proposal provides.

The choice of exogenous variables for the construction phase simulation is designed to configure KPMG-SD so that it represents the behaviour of the economy in the shorter term. The key settings include:

- i. Tax rates and government policy settings are held fixed at their baseline values with budget balances free to vary;
- ii. Sector-specific capital stocks are held fixed at their baseline values;
- iii. A value for investment in the Riverina's Rail Transport sector is imposed to reflect the proposal CAPEX assumptions whilst investment in the remaining sectors respond to sector-specific rates of return;
- iv. The labour market is assumed to have sufficient slackness in the short term such that increases in demand do not impact real wages;
- v. The number of working-age people in the nation is held fixed at the number in the baseline;
- vi. The average propensity to consume out of household disposable income is held fixed at its baseline value; and
- vii. Consumer preferences and technical change parameters are held fixed at their baseline values.

The default setting for the labour market listed under (iv) warrants further explanation. In comparative-static mode, the labour market in KPMG-SD can be configured in one of two conventional ways. The first approach, consistent with (iv) above, is to assume that real wages are fixed at their baseline values and that labour demand is accommodated by supply responses that do not induce changes in real wages. This assumption is reasonable in environments where there is slack in labour markets (where unemployed, under-employed workers, and working-age people currently not in the labour force can be drafted into jobs). The second approach is to assume that labour markets are extremely tight and that increases in labour demand are accommodated by increases in real wages as businesses compete for workers who are already employed.

In this report, the sensitivity of the labour market assumption is calculated by simulating the construction phase of the proposal under the two approaches described above (i.e. slack or tight labour markets).

## Model inputs

The numerical inputs (or shocks) that are modelled within KPMG-SD are designed to capture the direct impacts of the construction phase of the proposal on the economy. KPMG-SD then estimates the flow-on effects of these shocks on the economy.

Table 21 below reports the projected CAPEX for the proposal. Over the construction phase,<sup>61</sup> 2021-23, the proposal CAPEX is projected to be \$134 million (\$2020).

**Table 16: CAPEX for the proposal Construction Phase**

Year	\$2015 <sup>a, c</sup>	\$2020 <sup>b, c</sup>
2021	\$54,049,370	\$58,712,256
2022	\$57,765,257	\$62,748,716
2023	\$11,856,085	\$12,878,920
<b>Total</b>	<b>\$123,670,712</b>	<b>\$134,339,892</b>

Notes:

a) Derived from capital cost plan and construction programming provided to KPMG by ARTC.

b) Conversion to 2020 dollars based on the Producer Price Index growth from Dec 2015 to Jun 2020. The Producer Price Index used relates to output of the Heavy and Civil Engineering Construction industry specifically.

c) These figures reflect capital costs and do not include other provisions (insurances, construction camps, ARTC train control system, utilities and property & site remediation).

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<sup>61</sup> The assessment assumes a capital expenditure profile consistent with the Inland Rail Program Business Case, using parameters and inputs based on the state of the economy projected for those years. Pre-construction costs prior to 2022 are not included because they are spent outside of the indicative construction period. Total spending in the construction phase (including pre-construction costs) is \$142,403,477 (\$2015) and \$154,688,749 (\$2020).



# TECHNICAL PAPER 12

Economic Impact Assessment

## **Appendix B** Treatment of coal demand for the Inland Rail EIS

ILLABO TO STOCKINBINGAL ENVIRONMENTAL IMPACT STATEMENT



# Appendix B: Treatment of coal demand for the Inland Rail EIS'

This note has been developed to document KPMG's assumption relating to the treatment of coal demand within the benefits assessment developed for the Inland Rail EIS.

For the purposes of the economic benefits assessments contained within the Inland Rail EIS', freight movements from coal demand have been excluded. This approach is consistent with the CBA completed for the ARTC Inland Rail Program Business Case (2015). With specific reference to the CBA results for the scenarios **"No Western Line Upgrade"** (see table below, extracted from the Inland Rail Business Case Chapter 9. Economic Analysis), where coal benefits are equal to zero (0).

## Cost benefit analysis results for Inland Rail by beneficiary (incremental to the base case, discounted 2014-15 dollars)

BENEFICIARY (PV \$ MILLIONS)	INCLUDING WESTERN LINE UPGRADE*		NO WESTERN LINE UPGRADE	
	PV AT 4% DISCOUNT RATE (\$M)	PV AT 7% DISCOUNT RATE (\$M)	PV AT 4% DISCOUNT RATE (\$M)	PV AT 7% DISCOUNT RATE (\$M)
<b>COSTS</b>				
Capital costs	7650	6590	7607	6553.8
Operating costs	133	66	133	65.6
Maintenance costs	793	380	775	371.4
<b>Total costs</b>	<b>8575</b>	<b>7036</b>	<b>8515</b>	<b>6991</b>
<b>BENEFITS</b>				
<b>1) Intercapital/intermodal freight</b>	<b>15 361</b>	<b>4666</b>	<b>15 862</b>	<b>4716</b>
Melbourne to Brisbane	12 222	3697	12 621	3737
Brisbane to Adelaide	1278	389	1320	393
Brisbane to Perth	1860	579	1921	585
<b>2) Regional freight</b>	<b>3524</b>	<b>1271</b>	<b>1995</b>	<b>693</b>
Coal	1592	585	0	0
Agricultural products	1850	658	1910	665
Others (including steel, minerals, general freight, and other extra-corridor)	82	28	84	28
<b>3) Community</b>	<b>2821</b>	<b>879</b>	<b>3126</b>	<b>962</b>
<b>4) Passengers</b>	<b>50</b>	<b>16</b>	<b>52</b>	<b>16</b>
<b>5) Rail network owners (ARTC &amp; QR)</b>	<b>747</b>	<b>321</b>	<b>772</b>	<b>324</b>
<b>Total benefits</b>	<b>22 503</b>	<b>7152</b>	<b>21 806</b>	<b>6711</b>
<b>Net present value of costs and benefits</b>	<b>13 928</b>	<b>116</b>	<b>13 291</b>	<b>(280)</b>
<b>Benefit cost ratio</b>	<b>2.62</b>	<b>1.02</b>	<b>2.56</b>	<b>0.96</b>

Source: Inland Rail Program Business Case 2015

On this basis, it is the understanding of KPMG that, in the absence of the Western Line upgrade to the existing Queensland Rail network<sup>62</sup>, no benefits are expected to accrue to coal movements as a result of the delivery of Inland Rail. These results imply that, under this scenario, there is no net benefit to coal trips traversing any of the new links to be delivered as part of the Inland Rail Program.

Further, the above table highlights that the identified benefits accruing to coal trips are a direct result of the Inland Rail Program with complementary investment in Western Line Upgrades, which do not form part of the scope of the Inland Rail Program as it stands currently, and are not funded.

On this basis, KPMG has ensured consistency with the assumptions contained within the ARTC Inland Rail Business Case which indicates there are no net benefits to coal freight movements under the “No Western Line Upgrade” scenario.

Any further consideration of potential benefits that may be expected to accrue to coal movements as a result of the proposal would require additional validation of the demand assessment undertaken as part of the business case.

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<sup>62</sup> (referred to as “complementary investment on the QR network (Western Line and Brisbane metropolitan network) to enable coal train lengths to increase from 650 metres to 1010 metres”)