

TECHNICAL PAPER

05

Economic

ALBURY TO ILLABO ENVIRONMENTAL IMPACT STATEMENT





Inland Rail

Albury to Illabo

Environmental Impact Statement

Technical Paper 5: Economic

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Executive summary

Introduction

The following economic impact assessment (EIA) report has been prepared to identify potential economic impacts of the proposed Albury to Illabo 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 Australian Rail Track Corporation Ltd (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).

ARTC lodged the State Significant Infrastructure Scoping Report with the NSW Government in mid-2020, and the Secretary's Environmental Assessment Requirements (SEARs) were issued on 14 October 2020. The following assessment addresses the specific economic requirements of Section 4 of the SEARs.

Baseline and impact assessment

Existing labour market conditions

According to the Australian Government's quarterly regional estimates of unemployment, as at March 2021, there were a total of 92,125 employed persons in the study area (36.7 percent located in Wagga Wagga Local Government Area (LGA), 27.9 percent in Albury LGA and 24.8 percent in Wodonga LGA).¹

In the March 2021 quarter, the unemployment rate in the study area was 5.0 percent, compared to NSW at 6.4 percent.² In the same period, the highest unemployment rate was 7.3 percent in Albury LGA while the lowest was 2.7 percent in Lockhart LGA.³ Over the 24 months to March 2021, the unemployment rate has decreased across the study area (by 0.3 percentage points) which does not reflect state-wide unemployment trends (an increase of 1.9 percentage points). Greater Hume Shire and Lockhart LGA experienced a marginal increase in the unemployment rate (0.7 and 0.3 percentage points respectively).

The NSW unemployment rate peaked at 7.1 percent in July 2020, which reflects the economic impact of the COVID-19 health crisis.⁴ The COVID-19 shock impacted the existing labour markets from March 2020, and NSW continues to experience higher levels of unemployment compared to 2019.

Employment by industry

According to the 2016 Census, the major employment industry for those living in the study area was Health Care and Social Assistance, employing 11,761 workers. This represents 16.1 percent of the total workforce, which is relatively significant when compared to the NSW average of 13.6 percent. Within Health Care and Social Assistance, the primary source of employment is in Hospitals (3,457 workers).

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

² Ibid.

³ Ibid.

⁴ ABS. June 2021. *6202.0 Labour Force, Australia: Table 4. Labour force status by Sex, New South Wales – Original – Unemployment Rate; Persons (original data)*.

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, 9.0 percent were employed in the Construction industry (6,588 workers), with the largest proportion employed in Construction Services (4,059 workers), followed by Building Construction (1,708 workers) and Heavy and Civil Engineering Construction (565 workers). Across the economic catchment (Murray and Riverina), 8,986 workers were employed in the Construction industry, with 5,442 workers in Construction Services and 952 workers in Heavy and Civil Engineering Construction.

Workforce

Direct employment resulting from the construction and operation of the proposal has been estimated based on the indicative construction schedule and component activities. The proposal workforce is anticipated to peak at approximately 770 FTE. Once operational, the proposal would be maintained by the existing ARTC workforce and no additional positions would be created. In addition to direct employment on the proposal, indirect employment opportunities include some short-term employment in retail, administration and transport.

Based on current labour market trends, and industries and occupations of the local workforce, there may be limited latent capacity and capability within the impact assessment area and regional economic catchment to support the construction of the proposal. It is expected that approximately 10 percent of the 770 roles at peak could be filled using the local labour pool over the construction lifecycle, including Indigenous people. Specifically, five of the LGAs in the study area have quite low unemployment rates (much lower than the NSW average) indicating low latent capacity, although Albury LGA may present an opportunity for labour supply with a high unemployment rate of 7.3 percent.

Overall, given the limited number of workers available at each LGA, it is expected that employment opportunities will be distributed across the regional study area, causing a minor effect in the local area, yet a moderate positive effect regionally (across the Murray and Riverina regions).

Furthermore, 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 up the supply chain. The regional economic modelling results (Section 5.5) indicate that indirect employment will be generated in the Construction, Professional, Scientific and Technical Services and Wholesale Trade sectors, reflecting the importance of these sectors in the Construction sector's supply chain.

Local businesses and industry

Agriculture

The Murray and Riverina regions are some of the most productive and agriculturally diverse areas in Australia, with 87 and 78 percent of the region's land mass comprised of arable agricultural land (84,900 and 44,600 square kilometres), respectively.^{5, 6} A generous supply of water for irrigation is provided by the Murrumbidgee and Murray Rivers, with the Murray and Riverina regions traversing the draining basins of these significant waterways. In the Murray region, the most common land use is grazing native vegetation which occupies 49 percent (48,300 square kilometres) of the region's land mass.⁷ In the Riverina region, grazing modified pastures represent the most common land use at 39 percent (22,100 square kilometres) of the region's land mass.⁸ 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 Murray and Riverina regions was \$1.5 billion and \$2.5 billion, respectively, collectively representing 34 percent of the total gross value of agricultural production in

⁵ Land use of Australia 2010-11 access at ABARES, About My Region – Murray NSW, 2018-2019

⁶ Land use of Australia 2010-11 access at ABARES, About My Region – Riverina NSW, 2018-2019

⁷ Land use of Australia 2010-11 access at ABARES, About My Region – Murray NSW, 2018-2019

⁸ Land use of Australia 2010-11 access at ABARES, About My Region – Riverina NSW, 2018-2019

NSW.^{9, 10} The most valuable agricultural commodities across the two regions were cattle and calves (\$328 million in Murray, \$309 million in Riverina), followed by sheep and lambs (\$238 million in Murray, \$227 million in Riverina) and wheat (\$153 million in Murray, \$236 million in Riverina).¹¹ The two regions together produce all of the State's almonds, 98.6 percent of onions, 97.8 percent of mandarins, 97.2 percent of grapes, 95.1 percent of rice, 94.3 percent of broccoli and 93.5 percent of oranges.¹²

Within the study area, Greater Hume Shire, Lockhart and Junee LGAs have a typical rural profile compared to the urban-centred LGAs of Wodonga, Albury and Wagga Wagga. The gross value of annual agricultural production in Greater Hume Shire, and Lockhart and Junee LGAs was approximately \$219 million, \$87 million and \$86 million in FY2016.¹³ Crops represent 41.1 percent, 67.9 percent and 70.0 percent of these values, respectively.¹⁴

The second largest proportion of businesses are in the Agriculture, Forestry and Fishing industry. This is driven by the rural LGAs with 710 businesses in Greater Hume Shire (52.1 percent), 131 businesses in Lockhart LGA (44.7 percent) and 276 businesses in Junee LGA (50.3 percent).

The construction and operation of the proposal is likely to have a limited impact on high-value farming operations and general agricultural uses across the study area as the proposal is located within an existing rail corridor.

Potential impacts on agriculture as a result of the proposal considered in this assessment include:

- Disruption to access and infrastructure
- Disruption to stock movement and agricultural operations
- Improvements in supply chain efficiency.

The Billy Hughes bridge enhancement site partly traverses agricultural land and the proposal is adjacent to agricultural land outside of the main townships of the existing rail corridor. The agricultural land within the Billy Hughes bridge enhancement site is zoned for industrial use but is currently used for grazing under a lease. This land is set to be included in a new industrial precinct as part of the Albury City Local Strategic Planning Statement (Albury City Council, 2020). The land needed for the compound site represents only a small part of the overall land which is subject to the lease agreement for sheep grazing. ARTC would enter into lease agreements, where applicable, and would consult with affected landholders and stakeholders.

During harvest season, there may be additional heavy vehicles accessing agriculture infrastructure, such as grain silos and livestock loading facilities. Where temporary land occupation requirements occur at agricultural infrastructure, potential impacts to access and use would be managed with the implementation of relevant traffic management plans.

Travelling Stock Reserves, which provide for the movement of stock, are located on some of the public roads expected to support construction access in the Lockhart-Greater Hume and Wagga Wagga precincts. Impacts to stock movement during construction are not anticipated given the low volumes of construction traffic. Local Land Services would be notified of the construction activities in order to make stock handlers aware of when these local roads would be in use.

During construction, broader accessibility impacts due to changes in the surrounding road network may also affect local agricultural businesses and properties and temporary access impacts would be coordinated with the landholder.

Localised seasonal traffic variation may be experienced at enhancement sites that share the land with agricultural infrastructure (grain silos, livestock loading facilities etc.) as the infrastructure would generate additional heavy or

⁹ ABARES, *About My Region – Murray NSW*, 2018-2019

¹⁰ ABARES, *About My Region – Riverina NSW*, 2018-2019

¹¹ Ibid.

¹² ABS, *Value of Agricultural Commodities Produced, Australia 2019-20*, cat. no. 7503.0

¹³ ABS, *Value of Agricultural Commodities Produced, Australia 2015-16*, cat. no. 7503.0

¹⁴ Ibid.

farm vehicle movements during harvest seasons. Agreement with operators of grain silos and other infrastructure within the proposal site would be required prior to construction, and access to these sites would be maintained with relevant traffic management plans.

Efficient supply chains support the regional and national capacity to enhance economic opportunities within local communities. By providing efficient transport access to intrastate and interstate markets, the proposal may act as a catalyst for further private sector investment in the study area, particularly for freight and logistics operations.

It is likely that there could be a low negative impacts on agriculture as a result of reduced transport access and access to infrastructure. Improvements in supply chain efficiency would be a medium positive impact on agricultural businesses.

Tourism

The regional economic catchment is recognised as a popular tourist destination for visitors seeking to experience Australia's regional landscape and culture. The Murray and Riverina regions offer both urban centres abundant with shops and restaurants and a diverse natural environment featuring waterways, mountains and wildlife.¹⁵

During the year ending March 2020, the Murray tourism region received 2.6 million visitors with expenditure totalling approximately \$810 million.¹⁶ Domestic overnight visitors comprised the largest proportion of visitors, with 37.5 percent of these visitors travelling for holiday and spending an average of \$159 per visitor per night.¹⁷

During the year ending March 2020, the Riverina tourism region received 2.9 million visitors with expenditure totalling approximately \$743 million.¹⁸ Domestic daytrip visitors comprised the largest proportion of visitors, with 35.4 percent of these visitors travelling for holiday and spending an average of \$160 per visitor.¹⁹

Tourism is a significant focus for the NSW regional centres of Albury and Wagga Wagga, with key attractions including the Murray Art Museum Albury (MAMA), Albury Botanic Gardens and Albury Library Museum in Albury, and the Wagga Wagga Art Gallery and National Art Glass Gallery in Wagga Wagga.

The proposal site consists primarily of the existing active rail corridor between Albury and to the north-east of Illabo, which is owned by the NSW Government and leased, managed and operated by ARTC. Potential impacts on the tourism industry may result from the impact on recreational land, waterways and short-term accommodation.

There will be a partial or full closure of small areas of public park for the duration of construction associated with the Cassidy Parade pedestrian bridge, Kemp Street bridge and Olympic Highway underbridge enhancement sites, and these areas would be reinstated at the completion of construction.

During construction, waterway access beneath the Murray River bridge would be partially restricted for construction and safety purposes for the full duration of the works at the enhancement site (approximately one year). Scaffolding beneath the Murray River bridge may partially restrict movements for recreational or commercial users. However, the proposal would maintain the river as navigable by the provision of a channel under the bridge to maintain access for watercraft. This is likely to result in a minimal negative impact.

Local Businesses

The largest proportion of businesses in the study area is in the Construction industry with a total of 1,264 employing businesses and a further 1,545 non-employing businesses across the six LGAs.²⁰

¹⁵ Note that the Murray and Riverina tourism regions are not exactly analogous to the Murray and Riverina SA4s.

¹⁶ Destination NSW, *Travel to The Murray Tourism Region*, Year ended March 2020.

¹⁷ Ibid.

¹⁸ Destination NSW, *Travel to Riverina Tourism Region*, Year ended March 2020.

¹⁹ Ibid.

²⁰ Ibid.

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, regional and Indigenous businesses will have opportunities to supply the proposal.

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 Victoria and New South Wales. Local quarries have been identified as having the potential to be used for structural fill, capping and ballast.

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).

While transport is not a significant industry within the study area, there are numerous large transport companies based in the study area, which may have the capacity to support the construction of the proposal. 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.

Accommodation and housing

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 resulting from increased agricultural conditions and local development, have resulted in a highly competitive private market.

As such, it is almost certain that Wagga Wagga and Junee would experience a major change during workforce peak periods (March and September 2024). Without mitigation, there would be a significant impact on aspects of the local economy, including tourism, local business and seasonal workers as the proposal limits the availability of short-term accommodation at certain times of the year. A lack of access to short-term accommodation may result in a loss of tourism expenditure and labour force shortages for industries reliant on seasonal workers such as agriculture.

Property

The construction of the proposal is likely to have a limited impact on property as the proposal is located within an existing rail corridor. During operation there may be some impacts on property as a result of an easement being established and the additional trains operating.

The proposal site includes some additional areas outside of the rail corridor that would be needed to support construction activities, however no permanent land acquisition is required. No land which is primarily used for residential housing would be required for the proposal, and there would be no instances of property severance. An easement would be established for high voltage overhead powerlines at the edge of the property boundary of the Kildare Catholic College adjacent to the Edmonson Street bridge enhancement site, however no land parcel would be 'severed' and it would not impact access to the school.

During operation as a result of the increased rail operations, there is predicted to be a slight increase at enhancement sites where track adjustments are proposed. A small increase in operational noise may have a minor to moderate impact on the residential properties in close proximity to the proposal. Identification of noise mitigation measures to address this impact will continue to be investigated during detailed design and in accordance with the Inland Rail Noise and Vibration Strategy, taking into consideration of landholder preferences.

Inland Rail Program impacts

As per the requirements of the SEARs, this EIA has focused 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 other proposal 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 Gross Domestic Product 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).

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 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 \$179.80 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 ~62 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 ~38 percent of the total projected benefits for the proposal.

The full results of the economic benefits assessment are presented in the Table 1 below.

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

BENEFITS	Discount Rate		
	4%	7%	10%
Freight Benefits	\$365.33 m	\$179.80 m	\$103.14 m
Travel Time Savings	\$25.42 m	\$13.82 m	\$8.66 m
Operating Cost Savings	\$37.46 m	\$21.83 m	\$14.42 m
Improved Availability	\$235.50 m	\$110.87 m	\$60.68 m
Improved Reliability	\$66.95 m	\$33.29 m	\$19.36 m
Community Benefits	\$0.00 m	\$0.00 m	\$0.00 m
Crash Reduction	\$0.00 m	\$0.00 m	\$0.00 m
Environmental Externalities	\$0.00 m	\$0.00 m	\$0.00 m
Road Decongestion Benefits	\$0.00 m	\$0.00 m	\$0.00 m
TOTAL BENEFITS	\$365.33 m	\$179.80 m	\$103.14 m

Source: KPMG

Cost Benefit Analysis: Inland Rail Program Business Case

Due to the nature of the incremental assessment approach adopted for this EIS, a proposal-specific cost benefit analysis (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 on the community as a whole.

The results of this analysis, as presented in the Business Case, are provided in Table 2 below.

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

	Net Present Value	Benefit Cost Ratio
Present value at 4% Discount Rate	\$13,928 m	2.62
Present value at 7% Discount Rate	\$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.

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 Murray and Riverina labour market regions.

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.²¹

The headline impacts of the proposal on the Riverina and Murray labour market region during the construction phase are summarised in Table 3 below.

Table 3: Summary of the direct and indirect economic impacts of the proposal on the regional economic catchment over the construction period

	Murray SA4		Riverina SA4	
Measure	Slack Labour Markets	Tight Labour Markets	Slack Labour Markets	Tight Labour Markets
Additional Real Gross Regional Product (\$2021)	\$13 m	\$5 m	\$21 m	\$9 m
Additional Direct and Indirect Jobs (Persons)²²	69	14	110	28

Source: KPMG

At the end of the construction phase, real GRP for the Murray and Riverina regions is projected to be \$13 million and \$21 million, respectively, 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 (\$5 million for Murray and \$9 million for Riverina).

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 69 direct and indirect jobs are generated in Murray, and 110 in Riverina. 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 14 jobs in Murray and 28 jobs in Riverina. Under tight labour markets, wages are bid up to attract currently employed workers to the construction businesses contracted to construct the proposal. That is, the labour market response is dominated by workers moving from their current job to higher paying jobs. With slack labour markets, there are sufficient unemployed and under-employed workers to accommodate the increase in demand for labour without increasing real wages.

Simulation results indicate that the economic impacts of the proposal during the construction phase are concentrated in the Murray and Riverina labour market regions. Additionally, it is acknowledged that labour market conditions in 2023 and 2024 during the construction phase²³ of the proposal are highly uncertain. The outlook for the construction sector and the broader economy more generally remains highly uncertain, particularly in how the private sector responds to a global economic environment characterised by higher public debt and by risks that have been crystallised by the COVID pandemic and associated policy responses. However, construction activity, including rail construction, may be robust during this period supported by government infrastructure programs aimed at boosting the economy as it recovers from the COVID shock.

The current information set suggests that a “tight” labour market scenario is most likely to apply in the period 2023 to 2024. However, the probability of a “slack” labour market remains high.

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

²¹ As compared to the direct jobs determined through the indicative construction schedule and component activities as described in the workforce profile.

²² Averaged over 17 months of the construction period.

²³ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

refinement of local and regional recruitment and training strategies to maximise employment opportunities within local economies.

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 Tottenham to Albury (T2A) and Illabo to Stockinbingal (I2S) projects, and other relevant 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, although labour market conditions in 2023 and 2024 during the construction phase²⁴ of the proposal are highly uncertain.

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. Furthermore, spending on consumer orientated products by the construction workforce has the potential to benefit local retail businesses by increasing their trading levels.

Cumulative supply chain impacts will 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 the economic return of the proposal.

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.

Conclusions

This EIA has been undertaken for the Albury to Illabo section of Inland Rail Program, in accordance with the requirements under Section 4 of the SEARs. The findings of this EIA suggest:

- The proposal will present opportunities to encourage, develop and grow local (including Indigenous) 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, regional and Indigenous businesses will have opportunities to supply the proposal.

²⁴ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

- 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 and construction areas have been designed by ARTC to minimise impacts to local business and industry as far as practicable however, the proposal may result in disruption to local businesses (including tourism) during construction from changes in local transport connectivity and construction noise. The majority of impacts during construction are anticipated to be temporary and associated with construction equipment, site compounds and storage. The enhancement sites outside these urban areas are surrounded by predominantly rural and agricultural land uses.
- The economic benefits assessment estimates that the proposal is expected to provide a total of \$179.80 million (\$2021) in incremental benefits to the proposal area (at a 7 percent discount rate).
- The proposal will promote regional economic growth across the Murray and Riverina regions. The current information set suggests that a “tight” labour market scenario is most likely to apply in the period 2023 to 2024.²⁵ However, the probability of a “slack” labour market remains high. Under the “tight” scenario at the end of the construction phase, real GRP for the Murray and Riverina regions is projected to be \$13 million and \$20 million, respectively, 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 (\$5 million for Murray and \$9 million for Riverina).
- Under the slack labour market scenario, it is estimated that an additional 69 direct and indirect jobs are generated in Murray and 110 in Riverina. With tight labour markets, the increase in jobs is significantly less at 14 jobs in Murray and 28 jobs in Riverina.

As per the requirements of the SEARs, this EIA has focused on the specific economic impacts resulting from the proposal. However, the assessment acknowledges the role of the proposal, and the other proposal 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. This assessment should be read in conjunction with the Technical Paper 4: Social prepared for the proposal.

²⁵ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

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, via central-west New South Wales (NSW) and Toowoomba in Queensland (QLD). Inland Rail is a major national program that would enhance Australia's existing national rail network and serve the interstate freight market.

The Inland Rail route, which is about 1,700 kilometres long, would involve:

- Using the existing interstate rail line through Victoria and southern NSW
- Upgrading about 400 kilometres of existing track, mainly in western NSW
- Providing about 600 kilometres of new track in northern NSW and south-east Queensland.

Inland Rail has been divided into 13 projects, seven of which are located in NSW. Each of these projects can be delivered and operated independently with tie-in points on the existing railway. Australian Rail Track Corporation Ltd (ARTC) ('the proponent') is seeking approval to construct and operate the Albury to Illabo section of Inland Rail ('the proposal').

The proposal is Critical State Significant Infrastructure and is subject to approval by the NSW Minister for Planning under Division 5.2, Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This report has been prepared as part of the environmental impact statement (EIS) for the proposal. The EIS has been prepared to support the application for approval of the proposal and address the environmental assessment requirements of the (then) Secretary of the NSW Department of Planning, Industry and Environment (the SEARs), dated 14 October 2020.

1.2 The proposal

The proposal involves enhancement works to structures and sections of track along 185 kilometres of the existing operational standard gauge railway between Albury and Illabo. Enhancement works are required to provide the increased vertical and horizontal clearances required for double-stacked freight trains. As the alignment is presently operational, the proposal does not extend to those existing sections of the alignment where no works are required.

1.2.1 Location

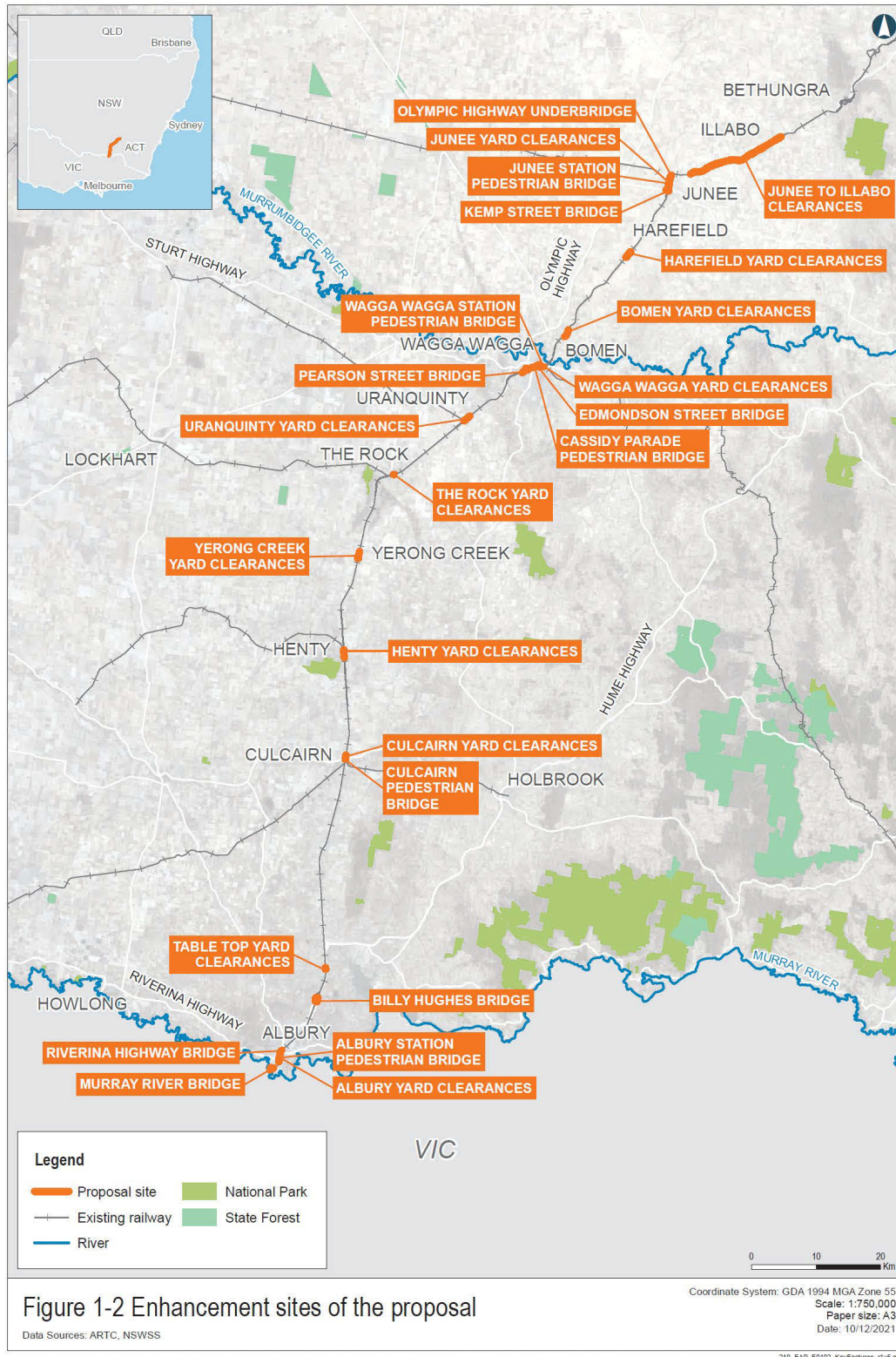
The proposal is generally within the existing rail corridor extending from the town of Albury on the Victorian-NSW border to around three kilometres to the north-east of Illabo. The alignment passes through two major regional towns, Albury and Wagga Wagga, NSW, and several smaller regional towns. Works are proposed at 24 locations along the 'Main South Line' corridor, described as 'enhancement sites' as identified in Figure 1.

The proposal site has been broken down into four precincts that align with the local government areas (LGAs) of Albury, Greater Hume – Lockhart, Wagga Wagga and Junee, as identified in Table 4 and shown in Figure 1.

Table 4: Enhancement sites

Precinct	Enhancement sites
Albury	Murray River bridge
	Albury Station pedestrian bridge
	Albury Yard clearances
	Riverina Highway bridge
	Billy Hughes bridge
	Table Top Yard clearances
Greater Hume – Lockhart	Culcairn pedestrian bridge
	Culcairn Yard clearances
	Henty Yard clearances
	Yerong Creek Yard clearances
	The Rock Yard clearances
Wagga Wagga	Uranquinty Yard clearances
	Pearson Street bridge
	Cassidy Parade pedestrian bridge
	Edmondson Street bridge
	Wagga Station pedestrian bridge
	Wagga Wagga Yard clearances (including Docker Street gantry)
	Bomen Yard clearances
Junee	Harefield Yard clearances
	Kemp Street bridge
	Junee Station pedestrian bridge
	Junee Yard clearances
	Olympic Highway underbridge
	Junee to Illabo clearances

Figure 1: Location and key features of the proposal



Source: ARTC

1.2.2 Key features

The key features of the proposal include:

- Adjustments to approximately 44 kilometres of track across 14 enhancement sites to accommodate the vertical and horizontal clearances according to Inland Rail clearance specifications, comprising:
 - realignment of track within the rail corridor at 14 enhancement sites
 - lowering of track up to 1.6 metres at three enhancement sites
- Changes to bridges and culverts at enhancement sites to allow track realignment are as follows:
 - replacement of two road bridges and adjustments to adjoining intersections
 - replacement of three pedestrian bridges
 - demolition of two redundant pedestrian bridges
 - modifications to four rail bridges
- Ancillary works, including adjustments to nine level crossings, modifications to drainage and road infrastructure, signalling infrastructure, fencing, signage, and services and utilities.

Construction of the proposal would require:

- Construction compounds, laydown areas and other areas needed to facilitate construction works
- Temporary changes to the road network, including roads closures to undertake works on road bridges and level crossings
- Other ancillary works.

No additional works would be required outside the enhancement sites identified in Figure 1 as they meet the clearance requirement for the Inland Rail Program.

1.2.3 Timing

Subject to approval, further design and procurement, construction of the proposal is planned to start in early 2024 and is expected to take about 16 months. The proposal would be fully operational in 2025 with enhancement sites progressively commissioned upon completion of construction. Inland Rail as a whole would be operational once all 13 sections are complete, which is estimated to be in 2027.

1.2.4 Construction

An indicative construction methodology has been developed based on the current design to be used as a basis for the environmental assessment process. Overall, the construction strategy is based on an approach of dividing the proposal into four construction packages that align with the precincts: Albury, Greater Hume-Lockhart, Wagga Wagga and Junee.

During construction, the peak workforce across all packages will be in March 2024 with 770 FTE resources in total. The Junee LGA will feature the largest workforce with 300 FTE, while Albury LGA will feature the smallest at 180 FTE.

Construction within each precinct would generally involve the site establishment and enabling works, main construction works as relevant to the enhancement site and finishing works as outlined in Table 5.

Further information on the construction of the proposal is provided in Chapter 8 of the EIS.

Table 5 Indicative construction activities

Construction stages	Indicative activities
Site establishment and enabling works	<ul style="list-style-type: none"> Establishment of key construction infrastructure, work areas, access points and other construction facilities Installation of environmental controls, fencing and site services Preliminary activities include clearing/trimming of vegetation.
Main construction works	<ul style="list-style-type: none"> Track works Rail bridge works Road bridge replacement Pedestrian bridge works Associated infrastructure works on level crossings, culverts and signalling.
Finishing works	<ul style="list-style-type: none"> Testing and commissioning of the new and modified infrastructure Demobilisation and removal of construction compounds and other construction infrastructure Restoration of disturbed areas, as required, including revegetation and landscaping, where required.

Source: ARTC

1.2.5 Operation

The proposal would form part of the rail network managed and maintained by ARTC. Train services would be provided by a variety of operators.

The proposal would enable the use of double stacked trains along its entire length. Inland Rail would operate 24 hours per day and would initially accommodate double-stacked freight trains up to 6.5 metres high and up to 1,800 metres in length. The possible future use of the railway between Albury and Illabo by freight trains up to 3,600 metres long would be subject to separate assessment. Freight train speeds would be consistent with current train speeds and would typically range from 60 to 115 kilometres per hour.

The average number of freight train movements between Albury and Illabo would increase from a current average of 12 per day in 2021 to 18 per day in 2025, further increasing to about 20 per day in 2040.

ARTC would continue to maintain the line. Typically, these activities would involve minor maintenance works, such as bridge and culvert inspections, through to major maintenance, such as reconditioning of track and topping up of ballast as required. Works within the rail corridor would be undertaken in accordance with ARTC's standard operating procedures and the Environment Protection Licence (EPL), thereby reducing the potential for impacts on the health and safety of workers, visitors and users.

The maintenance works and schedule are not proposed to change as a result of the proposal.

Further information on the operation of the proposal is provided in Chapter 7: Proposal features and operation of the EIS.

1.3 Scope and purpose of this report

This report has been prepared by KPMG as part of the EIS for the proposal to address the specific economic requirements of Section 4 of the SEARs.

This report addresses the relevant SEARs issued for the proposal on 14 October 2020. The SEARs relevant to the assessment of economic and land use are presented in Table 6 and Table 7.

Table 6: Secretary's Environmental Assessment Requirements relevant to economic and land use

Desired Performance Outcome	The project minimises impacts to property and business 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.
Current Guidelines	<ul style="list-style-type: none"> Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (RMS, 2013) Infrastructure Proposals on Rural Land Primefact 1063, second edition (DPI, 2013) NSW Invasive Species Plan 2018-202 (DPI, 2018) Land Use Conflict Risk Assessment (LUCRA) Guide (DPI, 2011) Riverina Murray Regional Plan 2036 (DPIE, 2017) NSW Infrastructure Skills Legacy Program Aboriginal Procurement Policy (NSW Government, 2021)

Table 7: Secretary's Environmental Assessment Requirements relevant to economic and land use - Assessment Requirement

Assessment Requirement	Report Reference
Economic impacts in accordance with the current guidelines.	Addressed throughout the following technical report
Economic impacts on potentially affected properties, businesses, recreational users and land and water users (for example, recreational and commercial fishers), including property acquisitions/adjustments, access, accessibility, amenity and relevant statutory rights.	Addressed in section 5 of the following technical report
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 5 of the following technical report and in Technical Paper 4: Social
Undertake an assessment of biosecurity risks and management measures relating to the potential for the 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 the EIS Chapter 12: Land use and property and in Technical Paper: 8 Biodiversity Development Assessment Report
Assess the economic impact of temporary accommodation for construction workers on communities near the project site.	Addressed in section 4 of the following technical report and Technical Paper 4: Social

Assessment Requirement	Report Reference
Consider the implications of the project on current local and State strategic frameworks of key urban and regional centres along the alignment.	Addressed in section 3 of the following technical report

1.4 Guidelines

As identified in the SEARs, the following EIA has been undertaken in accordance with the guidance provided by the Roads and Maritime Services' (RMS) Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (Roads and Maritime, 2013) ('Practice Note').

The EIA has also been drafted in accordance with the Social Impact Assessment Guideline 2021 (the 'SIA Guideline') (NSW Department of Planning, Industry and Environment, 2021). The SIA Guideline has been used to inform the evaluation approach for the identified economic impacts, and the assessment tables are included in Appendix A.

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.'

1.5 Structure of this report

The structure of the report is as follows:

- **Chapter 1 – Introduction** – Introduces the report.
- **Chapter 2 – Legislative and policy context** – Describes the legislative and policy context for the assessment and relevant guidelines.
- **Chapter 3 – Methodology** – Outlines the study area and the key activities that have been undertaken to inform the EIA and meet the requirements of the SEARs.
- **Chapter 4 – Existing economic environment** – Describes the existing economic profile of the study area and provides a baseline for assessment of the potential economic impacts of the proposal.
- **Chapter 5 – Impact assessment** – Describes potential economic impacts resulting from the proposal on local business, industry and the community.
- **Chapter 6 – Cumulative impacts** – 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 (as identified by ARTC).
- **Chapter 7 – Mitigation and management measures** – Details recommended mitigation and management measures to mitigate impacts that have not been avoided.
- **Chapter 8 – Conclusion** – Overview of the key findings of the report.

2. Legislative and policy context

Across Australian, State and Local Governments, there are a number of strategic policy and planning documents that align with the economic objectives and intent of the development of the proposal. These documents are discussed below. The implications of the proposal on current local and State strategic frameworks of key urban and regional centres along the alignment have been included in the analysis below. These impacts primarily relate to improvements in the productivity and competitiveness of the freight sector.

2.1 Australian Government

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

The National Freight and Supply Chain Strategy (August 2019) (NFSCS) 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 NFSCS 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 NFSCS 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 (AIP) was developed by Infrastructure Australia as a long-term plan for infrastructure reform and investment in Australia. The AIP 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 AIP 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 AIP 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 AIP highlights the importance of the Melbourne to Brisbane freight corridor in supporting production, employment and population precincts in Victoria, New South Wales and Queensland. By moving freight from road to rail, Inland Rail will improve the efficiency and effectiveness of freight movements between Melbourne and Brisbane. This would reduce heavy vehicle road traffic and improve the safety of the road network. The proposal will contribute to the realisation of these benefits, including improvements to the productivity and competitiveness of Australia's freight sector.

2.2 New South Wales Government

Transport for NSW Future Transport Strategy 2056

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

The FTS 2056 vision is that 'transport is an enabler of economic and social activity and contributes to long term economic, social and environmental outcomes'. FTS 2056 is built on six outcomes: customer-focused, successful places, a strong economy, safety and performance, accessible services and sustainability.

FTS 2056 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 FTS 2056, 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 (RNSWSIP) 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 RNSWSIP supports the overarching Future Transport Strategy 2056 (summarised above), alongside the Greater Sydney Services and Infrastructure Plan and a suite of supporting plans.

The RNSWSIP 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 RNSWSIP, in addition to other key freight issues, such as ensuring efficient and effective networks. A key focus of the RNSWSIP 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 (NSWFPP) provides direction to businesses 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 NSWFPP 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
- Improve safety and sustainability by doing more together.

The NSWFPP recognises the role of Inland Rail in improving the capacity of the NSW rail network, delivering on all four of the NSWFPP'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 NSWFPP recognises the catalytic relationship between the proposal and the development of new intermodal terminals along the route. At a local level, the proposal is a critical link that will contribute to the overarching benefits delivered by Inland Rail.

2.3 Regional Plans

Riverina Murray Regional Plan 2036

The Riverina Murray Regional Plan (RMRP) 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 RMRP 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 RMRP recognises the essential role of efficient freight corridors, and productive freight and logistic hubs, in enabling long-term economic growth. The RMRP highlights the increasing freight demand travelling to Port of Melbourne and Port Botany from the region.

The RMRP acknowledges that the development of the Inland Rail 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 Region, 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 (RFTP) considers the future direction and goals for freight transport in the eastern Riverina region. The RFTP highlights the integral role of freight and logistics in 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.

The proposal supports the achievement of Goal Two of the RFTP to ‘develop a network of identified freight corridors that facilitate the efficient and effective movement of freight within and through the region’. The RFTP acknowledges the challenges of moving freight across large geographic regions to ports 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 infrastructure, the proposal may promote future investment in ancillary infrastructure and links to future intermodal facilities.

Albury-Wodonga Regional Economic Development Strategy 2018-2022, Albury City Council, Wodonga City Council, Greater Hume Council, Federation Council and Indigo Shire Council

The Albury-Wodonga Regional Economic Development Strategy (AWREDS) is a collaborative effort between the LGA councils of the Albury-Wodonga Functional Economic Region. It aims to guide investment and align actions to achieve a collective vision for the region by 2022.

The AWREDS recognises the Transport and Logistics sector as an enabling industry for the wider economy and identifies its growth as one of the AWREDS’s six priorities. The proposal will not only deliver towards this priority but also to others, such as *“Support and grow Agribusiness and Softwoods industries”* and *“Capitalise on the region’s opportunity to be a special economic zone”*. The development of the proposal and the broader Inland Rail Program has the potential to improve the efficiency of freight, supporting agribusiness through the efficient movement of goods. As critical infrastructure, the proposal may promote future investment in ancillary

infrastructure and links to future intermodal facilities which may contribute to the identified special economic zone.

2.4 Local Plans

Wodonga Growth Strategy 2016, Wodonga Council

The Wodonga Growth Strategy (WGS) gives direction and certainty around Wodonga LGA's growth up to 2036. The WGS outlines a two-pillar vision:

- "To strengthen the role of Wodonga as one of the largest inland cities in regional Victoria"
- "To progressively enhance the liveability and prosperity of the city of Wodonga for the benefit of existing and future generations".

To realise this vision, six key themes are identified to structure a targeted plan for Wodonga LGA's growth. The theme "A Mobile and Connected Region" aims to further enhance Wodonga LGA's attractiveness as a major regional transport hub with strategic connections to the Australian eastern seaboard. The theme "A Thriving and Dynamic Economy" focuses on fully capitalising on Wodonga's dual urban density and industrial capability to stimulate sustainable economic growth.

The WGS has been considered given the proximity of the proposal to Wodonga and the interconnected economic catchment of Albury-Wodonga.

The proposal is well-placed to enhance Wodonga LGA's connectivity and attractiveness as a hub for transport and freight. Specifically, the proposal may support the objective of "promoting the major freight hub in Wodonga LGA as a place to do business including intermodal transfers", as the proposal may promote future investment in ancillary infrastructure and links to future intermodal facilities.

The proposal has the potential to provide supply chain benefits and cost savings for freight companies and producers. Improvements to freight efficiency will improve the productivity of local industry and businesses, promoting employment and economic growth. This would directly contribute to realising benefits aligned to the "A Thriving and Dynamic Economy" theme.

Albury Community Strategic Plan 2030 ("Albury 2030"), Albury City Council

Albury's Community Strategic Plan (ACSP) envisions Albury as "a nationally significant regional city that is vibrant, innovative, connected, and inspired by its culture, environment and location on the Murray River". It presents a roadmap for the coming decade to achieve that community vision, across the four themes:

- A Growing Sustainable Economy
- An Enhanced Natural Environment
- A Caring Community
- A Leading Community.

It identifies rail, road and air routes as integral to Albury LGA's economic growth through better connecting it to the national economy and global markets. The ACSP specifically identifies Inland Rail as a major project that will contribute towards Outcome 1.6 "Integrated transport network for Albury" and the wider "A Growing Sustainable Economy" theme. The development of the proposal and the broader Inland Rail Program has the potential to improve the efficiency of the local freight industry, better connecting Albury to the national economy and global markets.

Greater Hume Shire Economic Development and Social Plan 2017-2022, Greater Hume Shire Council

The Greater Hume Shire Economic Development and Social Plan (GHSEDSP) sets out strategies to be undertaken over five years to improve residents' economic and social wellbeing and achieve the following vision:

"Greater Hume Shire will be a prosperous rural shire with vibrant sustainable communities offering excellent quality of life, and supported by a thriving agricultural, commercial and industrial base that capitalises on the unique opportunities available through the highest standards of ethics, service and efficiency."

The GHSEDSP designates Agriculture, Manufacturing and Transport as the three most strategically important sectors for Greater Hume Shire's future economic growth. The proposal, while directly enabling the local Transport sector to expand, also has the potential to support the Agriculture and Manufacturing sectors by increasing accessibility between Greater Hume Shire LGA and national (and international) markets.

The GHSEDSP specifically identifies the Inland Rail Program as a key opportunity for Greater Hume Shire and notes that the program will increase economic activity in the region during and beyond construction.

Lockhart Shire Tourism and Economic Development Strategy 2016-2026, Lockhart Shire Council

The Lockhart Shire Tourism and Economic Development Strategy (LSTEDS) focuses on the development of Lockhart LGA's economy and tourism sector over a decade. It outlines several 'aspirational attributes' that will determine the LSTEDS's success by 2035, one of which is "Rail infrastructure that links food production regions with Melbourne, Sydney and Brisbane ports".

The proposal has the potential to improve freight transport accessibility and capacity for Lockhart LGA and, in turn, support the agriculture and food production industry. These benefits align with four of the LSTEDS's five priority areas (1. A strong and resilient economic community, 2. Attracting and retaining businesses and residents, 3. Planning for the future, and 5. Infrastructure and resources that support our economy and community).

Wagga Wagga Community Strategic Plan 2040, Wagga Wagga City Council

The Wagga Wagga Community Strategic Plan (WWCSP) outlines measures to achieve the desired vision for the city by 2040:

"In 2040 Wagga Wagga will be a thriving, innovative, connected and inclusive community on the Murrumbidgee. Rich in opportunity, choice, learning and environment, Wagga is a place where paths cross and people meet."

One of the WWCSP's five strategic directions is "Growing Economy", under which the WWCSP seeks to achieve the Outcome "We are a leading freight and logistics centre, encourage business investment" by 2040. To contribute to achieving this, Wagga Wagga City Council will "pursue rail and intermodal freight opportunities".

The proposal, as part of the wider Inland Rail Program, once completed, is expected to enhance transport connections and opportunities for the LGAs along the Inland Rail alignment. The proposal specifically has the potential to improve Wagga Wagga's status as a regional economic hub and freight and logistics centre. As such, it is positioned to contribute to achieving Wagga Wagga's vision for 2040.

Junee Community Strategic Plan ("making tracks") 2035, Junee Shire Council

Junee's Community Strategic Plan (the Plan) sets a 10-year vision for the Junee Shire, 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 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. The proposal will support the achievement of the Plan's objective – "to grow our local economy".

3. Methodology

3.1 Study area

The proposal traverses five LGAs in New South Wales which have been used to establish and analyse the existing economic environment of the proposal link of Inland Rail: Albury, Greater Hume Shire, Lockhart, Wagga Wagga and Junee. For this EIA, the Wodonga LGA in Victoria is also relevant due to its proximity to the proposal and as Wodonga and Albury function as an integrated economic area.

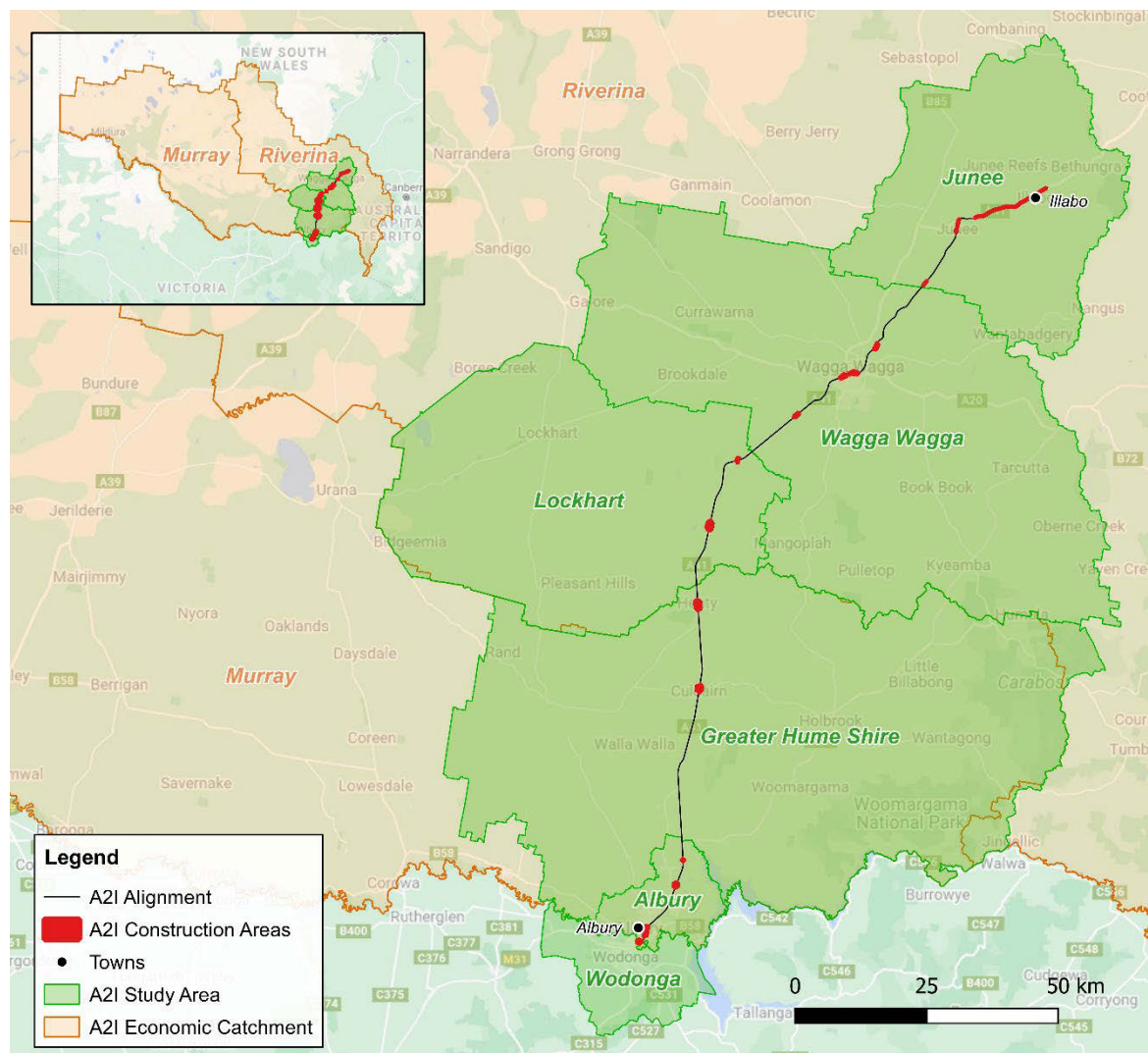
These six LGA boundaries form the **study area** (Figure 2) for assessing the local economic impacts of the proposal, reflecting a local catchment for workers and economic activity.

For the regional impact analysis, the **regional economic catchment area** (Figure 2) 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 Murray and Riverina labour market regions which are collectively defined as the regional economic catchment area for this EIA.

Area Definitions:

- **Study area:** Wodonga, Albury, Greater Hume Shire, Lockhart, Wagga Wagga and Junee LGAs
- **Regional economic catchment area:** Murray and Riverina Statistical Areas Level 4 (SA4)

Figure 2: Proposal study area and regional economic catchment



Source: KPMG

The proposal connects two regional communities – Albury and Illabo. Outlined below is an overview of the major centre and towns in the regional economic catchment.

June, NSW

June is a small township located within the June LGA, on the Olympic Highway. In 2016, the town had a population of approximately 4,759 persons.²⁶

Illabo, NSW

Illabo is located at the northern end of the proposal, in the June LGA. It is 16 kilometres north-east of June township and 32 kilometres south-west of Cootamundra. The rural town is located on the Olympic Highway; in 2016, the town had a population of 144 persons.²⁷

²⁶ Ibid.

²⁷ ABS. June 2016. 2016 Census of Population and Housing, Urban centres and localities.

Wagga Wagga, NSW

Wagga Wagga city is located within the Wagga Wagga LGA, midway between Sydney and Melbourne (450 kilometres in either direction). It 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. In 2016, the town had a population of approximately 48,263 persons.²⁸

Lockhart, NSW

Lockhart is a small township located within the Lockhart LGA. In 2016, the town had a population of approximately 814 persons.²⁹

Holbrook, NSW

Holbrook is a small township located within the Greater Hume Shire LGA, on the Hume Highway. In 2016, the town had a population of approximately 1,288 persons.³⁰

Jindera, NSW

Jindera is a small township located within the Greater Hume Shire LGA, just north of Albury. In 2016, the town had a population of approximately 1,293 persons.³¹

Albury, NSW

Albury is located at the southern end of the proposal, within the Albury LGA in New South Wales. Together with Wodonga, Albury forms a major cross-border regional centre on the border of NSW and Victoria. Situated on the Hume Highway, in 2016, it had a population of approximately 47,971 persons.³²

Wodonga, VIC

Wodonga is the Victorian portion of the Albury-Wodonga cross-border major urban centre, located in the Wodonga LGA. It is connected by the Hume Highway/Freeway and Murray Valley Highway and, in 2016, had a population of approximately 35,131 persons.³³

3.2 Assessment methodology

The following methodology outlines the key activities that have been undertaken to inform the EIA and meet the requirements of the SEARs. The following methodology was endorsed by the NSW Department of Planning and Environment (DPE) on 29 October 2018.³⁴

Specifically, this assessment:

- Establishes the **existing economic environment** for the defined economic catchment area, to understand the local economic context and form the basis to measure change or impacts
- Identifies potential **economic benefits and impacts** on affected local and regional communities and businesses. This will be drawn from local consultation and industry engagement undertaken by ARTC,

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

³² ABS. June 2016. 2016 Census of Population and Housing, Urban centres and localities.

³³ Ibid.

³⁴ Notably the approach projected economic benefits of the proposal which is contextualised against the cost benefit analysis (CBA undertaken for the entire Inland Rail Program. Proposal specific costs do not form part of this assessment.

evaluation of publicly available information, and the outputs from the social impact assessment, economic benefits assessment and regional impact analysis

- Assesses the projected economic benefits of the proposal, including the basis for their estimation through a detailed economic benefits assessment. The outcomes of the proposed Albury and Illabo link-specific analysis will be contextualised against the results of the **cost benefit analysis** (CBA) undertaken for the entire Inland Rail Program, as per the Inland Rail Program Business Case (2015)
- Assesses the economic significance of the proposal on the regional, State and national economies through **computable general equilibrium modelling (CGE)**
- Evaluates the potential **cumulative impacts** on local and regional economies resulting from the construction and operation of related projects, including adjacent Inland Rail proposal links
- Proposes measures to **enhance** economic benefits and to **avoid, mitigate or manage** adverse economic impacts.

This report has been prepared to detail the findings of each of the above and acts as a Technical Report to the EIS that has been prepared. This report should not be considered in isolation from the EIS.

Stakeholder consultation overview

ARTC has undertaken consultation with the community and stakeholders throughout the design process for the proposal. The RMS Guideline (table 2) for outlines that for the Basic level of assessment proponents engage with the local council officers, and affected property or business owners.

Two rounds of engagement including social impact surveys were carried out to inform the social impact assessment in Technical Paper 4: Social and the EIA. The first round of engagement was completed at 30 percent reference design in May 2021, including targeted engagement with community organisation representatives, local services and councils. The second round of engagement was completed from October to November 2021 which targeted engagement with landholders who may be directly impacted by the proposal and residents adjacent to enhancement sites. Engagement with Indigenous groups was undertaken in September and November 2021. Attempts to engage with Indigenous health services were unsuccessful.

Section 5.3.3 (local businesses near enhancement areas) of this EIA summarises economic considerations raised during engagement with affected business owners and section 5.3.4 summarises economic considerations raised by affected property owners. Economic related issues raised during engagement with local council officers and where they have been addressed in the EIS are outlined in Table 8. Refer to Technical Paper 4: Social for the outcomes of the social impact assessment engagement.

Table 8: Economic related issues raised by local council officers

Proposal timing	Economic related issues	Where addressed in this EIA
Construction	Impacts to amenity (noise, vibration, visual)	Section 5.3.2 - Tourism Section 5.3.3 – Local businesses - Local businesses near enhancement sites
	Access disruption and traffic impacts	Section 5.3.3 – Local businesses - Transport
	Indigenous participation regarding engagement and employment opportunities	Section 5.2.3 – Local employment
	Equitable share of benefits along the proposal site (such as employment, and business opportunities)	Section 5.2.3 – Local employment Section 5.2.5– Indirect employment Section 5.3.3 - Local businesses - Services

Proposal timing	Economic related issues	Where addressed in this EIA
	Lack of short-term accommodation availability and existing high demand for rental accommodation	Section 5.2.4 – Changes to housing and accommodation
	Competitive pricing of land around intermodal terminals	Not within the scope of the EIA
Operation	Impacts on amenity (noise, vibration, visual)	Section 5.3.2 - Tourism
	Upscaling local businesses to promote long-term benefits, rather than only short-term construction benefits	Section 5.2.3 – Local Employment
	Traffic and access disruptions due to increased frequency of trains and length of trains	Section 5.3.1 – Agriculture - Disruption to access and infrastructure Section 5.3.1 – Agriculture - Disruption to stock movement
	Potential opportunities the proposal can provide through connection to markets and attraction of new manufacturers to the region	Section 5.1 – Inland Rail Program impacts Section 5.3.1 – Agriculture - Improvements in supply chain efficiency

3.3 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
- ABS Regional Population Growth, 2019-20
- 2019 NSW population and household projections
- Australian Government's Small Area Labour Markets publication, March 2021
- Consultation with local businesses and the community undertaken by ARTC.

3.4 Impact assessment

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

- Consultation with the local community undertaken by ARTC as outlined in EIS Chapter 5
- The outcomes of Technical Paper 4: Social process to identify local and regional business capacity, aspirations and initiatives.

- The assessment of impacts is based on DPE, SIA Guideline for State significant projects 2021. The assessment tables from the guideline are included in Appendix A.

3.5 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 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 the Inland Rail Program 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 proposal
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)
- The Australian Transport Assessment and Planning (ATAP) guidelines.

3.6 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 this analysis, a 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.

The CGE model 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 project'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.³⁵

As described above, the regional economy is represented by the Murray and Riverina SA4 labour market regions.

³⁵ As compared to the direct jobs determined through the indicative construction schedule and component activities as described in Section 5.2.

3.7 Cumulative impact assessment

The cumulative economic impact assessment refers to the potential impact of cumulative stimulus to the economy resulting from a set of projects which are planned, or being constructed or operated, within or adjacent to the study area (as identified by ARTC).

Specifically, the EIA considers the potential impacts of Inland Rail's adjacent Tottenham to Albury (T2A) and Illabo to Stockinbingal (I2S) projects, and other relevant projects which were planned, or being constructed or operated at the time the SEARs were finalised within the study area LGAs.

The cumulative economic impact of interacting projects was assessed by developing a construction and operation timeline (including a 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.

3.8 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 EIA is 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 represent those that are reasonably likely to make use of the proposal as an independent project.
- A large proportion of the benefits of the Inland Rail Program stem from improving the connection between producers and markets, through 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.
- The assessment assumes capital expenditure consistent with the Inland Rail Program Business Case (2015).

ARTC Statement

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

4. 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.

4.1 Population summary

4.1.1 Population profile

In June 2020, the study area had an estimated resident population of 184,263 people. Between 2010 and 2020, the population grew at an average annual rate of 1.1 percent. This growth rate was mainly driven by growth in the urban centres of Albury and Wodonga LGAs (1.1 and 1.9 percent, respectively), while Lockhart LGA experienced the slowest growth (0.4 percent). In comparison, the average annual population growth rate for NSW was 1.3 percent over the same period.

Between 2020-2031, the study area population is projected to grow from 184,263 persons to 202,750 people by 2031 (at a compounded average annual rate of 0.9 percent). Most LGAs are projected to experience slower growth over the next decade compared to the past decade. However, the growth rate in Wodonga LGA is expected to increase to 2.2 percent which is significantly higher than the other LGAs. Lockhart LGA's population is projected to decline by seven residents per year (-0.2 percent) until 2031, while Junee and Greater Hume Shire LGAs are projected to experience marginal growth (0.0 percent and 0.1 percent, respectively).

Table 9: Estimated resident population and projections, study area

	2010 ¹	2020 ¹	2031 ²	Compound average annual growth 2010 – 2020	Compound average annual growth 2020 – 2031
Wodonga LGA	35,287	42,662	54,108	1.9%	2.2%
Albury LGA	49,222	55,055	58,159	1.1%	0.5%
Greater Hume Shire LGA	10,060	10,841	11,012	0.8%	0.1%
Lockhart LGA	3,133	3,259	3,187	0.4%	-0.2%
Wagga Wagga LGA	61,503	65,770	69,623	0.7%	0.5%
Junee LGA	6,105	6,676	6,661	0.9%	0.0%
Study area	165,310	184,263	202,750	1.1%	0.9%
NSW	7,144,292	8,167,532	9,560,567	1.3%	1.4%

Source:

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

² Victorian Government, 2019. Victoria in Future 2019 (VIF2019) Population and Household Projections. & NSW Government, 2020. 2019 LGA population projections.

The declining population within the study area's rural LGAs 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.³⁶ By 2031, the proportion of young people (aged 0 to 24 years)

³⁶ ABS, 2014. *Australian Social Trends*, cat.no. 4102.0

residing in the study area is projected to decline to represent 30.9 percent of the study area's population (from 33.7 percent in 2019).³⁷

In 2016, the age profile of the study area reflects a marginally lower working age population (aged 15 to 64 years) of 63.0 percent³⁸, compared to the NSW State average of 65.2 percent.³⁹ By 2031, this population segment is projected to decline to represent 60.0 percent of the study area's population.⁴⁰ A declining working population may reduce the available local supply of relevant qualified skilled or non-skilled workers which may act as a barrier for 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.

4.1.2 Indigenous population

The study area has a higher Indigenous population than the NSW average, with 4.0 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 LGA has the highest Indigenous population proportion, representing 7.9 percent of the total population compared to 2.5 percent in Wodonga LGA as the lowest.

4.2 Description of the economy

4.2.1 Labour market and employment characteristics

Employment by industry⁴¹

Figure 3 shows the sectoral distribution of employment for local residents within the study area compared to NSW State averages. The Health Care and Social Assistance industry employs the largest number of local residents (11,761 workers), representing 16.1 percent of the total workforce (compared to the NSW average of 13.6 percent). Within Health Care and Social Assistance, the primary source of employment is in Hospitals (3,457 workers).

As shown in Figure 3, following Health Care and Social Assistance, the largest industry sectors by employment include Retail Trade (11.6 percent), Public Administration and Safety (10.4 percent), Education and Training (10.1 percent) and Manufacturing (9.1 percent).

The more urbanised LGAs in the study area (Wodonga, Albury and Wagga Wagga) reflect a traditionally urban employment mix, with the most common employing industry being Health Care and Social Assistance (16.5 percent). Due to their high populations, the urban LGAs skew the study area towards typically urban industries including health care, education, retail and public administration. In the primarily rural LGAs (Greater Hume Shire, Lockhart and Junee), the most common industry was Agriculture, Forestry and Fishing (23.2 percent), within which the vast majority is Agriculture.

³⁷ NSW Government. 2020. *2019 LGA population projections; Victoria in Future 2019 (VIF2019) Population and Household Projections*.

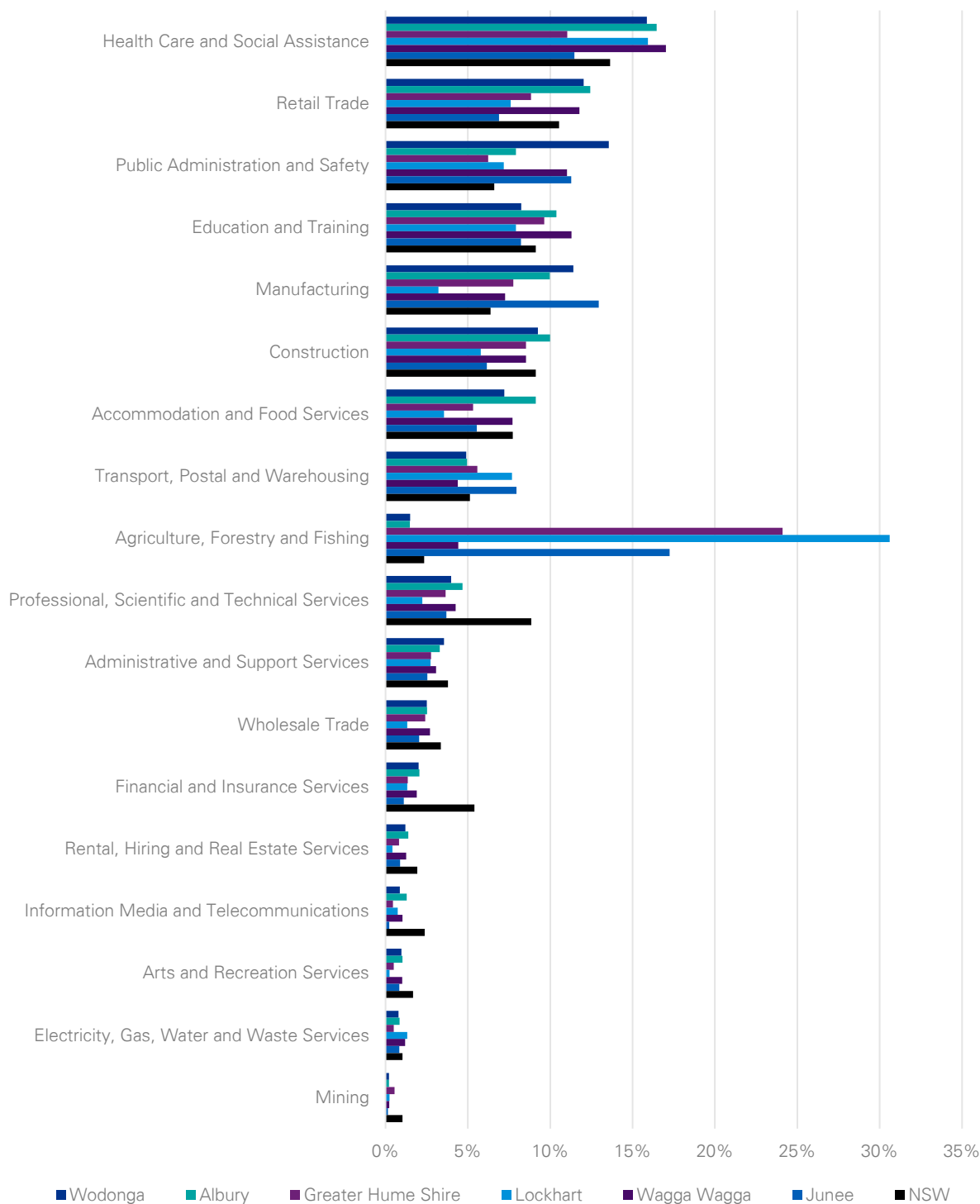
³⁸ NSW Government. 2020. *2019 LGA population projections; Victoria in Future 2019 (VIF2019) Population and Household Projections*.

³⁹ 3235.0 Regional Population by Age and Sex, Australia: Table 3. Estimated Resident Population by Age, by Local Government Area, Persons – 30 June 2019.

⁴⁰ NSW Government. 2020. *2019 LGA population projections; Victoria in Future 2019 (VIF2019) Population and Household Projections*.

⁴¹ 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 place of usual residence, 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, 9.0 percent were employed in the Construction industry (6,588 workers), with the largest proportion employed in Construction Services (4,059 workers), followed by Building Construction (1,708 workers) and Heavy and Civil Engineering Construction (565 workers). Across the

economic catchment (Murray and Riverina), 8,986 workers were employed in the Construction industry, with 5,442 workers in Construction Services and 952 workers in Heavy and Civil Engineering Construction.

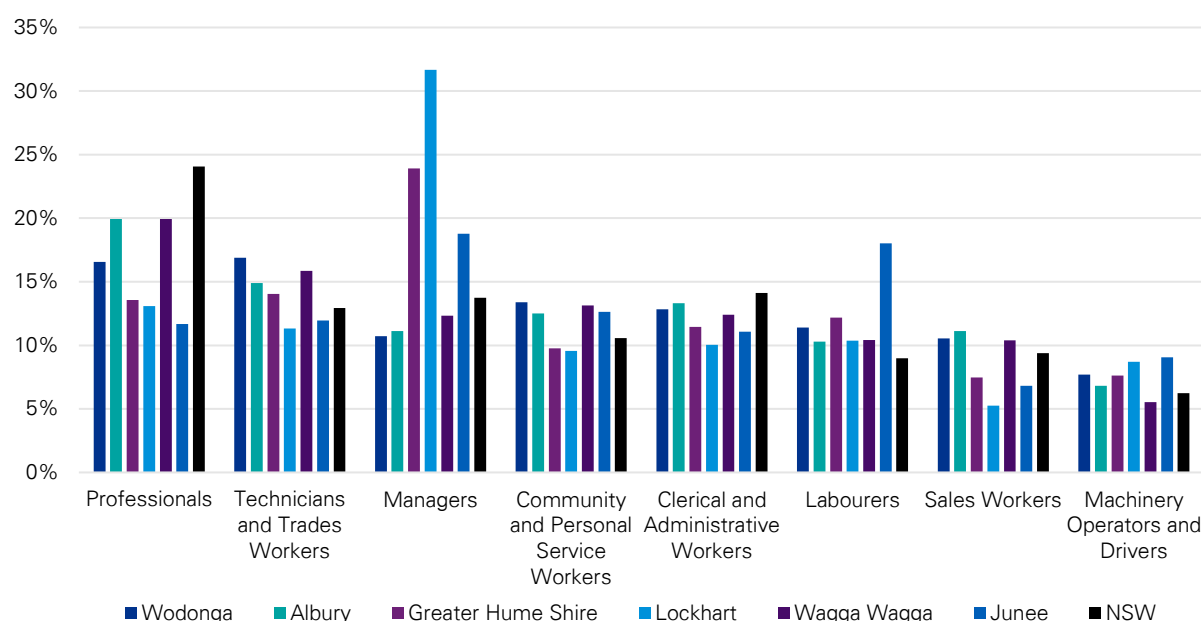
Occupation

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 Technicians and Trades Workers (15.5 percent), Community and Personal Services Workers (12.7 percent), and Labourers (10.9 percent) compared to the NSW average (12.9, 10.6 and 9.0 percent respectively). The study area has a lower proportion of Professionals (18.4 percent), Managers (12.8 percent) and Clerical and Administrative Workers (12.6 percent) compared to the NSW average (24.1, 13.7 and 14.1 percent respectively). These local worker occupations are reflective of the key employing industries in the study area.

The more urbanised LGAs in the study area (Wodonga, Albury and Wagga Wagga) reflect a traditionally urban occupation mix, with the most common occupation being Professionals (19.1 percent). In the primarily rural LGAs (Greater Hume Shire, Lockhart and Junee), the most common occupation was Manager (23.7 percent), within which the vast majority are Farmers and Farm Managers.

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 revenue and employment forecasts, the average rail construction wage is predicted to increase until 2024 and then decline.^{42, 43}

The rising input costs for rail projects, particularly wages, are 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.^{44 45} Railway track construction wage costs represent 25.2 percent of project revenue, whereas the broader industry spend only accounts for 17.8 percent.^{46, 47} With workforce demand expected to peak in 2023-24, labour sourcing difficulties in the rail construction industry are expected to remain. Shortages in labour availability are most likely for specific trades requiring specialist skills.

Labour force

According to the Australian Government's quarterly regional estimates of unemployment, as at March 2021, there were a total of 92,125 employed persons in the study area (36.7 percent located in Wagga Wagga LGA, 27.9 percent in Albury LGA and 24.8 percent in Wodonga LGA).⁴⁸

In the March 2021 quarter, the unemployment rate in the study area was 5.0 percent, compared to NSW at 6.4 percent.⁴⁹ In the same period, the highest unemployment rate was 7.3 percent in Albury LGA while the lowest was 2.7 percent in Lockhart LGA.⁵⁰ Over the 24 months to March 2021, the unemployment rate decreased across the study area (by 0.3 percentage points) which does not reflect state-wide unemployment trends (an increase of 1.9 percentage points). Greater Hume Shire and Lockhart LGA experienced a marginal increase in the unemployment rate (0.7 and 0.3, percentage points respectively).

The NSW unemployment rate peaked at 7.1 percent in July 2020, which reflects the economic impact of the COVID-19 health crisis.⁵¹ 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 higher than the State average, except for Junee (see Table 10). There is limited labour force capacity in the study area demonstrated by the lower unemployment rate and high participation rate in the study area compared to NSW.

Table 10: Summary of labour force characteristics, March 2021

	Labour force	Participation rate*	Unemployed persons	Unemployment rate	24-month change in unemployment rate (percentage points)
Wodonga LGA	23,762	61.5%	950	4.0%	-0.4pp
Albury LGA	27,748	65.0%	2,021	7.3%	-0.5pp
Greater Hume Shire LGA	5,489	67.3%	212	3.9%	+0.7pp
Lockhart LGA	1,788	70.3%	48	2.7%	+0.3pp

⁴² Kelly, A. (2021, June). IBISWorld Australia Industry (ANZSIC) Report E: Construction in Australia.

⁴³ Kelly, A. (2021, June). IBISWorld Australia Specialized Industry Report OD5135: Railway Track Construction in Australia.

⁴⁴ Kelly, A. (2021, June). IBISWorld Australia Industry (ANZSIC) Report E: Construction in Australia.

⁴⁵ Kelly, A. (2021, June). IBISWorld Australia Specialized Industry Report OD5135: Railway Track Construction in Australia.

⁴⁶ Kelly, A. (2021, June). IBISWorld Australia Industry (ANZSIC) Report E: Construction in Australia.

⁴⁷ Kelly, A. (2021, June). IBISWorld Australia Specialized Industry Report OD5135: Railway Track Construction in Australia.

⁴⁸ National Skills Commission. December 2020. *Small Area Labour Markets Estimates: LGA Data Tables, December quarter 2020*.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ ABS. June 2021. *6202.0 Labour Force, Australia: Table 4. Labour force status by Sex, New South Wales – Original – Unemployment Rate; Persons (original data)*.

	Labour force	Participation rate*	Unemployed persons	Unemployment rate	24-month change in unemployment rate (percentage points)
Wagga Wagga LGA	35,331	68.2%	1,523	4.3%	-0.3pp
Junee LGA	2,873	51.7%	112	3.9%	-0.4pp
Study area	96,991	65.1%	4,866	5.0%	-0.3pp
NSW	4,301,613	52.3%	273,775	6.4%	+1.9pp

Source: National Skills Commission. March 2021. Small Area Labour Markets Estimates: LGA Data Tables, March quarter 2021

*Participation rate is based on Adult Civilian Population (persons aged 15 years and over, as per the ABS Labour Force Framework) as at June 2019, sourced from ABS. 2020. 3235.0 Regional Population by Age and Sex, Australia, Table 3. Estimated Resident Population by Age, by Local Government Area, Persons – 30 June 2019.

Indigenous labour force

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

As illustrated in Table 11, overall, the study area has an Indigenous labour force participation rate of 51.4 percent and an Indigenous unemployment rate of 16.7 percent. Notably, Junee LGA's Indigenous participation rate is 20.9 percent which is significantly lower than the NSW Indigenous average (54.4 percent) and the Junee LGA total labour market (47.0 percent). Similarly, Junee LGA's unemployment rate is 16.5 percent, which is significantly higher compared to the NSW Indigenous average (15.3 percent) and the Junee LGA total labour market (4.8 percent). Lockhart LGA has a low Indigenous participation rate of 32.9 percent which reflects the small working age population of 73 people. Albury LGA has the highest Indigenous unemployment rate of 25.1 percent in the study area, which is significantly lower compared to the NSW average Indigenous unemployment and Albury LGA total labour unemployment (6.8 percent).

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

Youth labour force

As highlighted in Table 11, youth (aged 15 to 24 years) unemployment rates are high across the study area. In all six LGAs, the youth unemployment rate is more than double the total unemployment rate. High youth unemployment is a contributing factor in the continuing decline of young people residing in rural areas, leaving to relocate to larger population centres to obtain employment and/or education.⁵²

Table 11: Subsets of the labour force

	Indigenous Labour Market		Youth (15-24) Labour Market		Total Labour Market	
	Participation rate	Unemployment rate	Participation rate	Unemployment rate	Participation rate	Unemployment rate
Wodonga LGA	58.1%	15.7%	68.1%	12.6%	62.0%	6.0%
Albury LGA	50.5%	25.1%	65.9%	13.8%	59.3%	6.8%
Greater Hume Shire LGA	50.6%	11.4%	57.7%	9.4%	59.5%	4.6%

⁵² ABS. 2014. *Australian Social Trends*, cat.no. 4102.0.

	Indigenous Labour Market		Youth (15-24) Labour Market		Total Labour Market	
	Participation rate	Unemployment rate	Participation rate	Unemployment rate	Participation rate	Unemployment rate
Lockhart LGA	32.9%	0.0%	46.7%	10.6%	54.2%	4.2%
Wagga Wagga LGA	55.9%	14.8%	66.9%	11.7%	63.5%	5.5%
Junee LGA	20.9%	16.5%	47.7%	12.3%	47.0%	4.8%
Study area	51.4%	16.7%	65.6%	12.4%	60.9%	5.9%
NSW	54.4%	15.3%	58.4%	13.6%	59.2%	6.3%

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 is based on Adult Civilian Population (persons aged 15 years and over, as per the ABS Labour Force Framework)

As shown in Table 11, 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 the study area, 73.5 percent 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 necessary skills, or ability to be up-skilled, to be engaged in the proposal. Local workforce participation programs may be required to support youth employment.

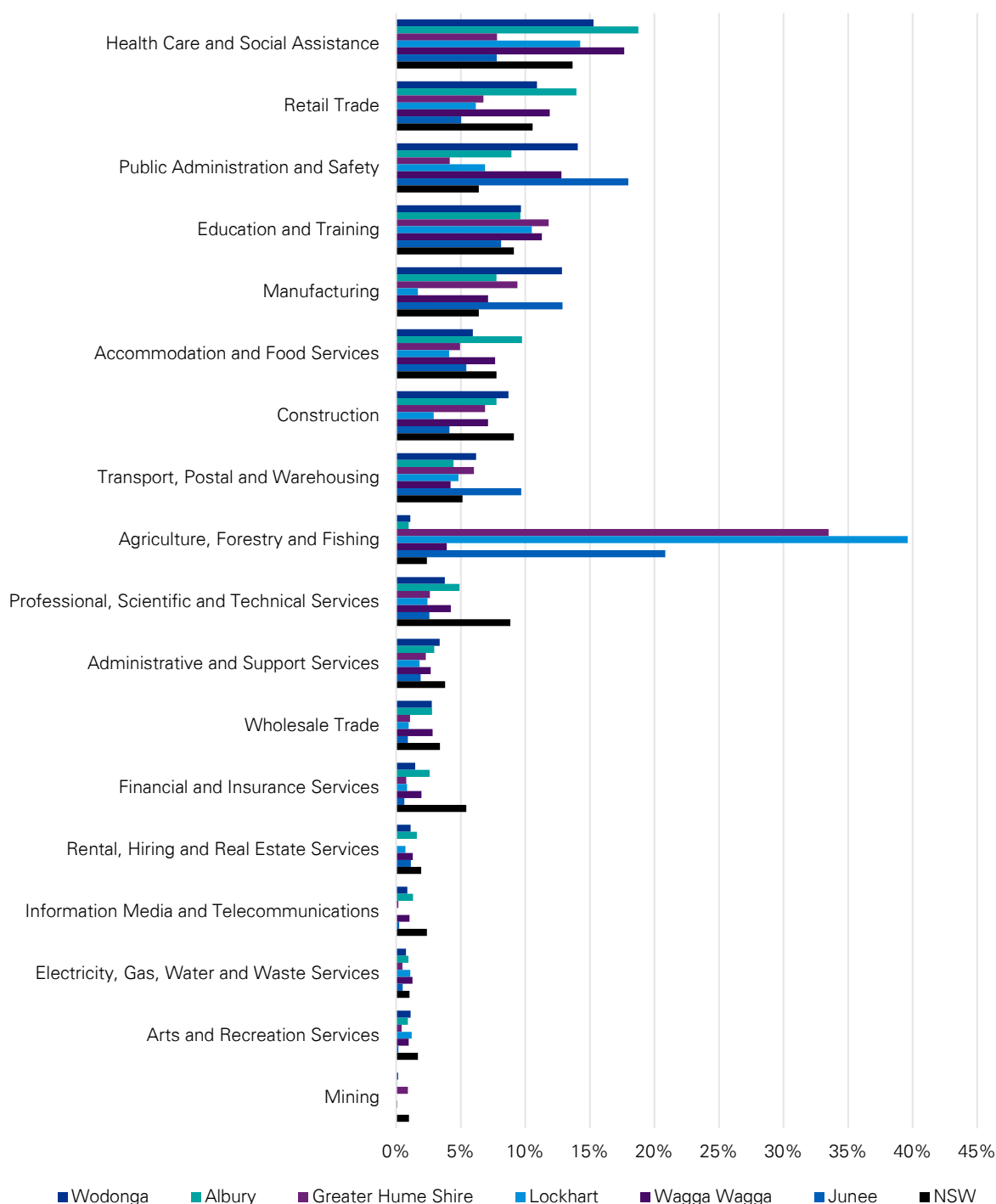
4.2.2 Business and industry

Industry by employment

The study area is a place of work for approximately 80,247 persons (who live both within and outside the catchment area).⁵³ Industry by employment in the study area is shown in Figure 5.

⁵³ 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.

Figure 5: Industry by place of work, study area, 2016



Source: 2016 Census of Population and Housing

Health Care and Social Assistance is the largest industry of employment in the study area, accounting for 16.8 percent of all jobs (12,449 jobs). This industry represents as much as 18.8 percent of jobs in Albury LGA, and 7.8 percent in Greater Hume Shire and Junee LGAs. Within this industry, most workers are employed in

Hospitals (3,739 persons). The Retail Trade industry supports 11.9 percent of total jobs (8,807 jobs), predominately in Supermarkets and Grocery Stores (2,012 jobs).

Other industries which support significant employment include tertiary, service-based industries such as Public Administration and Safety (11.6 percent), and Education and Training (10.3 percent). These sectors are important in meeting the demand of the local population. Manufacturing is the fifth-largest employing sector (8.8 percent).

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 6).

4.3 Residential property

The majority of dwellings in the study area are separate houses (83.1 percent compared to 64.9 percent in NSW), reflective of a typical rural housing profile⁵⁴. The median weekly rent for houses and units across the study area for the December 2021 quarter is detailed in Table 13 below. Within the study area, Wagga Wagga has the highest median rent for a 4+ bedroom house (\$500), followed by Albury (\$480).

Table 14 identifies the percentage change in median weekly rental prices between the December 2019 and December 2021 quarters. During this time for a 4+ bedroom house, the largest change in weekly rental prices was in Albury (17.1 percent growth over the period), followed by Wodonga (16.0 percent growth over the period).⁵⁵

Table 12: Median weekly rent December Quarter 2021

	2 Bedroom House	3 Bedroom House	4 + Bedroom House	1 Bedroom Unit	2 Bedroom Unit
Wodonga LGA	\$335	\$390	\$470	\$200	\$295
Albury LGA	\$293	\$400	\$480	\$200	\$280
Greater Hume Shire LGA	N/A	\$330	N/A	N/A	N/A
Lockhart LGA	N/A	N/A	N/A	N/A	N/A
Wagga Wagga LGA	\$310	\$400	\$500	\$240	\$280
Junee LGA	N/A	\$330	N/A	N/A	N/A

Sources:

NSW Department Communities and Justice. 2021. Rent and Sales Report. Accessed from <https://www.facs.nsw.gov.au/>

VIC Department of Families, Fairness and Housing. 2021. Rental Report. Accessed from <https://www.dffh.vic.gov.au/>

N/A – less than 10 bonds lodged, data unavailable

⁵⁴ Australian Bureau of Statistics. 2016. *Census of Population and Housing – General Community Profile G32*.

⁵⁵ NSW Department Communities and Justice. 2021. Rent and Sales Report. Accessed from <https://www.facs.nsw.gov.au/>

Table 13: Percentage change in median weekly rent (December Quarter 2019 to December Quarter 2021)

	2 Bedroom House	3 Bedroom House	4+ Bedroom House	1 Bedroom Unit	2 Bedroom Unit
Wodonga LGA	24.1%	13.7%	16.0%	11.1%	22.9%
Albury LGA	19.6%	29.0%	17.1%	14.3%	27.3%
Greater Hume Shire LGA	N/A	32.0%	N/A	N/A	N/A
Lockhart LGA	N/A	N/A	N/A	N/A	N/A
Wagga Wagga LGA	6.9%	17.6%	14.9%	26.3%	12.0%
Junee LGA	N/A	20.0%	N/A	N/A	N/A

Sources:

NSW Department Communities and Justice. 2021. Rent and Sales Report. Accessed from <https://www.facs.nsw.gov.au/>

VIC Department of Families, Fairness and Housing. 2021. Rental Report. Accessed from <https://www.dffh.vic.gov.au/>

N/A – less than 10 bonds lodged, data unavailable

Table 15 below summarises rental vacancies across the study area in April 2022. Vacancy rates reflect the rural profile of the study area, with relatively lower vacancies in Greater Hume, Lockhart and June compared to the larger localities of Wodonga, Albury and Wagga Wagga.⁵⁶

Table 14: Rental Vacancies as at April 2022

	2 Bedroom House	3 Bedroom House	4+ Bedroom House	1 Bedroom Unit	2 Bedroom Unit
Wodonga LGA	11	187	98	12	67
Albury LGA	23	173	82	24	99
Greater Hume Shire LGA	2	22	7	1	3
Lockhart LGA	N/A	1	N/A	N/A	N/A
Wagga Wagga LGA	21	212	113	3	53
Junee LGA	9	27	7	1	1

Source: RP Data Pty Ltd trading as CoreLogic Asia Pacific, April 2022

⁵⁶ Source: RP Data Pty Ltd trading as CoreLogic Asia Pacific, April 2022.

4.4 Local businesses and industry

4.4.1 Agriculture

Several of the enhancement sites are located adjacent to or near agricultural land, including Murray River bridge, Billy Hughes bridge, Yerong Creek Yard clearances, Uranquinty Yard clearances, Bomen Yard clearances, Olympic Highway underbridge and Junee to Illabo clearances. The majority of the proposal site is not on agricultural land, however, agriculture is a significant industry in the regional economic catchment.

Outside the urban areas of the main townships along the rail corridor, the proposal is predominately adjacent to agricultural land with one enhancement site partly traversing agricultural land which is the Billy Hughes bridge enhancement site. This land is zoned for industrial use but is currently used for grazing under a lease. This land is set to be included in a new industrial precinct as part of the Albury City Local Strategic Planning Statement (Albury City Council, 2020), see section 12.2.4.

Regional overview of agriculture

The Murray and Riverina regions are some of the most productive and agriculturally diverse areas in Australia, with 87 and 78 percent of the region's land mass comprised of arable agricultural land (84,900 and 44,600 square kilometres), respectively.^{57, 58} A generous supply of water for irrigation is provided by the Murrumbidgee and Murray Rivers, with the Murray and Riverina regions traversing the draining basins of these significant waterways. In the Murray region, the most common land use is grazing native vegetation which occupies 49 percent (48,300 square kilometres) of the region's land mass.⁵⁹ In the Riverina region, grazing modified pastures represent the most common land use at 39 percent (22,100 square kilometres) of the region's land mass.⁶⁰ 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 Murray and Riverina regions was \$1.5 billion and \$2.5 billion, respectively, collectively representing 34 percent of the total gross value of agricultural production in NSW.^{61, 62} The most valuable agricultural commodities across the two regions were cattle and calves (\$328 million in Murray, \$309 million in Riverina), followed by sheep and lambs (\$238 million in Murray, \$227 million in Riverina) and wheat (\$153 million in Murray, \$236 million in Riverina).⁶³ The two regions together produce all of the State's almonds, 98.6 percent of onions, 97.8 percent of mandarins, 97.2 percent of grapes, 95.1 percent of rice, 94.3 percent of broccoli and 93.5 percent of oranges.⁶⁴

At a local level, Greater Hume Shire, Lockhart and Junee LGAs have a typical rural profile compared to the urban-centred LGAs of Wodonga, Albury and Wagga Wagga. The gross value of annual agricultural production in Greater Hume Shire, Lockhart and Junee LGAs was approximately \$219 million, \$87 million and \$86 million in FY2016.⁶⁵ Crops represent 41.1 percent, 67.9 percent and 70.0 percent of these values, respectively.⁶⁶

The second largest proportion of businesses are in the Agriculture, Forestry and Fishing industry. This is driven by the rural LGAs with 710 businesses in Greater Hume Shire (52.1 percent), 131 businesses in Lockhart LGA (44.7 percent) and 276 businesses in Junee LGA (50.3 percent).

⁵⁷ Land use of Australia 2010-11 access at ABARES, About My Region – Murray NSW, 2018-2019.

⁵⁸ Land use of Australia 2010-11 access at ABARES, About My Region – Riverina NSW, 2018-2019.

⁵⁹ Land use of Australia 2010-11 access at ABARES, About My Region – Murray NSW, 2018-2019.

⁶⁰ Land use of Australia 2010-11 access at ABARES, About My Region – Riverina NSW, 2018-2019.

⁶¹ ABARES, About My Region – Murray NSW, 2018-2019.

⁶² ABARES, About My Region – Riverina NSW, 2018-2019.

⁶³ Ibid.

⁶⁴ ABS, *Value of Agricultural Commodities Produced, Australia 2019-20*, cat. no. 7503.0.

⁶⁵ ABS, *Value of Agricultural Commodities Produced, Australia 2015-16*, cat. no. 7503.0.

⁶⁶ Ibid.

4.4.2 Tourism

The regional economic catchment is recognised as a popular tourist destination for visitors seeking to experience Australia's regional landscape and culture. The Murray and Riverina regions offer both urban centres abundant with shops and restaurants and a diverse natural environment featuring waterways, mountains and wildlife.⁶⁷

The proposal site consists primarily of the existing active rail corridor between Albury and to the north-east of Illabo, which is owned by the NSW Government and leased, managed and operated by ARTC. Potential impacts on the tourism industry may result from the impact on recreational land, waterways and short-term accommodation. Public recreational land in the form of parkland is adjacent to several enhancement sites. In some instances, parts of these recreational lands would be within the proposal site (refer to EIS Chapter 12: Land use and property for further detail).

The Murray River bridge enhancement site is located over and on the eastern bank of the Murray River, which is a major navigable waterway. The foreshore areas are zoned for public recreation. The river is used for recreational watercraft activities, such as kayaking, canoeing, fishing and tourism. The nearest public boat ramps are over four kilometres to the west downstream and 10 kilometres east upstream of the proposal site. Although fishing is generally possible along the Murray River, this section of the river near the Murray River bridge is not a known popular fishing location.

Regional overview of tourism

During the year ending March 2020, the Murray tourism region received 2.6 million visitors with expenditure totalling approximately \$810 million.⁶⁸ Domestic overnight visitors comprised the largest proportion of visitors, with 37.5 percent of these visitors travelling for holiday and spending an average of \$159 per visitor per night.⁶⁹

During the year ending March 2020, the Riverina tourism region received 2.9 million visitors with expenditure totalling approximately \$743 million.⁷⁰ Domestic daytrip visitors comprised the largest proportion of visitors, with 35.4 percent of these visitors travelling for holiday and spending an average of \$160 per visitor.⁷¹

Tourism is a significant focus for the NSW regional centres of Albury and Wagga Wagga, with key attractions including the Murray Art Museum Albury (MAMA), Albury Botanic Gardens and Albury Library Museum in Albury, and the Wagga Wagga Art Gallery and National Art Glass Gallery in Wagga Wagga.

Table 15: Visitor Numbers and Tourism Expenditure, 2016-2019 annual average

	Domestic Daytrip		Domestic Overnight		International Overnight	
	Visitors	Expenditure	Visitors	Expenditure	Visitors	Expenditure
Wodonga LGA	173,000	np	196,000	\$69M	4,000	np
Albury LGA	734,000	\$152M	505,000	\$238M	19,000	\$10M
Greater Hume Shire LGA	138,000	\$7M	68,000	\$16M	np	np
Lockhart LGA	np	np	np	np	np	np
Wagga Wagga LGA	826,000	\$150M	538,000	\$223M	12,000	\$12M
Junee LGA	np	np	np	\$10M	np	np

Source: Tourism Research Australia, 2019, Local Government Area Profile

⁶⁷ Note that the Murray and Riverina tourism regions are not exactly analogous to the Murray and Riverina SA4s.

⁶⁸ Destination NSW, *Travel to The Murray Tourism Region*, Year ended March 2020.

⁶⁹ Ibid.

⁷⁰ Destination NSW, *Travel to Riverina Tourism Region*, Year ended March 2020.

⁷¹ Ibid.

np = survey error is too high for data to be published

4.4.3 Local businesses

The proposal enhancement sites are generally located within the regional urban centres of Albury and Wagga Wagga and within small towns along the rail corridor. The main nearby land uses for most enhancement sites are residential and transport infrastructure related to road and rail. However, other land uses present in the areas adjacent or near to the proposal site include industrial and commercial. These local industries and local businesses which may directly support the delivery of the proposal are detailed below.

Construction

Material and Services

The largest proportion of businesses in the study area are in the Construction industry. This is driven by the typical urban land development trends of the urban LGAs with 706 businesses in Wodonga LGA (23.6 percent), 833 businesses in Albury LGA (17.8 percent) and 1,020 businesses in Wagga Wagga LGA (18.0 percent) operating in this industry sector.⁷²

There is a sizeable representation of construction businesses located within the study area, with a total of 1,264 employing businesses and a further 1,545 non-employing businesses across the six LGAs.⁷³

As outlined in EIS Chapter 8, a range of materials would be required for construction of the proposal, including (but not limited to):

- General fill and structural fill
- Aggregates for capping and scour protection
- Materials for the rail track, such as steel rails, precast concrete sleepers, ballast
- Steel and concrete for bridges
- Precast culverts, pipes, pit, bridge girders and retaining wall panels
- Asphalt for road works
- Water.

A quarry operated by Junee Shire Council is located adjacent to the proposal Junee to Illabo clearances enhancement site, approximately 3.5 kilometres to the south-west of Illabo. Quarries within the region with the required approvals, such as Boral, Rocky Point, Hanson and Signature Quarries, would be used to supply capping and ballast for the proposal, where possible.

Sleepers and rail would be required for track realignment and lowering works. Existing sleepers and rail would be re-used where the condition is adequate for use. New sleepers and rail are proposed to be delivered to the construction footprint via existing rail lines during pre-construction. Concrete would be supplied by commercial suppliers.

It is anticipated that construction water would be transported via water trucks. The preferred method would be confirmed by the construction contractor during detailed construction planning. Construction water sources would be finalised during the detailed design phase, considering:

⁷² ABS. February 2021. *Counts of Australian Businesses, including Entries and Exits, Jun 2016 to Jun 2020, cat. no. 8165.0.*

⁷³ Ibid.

- Climatic conditions in the lead up to construction
- Agreements with local governments for sourcing mains water
- Agreements with water supply authorities (such as Riverina Water) for sourcing water or treated non-potable water.

Local resource interests

Active mining licences within the study area are listed below. None intersect with proposal sites⁷⁴.

- ML1229 (Boral Bricks) – Albury LGA
- ML1762 (PGH Bricks and Pavers) – Lockhart LGA.

The nearest mining title to the proposal sites is for the Boral Bricks Quarry 3.5 kilometres south west of the Billy Hughes bridge site.

Wodonga LGA also contains 11 work authority sites for small-scale, extractive industry (mainly soil and gravel), in close proximity to construction areas.

There are a number of active mineral exploration licences within the study area (refer to the Spatial Datamart Victoria⁷⁵ and NSW Planning Portal⁷⁶ for further detail). Only EL8867 and EL8470 intersect with construction areas and are located along the Junee to Illabo clearances site.

Transport

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

Wodonga LGA

- Scholz Bulk Haulage
- Sarge's Bulk Haulage
- M & K Oates Transport
- Ron Finemore Transport
- Langfields Transport
- Conbar Transport
- Walker's Transport
- D&M Transport
- Dawson's Haulage
- Staxa Freight

Albury LGA

- Shane's Freight

- Kalia Transport Services
- Sawyer Transport
- Griffin Transport
- Mainfreight Transport
- Plummer's Freight
- Livingstone Freight Service

Greater Hume Shire LGA

- Amarant Trucking Company
- Churchill Transport
- K.W.T Bulk Haulage

Lockhart LGA

Wagga Wagga LGA

- Direct Freight Wagga
- Stratton Trucking
- Direct Freight Express
- Scott Menz Freight
- Tumbarumba Freight Services
- Tonny Innaimo Transport
- Shearers Road Freight
- Irvin Rinaldi Transport
- Farey Transport & Trading
- Freight Specialists
- Ron Crouch Transport

⁷⁴ Proposal sites is an encompassing way to describe all the enhancement sites.

⁷⁵ Mineral Tenements ANZVI0803002840. Available at:

<http://services.land.vic.gov.au/SpatialDatamart/dataSearchViewMetadata.html?anzlicId=ANZVI0803002840&extractionProviderId=1>

⁷⁶ NSW Exploration and Mining Titles. Available at: <https://www.planningportal.nsw.gov.au/opendata/dataset/nsw-mining-titles>

- Hume Transport
- D&P Haulage
- Bodman Transport
- Border Express
- KJ & HJ Beattie
- Burkinshaw's RG Transport
- Greg Hindmarsh Transport
- Rodney's Transport Service
- Junee LGA**
- Bethungra Transport

Short term accommodation

Section 6.3.9 of the Technical Paper 4: Social details the number of rooms available across the regional study area. There are approximately 2,909 rooms available, with the Albury-Wodonga urban area hosting 1,718 of the total number. Motels are the most common accommodation type with 1,532 rooms available. There is a large stock of hotel-type accommodation with 1,138 rooms available. Nearly all hotel accommodation is located in larger regional centres such as Albury-Wodonga and Wagga Wagga. These larger regional centres have relatively stable occupancy rates during the year while regional communities experience significant fluctuations.

Local businesses near enhancement areas

The proposal site is located within or adjacent to economic activity in the Albury, Wagga Wagga, Greater Hume–Lockhart and Junee precincts. An overview of the industrial activities in close proximity to the enhancement sites is detailed in Table 17 below and outlined in EIS Chapter 12: Land use and property.

Table 16: Overview of Local businesses near enhancement areas

Enhancement site	Local businesses near enhancement areas
Albury Precinct	<p>In the Albury precinct, the Murray River bridge enhancement site has light industry directly east on the edge of the Albury urban centre. The Billy Hughes bridge enhancement site, located over three kilometres north east of Albury, is within a developing industrial area and includes existing industries, such as the Visy paper mill and the recently upgraded Ettamogah Rail hub. The hub is an intermodal transport facility located directly north of the Billy Hughes bridge enhancement site.</p> <p>The Albury Yards, the Albury Station pedestrian bridge and the Riverina Highway bridge are located in the centre of Albury, around Albury Station. The land uses directly north of these sites include commercial and accommodation properties associated with the town centre and Albury Station.</p>
Wagga Wagga Precinct	<p>Enhancement sites within the Wagga Wagga precinct are in close proximity to commercial properties, such as bakeries, post offices, pubs and grocery stores present in small numbers.</p> <p>In the Wagga Wagga precinct, Pearson Street bridge enhancement site is located adjacent to industrial land within the Wagga Wagga urban area, and Bomen Yard clearances enhancement site is within an industrial business park.</p> <p>Enhancement sites within the Wagga Wagga urban centre are located near commercial properties. The Wagga Wagga Showground (including campground) and Wagga Wagga greyhound track are located east of the Pearson Street bridge enhancement site.</p> <p>Commercial and accommodation properties associated with Wagga Wagga Station are located north of Wagga Wagga Yard clearances and pedestrian bridge enhancement site.</p>
Greater Hume–Lockhart Precinct	<p>Enhancement sites within the Greater Hume–Lockhart precinct are located in close proximity to commercial properties, such as bakeries, post offices, pubs and grocery stores present in small numbers. A grain storage facility is located adjacent to the Henty Yard clearances enhancement site.</p>

Enhancement site	Local businesses near enhancement areas
Junee Precinct	<p>Enhancement sites within the Junee precinct are located in close proximity to commercial properties, such as bakeries, post offices, pubs and grocery stores present in small numbers.</p> <p>An intermodal facility is located directly adjacent to the Harefield Yard clearances enhancement site. In Junee, a light industrial area is located around 50 metres to the west of the Junee Yard clearances and Junee Station pedestrian bridge enhancement sites, and an industrial area is located around one kilometre to the west of the Olympic Highway underbridge enhancement site (grain storage).</p>

5. Impact assessment

5.1 Inland Rail Program impacts

As per the requirements of the SEARs, this EIA has focused 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 other proposal 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 Gross Domestic Product 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).

5.2 Workforce impacts

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.

5.2.1 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 early-2024 and will be completed by 2025.

The peak workforce across all packages will be approximately in March 2024, with 770 resources in total. Junee LGA will feature the largest workforce with 289 workers, while Albury LGA will feature the smallest at 165 workers. The peak workforce estimates and employment durations are dependent on the construction sequence of the proposal and may change as a result of the final construction schedule.

The construction workforce would predominantly require skilled and unskilled workers from the heavy and civil construction and general construction sectors. 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 throughout the construction phase.

5.2.2 Operation

Railway operations will not pause during the construction of the enhancement works. Subject to the completion of construction across all projects, Inland Rail operations (all links) are planned to commence in 2027. Once double-stacked freight capability exists between Albury and Parkes, double-stacked trains may utilise the proposal corridor before 2027 to connect to the Parkes to Kalgoorlie corridor. The proposal would be maintained by the existing ARTC workforce.

5.2.3 Local employment

Overall, the proposal has an opportunity to support local employment. In addition to direct employment on the proposal, employment opportunities include some short-term employment in retail, administration and transport. 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 limited latent capacity and capability within the impact assessment area and regional economic catchment to support the construction and operation of the proposal. Specifically, five of the LGAs in the study area have quite low unemployment rates (much lower than the NSW average) indicating low latent capacity, although Albury LGA may present an opportunity for labour supply with a high unemployment rate of 7.3 percent. Moreover, the complex nature of the proposed construction methodology means that a specialist workforce is required.

According to Technical Paper 4: Social, it is expected that approximately 10 percent of the 770 roles at peak could be filled using the local labour pool over the construction lifecycle, including Indigenous people. The remaining workforce would need to be sourced from outside the local study area and nearby townships. The percentage of local employment is likely to be higher during off-peak demand, as local residents will be interested in participating on longer work timeframes.

Given the limited number of workers available at each LGA, it is expected that employment opportunities will be distributed across the regional study area, causing a low impact in the local area, yet a medium positive impact regionally (across the Murray and Riverina regions).

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 SIA Technical Paper 4: Social, high levels of unemployment and low levels of education represent opportunities to provide up-skilling and apprentice/trainee development.

ARTC is establishing 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.

5.2.4 Changes to housing and accommodation

As a major infrastructure project, a number of changes to property and housing could occur during the construction of a particular enhancement site 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

According to Technical Paper 4: Social, 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 resulting from increased agricultural conditions and local development, have resulted in a highly competitive private market.

It is anticipated that no short-term, non-resident workforce would make use of private rental for the proposal during possession periods. As such, it is likely that the effects of a temporary workforce on the availability of accommodation in the private housing market would not be noticeable, such as inflating rents and displacing low income rental households. A smaller number of people (approximately five) would comprise the core project management team that would require rental accommodation for a period of 18-24 months.

Short-term accommodation

Technical Paper 4: Social (Table 7.4) outlines the estimated number of available rooms across the study area during the calendar year. A shortage of 103 rooms is identified in March 2024 for the Wagga Wagga and Junee precincts and constrained availability in September 2024. No accommodation constraints are identified for the southern townships.

Wagga Wagga and Junee are likely to experience a change in the accommodation market during the workforce peak (currently estimated to be March and September 2024). Without mitigation, this could impact aspects of the local economy, including tourism, local business and seasonal workers, as the proposal limits the availability of short-term accommodation. Junee has the smallest amount of short-term accommodation rooms (81 rooms) and is more likely to be impacted by accommodation constraints.

Limited accommodation availability would, in turn, impact the accommodation available for visitors, seasonal workers and other industries. A lack of access to short-term accommodation may result in a medium negative impact on local businesses as a result of the loss of tourism expenditure and labour force shortages for industries reliant on seasonal workers, such as agriculture. This is expected to be experienced when the proposal workforce peaks in March 2024, however, a greater number of rooms would be available in the study area during February and April 2024. The proposal is likely to have a positive impact on short-term accommodation providers and local businesses providing opportunities in secondary service and supply industries.

Detailed construction planning would distribute the construction workforce across scheduled rail possessions throughout the construction period to minimise the peak demand on the short-term accommodation market.

However, the proposal is expected to result in increased demand for accommodation, especially during short-term possession periods.

5.2.5 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 5.5) indicate that indirect employment will be generated in the Construction, Professional, Scientific and Technical Services and Wholesale Trade sectors, reflecting the importance of these 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 proposal planning, and in the supply chain for construction materials during the proposal's construction.

5.3 Business and industry impacts

The following business and industry impacts have been identified through local consultation and analysis of local businesses undertaken by ARTC. It is expected these impacts will be minimal given that the proposal consists of the enhancement to the existing track.

EIS Chapter 5: Engagement Consultation outlines the key issues raised during consultation relevant to the EIS, including the potential impacts to be considered, such as local business participation, traffic and transport access and noise impacts on businesses. These potential impacts raised during consultation have been considered below.

5.3.1 Agriculture

The construction of the proposal is likely to have a limited impact on high-value farming operations and general agricultural uses across the study area as the proposal is located within an existing rail corridor and operational impacts would be minimal.

These short-term impacts on agriculture during construction could include:

- Disruption to access and infrastructure
- Disruption to stock movement and agricultural operations
- Improvements in supply chain efficiency.

Disruption to access and infrastructure

During construction, broader accessibility impacts due to changes in the surrounding road network may also affect local agricultural businesses and properties, and temporary access impacts would be coordinated with the landholder. Short-term closures of the three level crossings in the Juneee to Illabo clearances would occur during one track possession period. Detours would be in place during this time, with alternative access available in most instances for general traffic and/or impacted landholders. This may disrupt agricultural activities for properties in the area.

Localised seasonal traffic variation may be experienced at enhancement sites that share land with agricultural infrastructure (e.g. grain silos and livestock loading facilities) as the infrastructure would generate additional heavy or farm vehicle movements during harvest seasons. Agreement with operators of grain silos and other

infrastructure within the proposal site would be required prior to construction, and access to these sites would be maintained with relevant traffic management plans.

During construction, there is a potential low negative impact on agriculture as a result of reduced transport access and access to infrastructure. This impact would be managed through the appropriate measures identified in consultation with individual landholders and defined in the individual property agreements.

Once operational, there are unlikely to be any changes to access as the proposal is located within an existing rail corridor.

Disruption to stock movement and agricultural operations

During construction, the proposal would temporarily occupy 5.48 hectares of land currently used for agricultural purposes at the Billy Hughes bridge enhancement site to accommodate a construction compound. The 5.48 hectares forms part of a broader lease for sheep grazing totalling around 200 hectares. The land is currently zoned for industrial use and is earmarked to be a part of the Nexus Industrial Precinct. ARTC would enter into a lease or other agreement for the use of this site and would restore the site to a condition as determined in that agreement. Overall, the proposal site would temporarily occupy a very small amount of the agricultural land within the study area, and there would be no severance for this temporary land occupation.

There are some enhancement sites within the Greater Hume-Lockhart and Wagga Wagga precincts that are located near Travelling Stock Reserves (TSR). A TSR, when on public roads, is referred to as a livestock highway. In the Greater Hume-Lockhart precinct, there is a livestock highway that runs along the Olympic Highway from Henty through Yerong Creek and The Rock, and The Rock Road. In the Wagga Wagga precinct, there are livestock highways along the Olympic Highway through Uranquinty, along the Sturt Highway through Wagga Wagga and Bourke Street/Docker Street through central Wagga Wagga to the intersection of Sturt Highway/Docker Street. There are no TSRs relevant to the enhancement sites in the Albury and Junee precincts.

No roads identified as a TSR would be closed during the construction of the proposal. Based on the low traffic volumes generated by the construction activities, it is not expected that heavy vehicle and workforce movements would impact the operation of these TSRs. Level crossings can also be used for stock access across the rail corridor. One level crossing at Henty Yard clearances and four level crossings at Junee to Illabo clearances would be closed for up to five days to complete works. Level crossing works would be completed under traffic control to maintain traffic flow, where possible.

Delays to the road network due to construction have the potential to disrupt stock, and this may require landholders to make alternative travel arrangements for their stock or to take alternative routes, potentially increasing travel time and associated costs. It is expected that, prior to the commencement of works, Local Land Services would be notified of construction activities along the TSRs and of any temporary closures of level crossings so that stock handlers, including walking permit holders, can be notified of the impacts on stock movements. The disruption to stock routes is discussed further in EIS Chapter 12: Land Use and Property.

During operation, stock movements across active level crossings will experience an increased frequency of level crossing closures due to additional rail services. The wait time experienced at the level crossing during a closure would not change as a 1,800m Inland Rail freight train would pass through the level crossing at the same speed at which a 1,800m freight train would travel under current operations. However, the additional rail services of lengths up to 1,800m would result in an increased likelihood of experiencing the maximum wait time during a level crossing closure. If stock is stopped at an active level crossing, the wait time would be relatively short – approximately two minutes for a 1,800m train travelling at a typical speed of 80km/h.

As such, there is anticipated to be a minimal negative impact on the agricultural industry during construction and during operation.

Improvements in supply chain efficiency

Efficient supply chains support the regional and national capacity to enhance economic opportunities within local communities. The proposal is a critical section in the broader Inland Rail to create a more direct rail freight corridor, offering a more efficient solution for intrastate and interstate freight operators who will be able to avoid inland and coastal roads and coastal rail networks. The proposal will increase competition between road and rail freight modes, driving savings in freight costs which will benefit producers, consumers and the regional community.

As part of Inland Rail, the proposal has the potential to promote local industry development. By providing efficient transport access to intrastate and interstate markets, the proposal may act as a catalyst for further private sector investment in the study area, particularly for freight and logistics operations. Improvements in supply chain efficiency would be a medium positive impact on agricultural businesses.

5.3.2 Tourism

The proposal has the potential to change local amenity and service capacity within the study area, during both construction (temporary) and operation (permanent). Tourism is primarily impacted by the proposal during construction by localised traffic variations, construction noise, impacts on short-term accommodation, and the temporary full and partial closure of recreational areas and restricted waterway access. Most impacts are anticipated to be minimal.

The transport analysis in EIS Chapter 9: Transport and traffic identifies that there are likely minor localised traffic variations during construction. The proposal is likely to have a minor impact on the regional road network which is the primary way tourists access the region (i.e drive-in tourists). Some impacts may be experienced during temporary local events, such as festivals and shows, particularly in townships of Albury, Wagga Wagga and Junee.

EIS Chapter 12: Land use and property outlines the recreational areas (public parks) impacted during construction, which includes the following:

- Kildare Street Park at the Cassidy Parade pedestrian bridge enhancement site (for around six months)
- Endeavour Park at Kemp Street Bridge enhancement site (for around 10 months)
- A grassed open space area at the Olympic Highway underbridge enhancement site (for around three months).

While these recreational areas are not primary tourism destinations, they are likely to be used by tourists visiting the area in addition to the local community. There will be a partial or full closure of these public parks for the duration of construction works at the respective enhancement sites and areas would be reinstated at the completion of construction.

During construction, waterway access beneath the Murray River bridge would be partially restricted for construction and safety purposes for the full duration of the works at the enhancement site (approximately one year). The proposal would maintain the river as navigable by the provision of a channel under the bridge to maintain access for watercraft.

The Murray River waterway supports activities such as kayaking, canoeing, fishing and tourism in the vicinity of the Murray River bridge enhancement site. The partially restricted river access may result in a loss of revenue to local businesses (e.g. retail and food services) associated with the loss of these visitors to the area during the construction period. This is likely to result in a minimal negative impact.

Some of the short-term accommodation businesses will be impacted by the proposal as a result of the noise during construction, with sleep disturbance impacts predicted to occur during most night-time work stages. There are approximately 37 short-term accommodation businesses in close proximity to the enhancement sites.

EIS chapter 15: Noise and vibration details the extent of these impacts at each enhancement site. Standard mitigation measures are employed on construction sites to manage noise impacts, however construction noise may result in a medium negative impact on the short-term accommodation (sensitive receivers) as outlined in Chapter 15 of EIS.

Section 5.2 of the EIA and Technical Paper 4: Social identifies the impact of the construction workforce on short-term accommodation. Without mitigation, there would be a significant impact on aspects of the local economy, including tourism, as the proposal limits the availability of short-term accommodation at certain times of the year. A lack of access to short-term accommodation may result in a loss of tourism expenditure having a medium negative impact on local business. However, a temporary workforce accommodation plan will be implemented to address the provision of temporary workers' accommodation which will reduce this negative impact.

During construction, the proposal would result in temporary changes to the landscape and visual amenity. The potential impacts on the visual amenity of these changes would depend on the nature and intensity of the construction activity. This impact will be temporary whilst construction activities are undertaken in particular areas which are anticipated to be a low negative impact on the area given there is an existing rail corridor.

During operation, there is potential for reduced scenic amenity due to the proposal location within the rural and regional landscape. The changes would be generally in character with the existing rail corridor and would not significantly alter the use or visual amenity of the landscape. While there would be landscape and urban design, and rehabilitation works delivered, it has been assumed that any future vegetation would take time to establish and have a landscape or visual effect that would alter the landscape or visual outcome of this impact assessment over time as the vegetation matures. Accordingly, the visual impacts from the proposal are expected to have a no or minimal negative impact on the tourism industry during operation.

5.3.3 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, regional and Indigenous businesses will have opportunities to supply the proposal. Notably, the policy aims to maximise opportunities for procurement from local and Indigenous businesses and social enterprises across the Inland Rail Program and projects. It is anticipated the proposal would have a moderate positive impact on the construction industry.

Materials

Construction of the proposal would require a range of materials, including (but not limited to):

- General fill and structural fill
- Aggregates for capping and scour protection
- Materials for the rail track, such as steel rails, precast concrete sleepers, ballast
- Steel and concrete for bridges
- Precast culverts, pipes, pit, bridge girders and retaining wall panels
- Asphalt for road works
- Water.

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 Victoria and New

South Wales. Local quarries have been identified as having the potential to be used for structural fill, capping and ballast. The appointed contractor will procure materials based on the proposal needs and contractor capabilities.

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).

Operation

No operational impacts on local businesses have been identified. The consideration of additional infrastructure investment (i.e. intermodal terminals) is required to identify the operational impacts of the proposal on local businesses.

Local resource interests

According to EIS Chapter 12: Land Use and Property, there are two mines that are active in the study area within the Albury and Lockhart LGAs. All the LGAs within the study area have some exploration activity occurring, generally relating to metallic minerals. The Junee to Illabo clearance site intersects with two metallic mineral exploration licences (EL8867 and EL8470). At these locations, the proposal is located within the existing rail corridor and would occupy only a small portion of the total exploration areas. The proposal would not change any access to the underlying geology for exploration purposes. The rail corridor would remain a constraint for future exploration activities to consider. The proposal site does not intersect any mining titles or petroleum leases or licenses. As a result, the proposal will not result in any adverse economic impacts on local mineral resources and extractive industries.

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.

There are likely to be low negative impacts on transport businesses during construction as a result of road closures and traffic diversions. During the Edmondson Street bridge closure, additional diverted traffic is expected on Edwards Street and Lake Albert Road. The additional traffic is expected to increase the average delay by one minute during a peak period which is considered a minimal impact on heavy vehicles passing through these intersections.

The Kemp Street bridge enhancement site works would require diverting of part of the Olympic Highway in Junee, which is a designated heavy vehicle route. Heavy vehicle diversionary signage would be implemented to divert traffic outside of Junee on existing heavy vehicle routes via Goldfields Way and Old Junee Road, resulting in an additional travel distance of four kilometres to reduce the impact associated with heavy vehicle movements on Pretoria Street during its use for two months.

EIS Chapter 9: Transport and traffic provides further detail regarding the traffic and transport impacts of the proposal.

Local service and supply businesses

The proposal is likely to have a low positive impact on local businesses providing opportunities in secondary service and supply industries. These businesses (such as retail, hospitality and other support services) would likely be in close proximity to the construction footprint and non-resident workforce accommodation. The expansion in construction activity has the potential to support additional temporary flow-on demand and additional spending by the construction workforce in the local community. This construction activity may lead to

increased trading levels for small businesses, such as food and beverage businesses in the impact assessment area.

Retail businesses along the proposal alignment, including Junee, Wagga Wagga and Albury-Wodonga, have the potential to benefit from opportunities to supply materials and services to the proposal's non-resident workforce accommodation. Some local retail businesses may also benefit from increased trade from workers residing in these accommodation facilities.

As identified in the SIA (Technical Paper 4: Social), it is likely that some small businesses will need to scale up their current capacity to participate in the proposal, particularly for businesses in rural areas along the alignment.

Local businesses near enhancement areas

An increase in construction-related activities may impact the accessibility and amenity for local businesses in close proximity to the individual enhancement areas of the proposal. These potential impacts are a result of the combined changes to transport accessibility as well as the level of noise quality experienced in people's daily lives.

For one business, at the Kemp Street bridge enhancement site, the proposal would partially occupy one private property for the purposes of a construction compound. Engagement has been carried out with the landowner both through EIS engagement activities (refer to Appendix F: Engagement report of the EIS) and through the social impact assessment surveys as part of Technical Paper 4: Social. A development application for the construction of accommodation (cabins) was approved for this property in May 2021 and it is expected that the development would be operational when construction of the proposal commences. Through engagement with the landholder, the area required for the proposal was reduced to avoid a direct impact on the accommodation buildings. The compound would be located in an area identified for a future stage of development that the landholder has advised would occur after the construction of the proposal concludes.

The cabins are expected to increase the accommodation capacity at this property by an additional 16 people. There is potential that construction activities at the adjacent Kemp Street bridge enhancement site may temporarily reduce the amenity of the surrounding area, particularly due to construction noise at night. Noise and vibration mitigation measures, as outlined in EIS Chapter 15: Noise and vibration, would be implemented to minimise potential noise impacts. ARTC would enter into an agreement with the landholder to ensure construction activities are suitably managed to avoid disruption to the broader use of this property.

Other impacts during construction are anticipated to be temporary changes in amenity and associated with construction equipment, site compounds and storage. Construction of the proposal would include the use of large machinery and equipment, such as excavators, graders, cranes, piling rigs and scaffolding. Construction compounds would also be established, including site offices and amenities, and storage of construction plant and equipment.

Table 18 identifies the anticipated impacts at each precinct and discusses a pre-mitigated assessment of the economic impact. This table draws on technical assessments for transport (EIS Chapter 9: Transport and traffic) and noise (EIS Chapter 15: Noise and vibration).

Table 17: Assessment of impacts to local businesses

Enhancement site	Assessment considerations	Economic impact assessment
Albury Precinct	The enhancement site has a number of businesses in close proximity which are primarily light and heavy industrial activities, including car mechanics, building material distribution and commercial food services.	Public parking near Albury Station will be impacted with the loss of 14 designated and 13 informal spaces for a six month duration. 114 designated spaces would still remain. The Albury Station pedestrian bridge replacement would require closure of the bridge. During the closure

Enhancement site	Assessment considerations	Economic impact assessment
	<p>There is a large shopping district to the west of the train line at Albury Station which services both sides of the rail line.</p> <p>At the Table Top Yard clearances site, there are two short-term accommodation businesses.</p> <p>There is one level crossing in this location to enable the movement of supplies and customers across the rail line.</p>	<p>period of approximately six months, pedestrians would be diverted to the two nearest crossings: the Harold Mair Bridge located 160m (two minutes' walk) north, and the Amatex Street bridge located 460m (six minutes' walk) south. This change only impacts pedestrians as the bridge does not cater for cyclists.</p> <p>Impacts from construction vehicles are predicted to have negligible impacts on the performance of the existing road network.</p> <p>Noise management level exceedances would be experienced at each enhancement site during construction although the impacted receivers would be predominantly residential and local businesses.</p> <p>For local businesses in the Albury Precinct, it is possible that low negative economic impacts may occur during short periods when work is at its peak at any individual enhancement site. There may be some impact on passing trade for local businesses with the loss of 27 car parking spaces for six months.</p> <p>The short-term accommodation businesses are likely to experience a medium negative impact as a result of the noise during construction which may result in loss of income. 11 short-term accommodation businesses are in close proximity to the enhancement sites.</p> <p>However, the businesses may obtain additional income through the presence of the workforce which could offset the potential negative impacts from construction.</p>
Greater Hume-Lockhart Precinct	<p>The enhancement site has a number of businesses in close proximity to the construction site. These include small commercial businesses, such as short-term accommodation, bakeries and restaurants. There is also an industrial footprint, including a mechanic and a steel fabricating business.</p> <p>There are businesses and residential properties on either side of the Henty Yard, Rock Yard and Culcairn Yard clearances. However, there are dedicated pedestrian crossings provided for level crossings in these areas. Additionally, the Culcairn pedestrian bridge has been closed since 2010, but there is an alternative footpath on Balfour Street that has a level crossing for residents.</p>	<p>Sladen Street rail level crossing would require a road closure which will result in one road closure with traffic diversion for five days. This diversion is expected to impact 997 vehicles per day. The closure would require vehicles to be diverted to the rail level crossing on Rosler Parade, located 500 metres to the south, via the Olympic Highway on the eastern side of the rail line and via Allan Street on the western side of the railway line. Pedestrian access across the rail line will be maintained during the level crossing closure.</p> <p>There are approximately 16 businesses on the Olympic Highway that may be impacted by this diversion although they will still be very accessible. No road closures, traffic diversions or performance will be affected in the Greater Hume-Lockhart Precinct.</p> <p>Construction vehicles are not predicted to have any major impacts on the existing road network.</p> <p>The construction work in this region will result in only moderate noise impacts. However, a vast majority of impacted sensitive receivers will be residential.</p> <p>As such, low negative economic impacts are anticipated to local businesses in the Greater Hume-Lockhart</p>

Enhancement site	Assessment considerations	Economic impact assessment
		<p>Precinct. There may be some minor and temporary impacts to passing trade for local businesses.</p> <p>The short-term accommodation businesses are likely to experience a medium negative impact as a result of the noise during construction which may result in loss of income. Five short-term accommodation businesses are in close proximity to the enhancement sites.</p> <p>However, the businesses may obtain additional income through the presence of the workforce which could offset the potential negative impacts from construction.</p>
Wagga Wagga Precinct	<p>The enhancement site has a large number of businesses in close proximity, comprising both commercial and industrial activities. These include cafes, short-term accommodation, gyms, scrap metal stores and a motor shop.</p> <p>There is a large shopping district to the north of the Wagga Wagga Station that services both sides of the rail line.</p> <p>To the south of the Pearson Street Bridge, there is an industrial complex that includes a Bunnings, caravan sales, tyre, auto and motors shop.</p> <p>There is a footpath provided near the bridge, so construction will not affect pedestrians.</p> <p>The level crossing at Bomen Yard clearances does not allow for pedestrian movement. However, there are level crossings at Uranquinty and Wagga Wagga.</p>	<p>The intersections with Edward Street and Docker Street, and Doctor Street and Lake Albert Road are anticipated to have some delays from congestion during peak periods.</p> <p>There will be staged closures of the Wagga Wagga Station bridge, Cassidy Parade pedestrian bridge and Edmondson Street bridge, causing a delay in active transport (i.e. foot traffic) movements and alternative routes are required. These delays can result in an estimated 10-26 minutes of additional walking time.</p> <p>The construction noise levels are predicted to exceed the relevant construction noise management level at residential receivers at all locations. A vast majority of impacted receivers will be residential, however commercial properties and industrial premises around Wagga Wagga station will also be impacted.</p> <p>As such, low negative economic impacts are anticipated for local businesses as a result of modified active transport access and increased noise. A change to active transport routes may have a minor and temporary impact on passing trade to shops on the northern side of the Cassidy Parade pedestrian bridge.</p> <p>The short-term accommodation businesses are likely to experience a medium negative impact as a result of the noise during construction which may result in loss of income. Fourteen short-term accommodation businesses are in close proximity to the enhancement sites.</p>
Junee Precinct	<p>The enhancement site has several hospitality businesses in close proximity to the construction work, including short-term accommodation, proposed cabins, restaurants and retail shops.</p> <p>There are businesses on both sides of the Junee Station pedestrian bridge as well as a light industrial area located 50m to the west of the bridge.</p> <p>There is an industrial area and local businesses approximately one kilometre to the west of the Olympic Highway underbridge.</p>	<p>The Kemp Street road closure would be in effect for approximately eight months during the reconstruction of the bridge and surrounding intersections. This road closure would include the Kemp Street bridge and the adjacent intersections of Olympic Highway/Seignior Street/Kemp Street to the west of the bridge. This diversion is expected to be used by around 2,903 vehicles per day at its peak. These vehicles would use the alternative route to gain access to businesses, with no business prevented from being able to be accessed.</p> <p>No road closures or diversions are required for the Junee Precinct. The Junee pedestrian bridge will be closed, but there are level crossings available at</p>

Enhancement site	Assessment considerations	Economic impact assessment
	<p>At the Harefield Yard Clearance, there is only a single logistics company. Most of the Junee to Illabo clearances enhancement sites are adjacent to agricultural land. Pedestrian crossings are provided at most intersections and level crossings.</p>	<p>Seignor Street. This will cause a delay in active transport (i.e. foot traffic) movements and alternative routes are required.</p> <p>Impacts from construction vehicles are predicted to have a negligible impact on the existing road network. Noise management levels are predicted to affect substantial areas through most construction stages although a vast majority of the impacted sensitive receivers will be residential.</p> <p>The Kemp Street road closure may have some impact on passing trade at the Junee commercial centre. As this area is also accessible and located in close proximity to the Olympic Highway overpass, the impact is expected to be minor and temporary.</p> <p>As such, low negative economic impacts are anticipated. The short-term accommodation businesses are likely to experience a medium negative impact as a result of the noise during construction which may result in loss of income. Seven short-term accommodation businesses are in close proximity to the enhancement sites.</p> <p>However, the businesses may obtain additional income through the presence of the workforce which could offset the potential negative impacts of construction.</p>

5.3.4 Property

The construction of the proposal is likely to have a limited impact on property as the proposal is located within an existing rail corridor. During operation there may be some impacts on property as a result of an easement being established and the additional trains operating.

The proposal site consists primarily of the existing active rail corridor between Albury and to the north-east of Illabo, which is owned by the NSW Government and leased, managed and operated by ARTC. The proposal site includes some additional areas outside the rail corridor that are mostly required for construction activities. Potential impacts on agriculture and local business as a result of the proposal's temporary land requirements have been assessed in section 5.3.1 and section 5.3.3, respectively. No land with the primary purpose of residential housing is required for the proposal and there are no instances of severance as part of the proposal.

Permanent land acquisition is not proposed, however, an easement would be established for high voltage overhead powerlines on Edmondson Street adjacent to the Edmondson Street bridge enhancement site. This affects the land of Kildare Catholic College that fronts Edmondson Street and occurs at the property boundary. The easement would be included in the Kildare Catholic College property title and is not considered severance and it would also not impact access to the school. Preliminary engagement about the easement occurred with the stakeholder in February 2022 and this will continue as part of the property engagement process.

There may be temporary disruptions to property access during construction that have an economic impact, however, this would be managed to ensure access is suitably maintained as far as reasonably practicable.

Broadly across the A2I corridor, train services will increase by a maximum of 6 trains per day from the existing freight service and to a maximum of 8 additional trains by 2040. On average this represents an increase in the frequency of around 30 per cent once fully operational. Most of the additional trains will operate during the daytime, with less change to the current train volumes that operate during the night.

While the frequency and height of trains (doublestacked) would increase along the rail corridor and become a more dominant feature, the changes would be generally in character with the existing rail corridor and would not significantly alter the use or visual amenity of the landscape (EIS Chapter 17: Landscape and visual amenity).

All enhancement sites are in close proximity to medium- and low-density residential areas, with the exception of Billy Hughes bridge, Table Top Yard clearances and Bomen Yard clearances. The majority of the Junee to Illabo clearances sites are not located in close proximity to residential properties; however, a small section of the site travels through the township of Illabo. The highest number of residential properties are generally located around the enhancement sites within the urban centres of Albury and Wagga Wagga.

During operation, the predicted noise levels to be experienced by residential receivers in all work areas (except for six residences in the Henty Yard work area) do not exceed the day or night time noise criterion. For Henty Yard the change in noise level would be greatest with an increase of around 4 decibels affecting receivers. Typically, this level of change from the existing noise environment may be noticeable to some residents.

During operation as a result of the increased rail operations, there is predicted to be a slight increase in noise of up to 2 decibels at enhancement sites where track adjustments are proposed. A small increase in operational noise may have a minor to moderate impact on the residential properties in close proximity to the proposal.

The increased noise may impact the well-being of residents (as outlined in Technical Paper 4: Social) and the amenity of adjacent residential properties. Identification of noise mitigation will continue to be investigated during detailed design and in accordance with the Inland Rail Noise and Vibration Strategy, taking into consideration of landholder preferences. Refer to EIS Chapter 15: Noise and vibration for the approach and mitigation measures.

5.4 Economic benefits assessment

5.4.1 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. This analysis assesses only those impacts⁷⁷ 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.⁷⁸ 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 enhancements to the existing track or other road/rail infrastructure between Albury and Illabo, improving the capacity and efficiency of existing (north-south) rail traffic between regional New South Wales and Victoria and Queensland.

5.4.2 Methodology

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

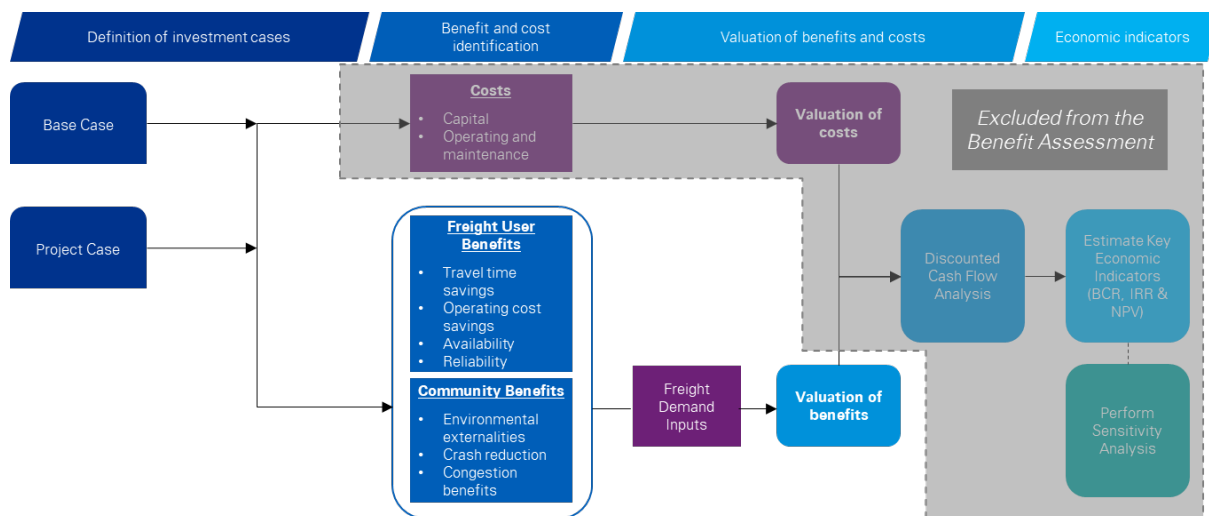
- 1) **Define base and investment cases:** a clear articulation of the problem, investigation and definition of Base Case and Project Case options, and future demand drivers.
- 2) **Identify benefits:** identification of relevant economic, social and environmental benefits associated impact groups which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

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

⁷⁷ A CBA includes the cost and benefit measures to estimate the impacts for the community. CBA seeks to systematically measure the effects of a proposal over time from the perspective of the relevant community. Effects, often referred to as impacts, can be positive (a benefit) or negative (a cost).

⁷⁸ The benefits associated with the entire Inland Rail Program are well established and are presented in the Inland Rail Business Case.

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 value of the benefits is the focus of the assessment.

5.4.3 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 19

Table 18: Economic benefits assessment assumptions

Parameter	Value	Source
Discount rate	A 7 percent real discount rate is used for the central case with sensitivity tests conducted at 4 percent and 10 per cent. This is consistent with jurisdictional requirements for project evaluation and those of Infrastructure Australia.	Infrastructure Australia Business Case Assessment Template 2016
Price year	2021	
Discount reference year	2021	

Parameter	Value	Source
Appraisal period	50 years from the year of opening. The first year of measured benefits is 2024 (first full year of benefits). ⁷⁹	Australian Transport Assessment and Planning (ATAP) Guidelines (Category 4, section 2.4)
Temporal treatment of benefits and costs	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
Indexation	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
Annualisation	Demand projections are presented in annual terms.	Inland Rail Program Business Case (2015)

Sources: Identified in the table.

5.4.4 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
- Albury Region - Newcastle
- Albury Region - Port Kembla
- Maldon - Narromine Region
- Maldon - Parkes Region
- Maldon - Riverina Region
- Manildra - Melbourne Port
- Manildra - Riverina Region
- Melbourne Port - Riverina Region
- Narrromine Region - Riverina Region
- Newcastle - Riverina Region
- Parkes Region - Melbourne Port
- Parkes Region - Riverina Region
- Port Kembla - Riverina Region
- Riverina Region - Berrima
- Riverina Region - Moree Region
- Riverina Region - Sydney
- Werris Creek Region - Albury Region
- Werris Creek Region - Riverina Region.

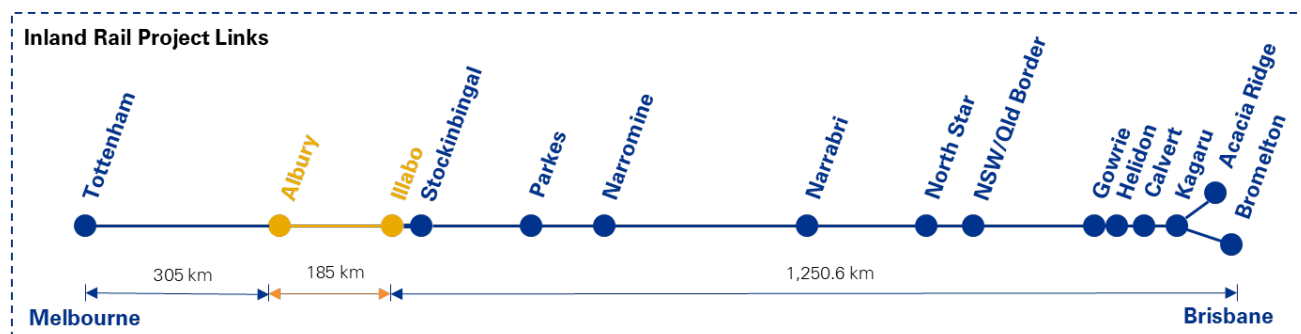
⁷⁹ While noting that the operational life of the proposal is 100 years, the benefits assessment has been conducted for a 50 year appraisal period in line with best practice methodologies, as specified in the ATAP guidelines.

The transport network and surrounding areas impacted by these freight movements represent the proposal area for 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. 185 km/808 km).⁸⁰

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. 185 km/1,740.6 km). Notably, this does not include any induced freight demand.

Figure 7: Inland Rail Program - proposal extents



Source: ARTC

5.4.5 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
- **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 Table 20 below.

Table 19: Benefit category descriptions

Benefit Category	Description
Freight Benefits	

⁸⁰ The track length used in the economic benefits assessment is based off the Inland Rail alignment published in February 2017.

Benefit Category	Description
Travel time savings	<p>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.</p> <p>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 half⁸¹ has been used to estimate the benefits to the new rail freight. Notably, there is no induced freight demand assumed for the proposal.</p>
Operating cost savings	<p>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.</p>
Improved service availability	<p>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.</p> <p>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 this incremental benefits assessment. The values calculated by ARTC have been escalated to a 2021 price year using PPI Rail Freight Transport (A2314067L).</p>
Improved service reliability	<p>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.</p> <p>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 this incremental benefits assessment. The values calculated by ARTC have been escalated to a 2021 price year using PPI Rail Freight Transport.</p>
Community Benefits	
Crash reduction	<p>Crash cost savings represent the reduced costs associated with fatal and serious injuries resulting from both road and rail incidents.</p>
Environmental externalities	<p>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.</p>
Road decongestion benefits	<p>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.</p>

Source: KPMG

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 Table 21 below.

⁸¹ 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.

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 \$0.044 – \$0.042 per net tonne-kilometre (NTK) in the Base Case down to \$0.021 – \$0.023 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 20: Freight benefit parameter values (\$2021)

Parameter Value	Variable/s	Source/s
Freight Travel Time		
Value of Freight (Rail)	\$1.69 tonne hour	ATAP, Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Operating Cost		
Rail Operating Cost – Base Case	2024: 0.044 \$/ntk 2054: 0.048 \$/ntk 2074: 0.042 \$/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Rail Operating Cost – Project Case	2024: 0.021 \$/ntk 2054: 0.025 \$/ntk 2074: 0.023 \$/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Freight Service		
Freight Service Availability	2024: \$16.67 m 2054: \$181.80 m 2074: \$297.78 m	Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Freight Service Reliability	2024: \$11.11 m 2054: \$45.13 m 2074: \$80.68 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 Albury and Illabo. 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 the south of the proposal area. Consistent with the Inland Rail Program Business Case (2015), induced freight demand has only been modelled for the entire extent 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.⁸²

Under the demand projections, existing rail freight users will benefit from a reduction in average travel times by rail in the Project Case (from 4.48 hours in the Base Case to 2.50 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

⁸² No new, independent demand modelling has been undertaken to validate the assumptions contained within the Inland Rail Program Business Case (2015).

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.

Freight benefits have been estimated using the appropriate change in freight demand (such as NTK) 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 Table 22 below. Overall, the proposal's freight benefits represent an incremental \$179.80 million in present value terms over the Base Case.

Table 21: Estimated freight benefits (\$2021)

Benefit	Undiscounted - \$m	Present Value (7%) - \$m
Freight Time Savings	76.85	13.82
Operating Cost Savings	101.38	21.83
Freight Service Availability	842.86	110.87
Freight Service Reliability	228.27	33.29
TOTAL	1,249.36	179.80

Source: KPMG

Freight service availability and reliability represent a combined \$144.15 million in present value terms to freight benefits (~80 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.

Operating cost savings provide \$21.83 million in present value terms to freight benefits (~12 percent) as a result of efficiency improvements to 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).

Freight time savings represent the remaining (~8 percent) freight benefits of \$13.82 million in present value terms. As with operating cost savings, this is only representative of the faster travel times, 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 provided⁸³, 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.

5.4.6 Economic benefits assessment results

The results of the economic benefits assessment estimate that the proposal is expected to provide a total of \$179.80 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 ~62 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 ~38 percent of the total projected benefits for the proposal.

The full results of the economic benefits assessment are presented in Table 23 below.

⁸³ The demand projections have been sourced from the Inland Rail Business Case 2016 which identified no shift between road and rail for the origin/destination for this project link. Applying the approaches outlined in the ATAP guidelines, accepted for conventional transport economic appraisal and applied in the business case, it is not possible to estimate a material change to the community benefits.

Table 22: Results of the economic benefits assessment (\$2021)

BENEFITS	Discount Rate		
	4%	7%	10%
Freight Benefits	\$365.33 m	\$179.80 m	\$103.14 m
Travel Time Savings	\$25.42 m	\$13.82 m	\$8.66 m
Operating Cost Savings	\$37.46 m	\$21.83 m	\$14.42 m
Improved Availability	\$235.50 m	\$110.87 m	\$60.68 m
Improved Reliability	\$66.95 m	\$33.29 m	\$19.36 m
Community Benefits	\$0.00 m	\$0.00 m	\$0.00 m
Crash Reduction	\$0.00 m	\$0.00 m	\$0.00 m
Environmental Externalities	\$0.00 m	\$0.00 m	\$0.00 m
Road Decongestion Benefits	\$0.00 m	\$0.00 m	\$0.00 m
TOTAL BENEFITS	\$365.33 m	\$179.80 m	\$103.14 m

Source: KPMG

5.4.7 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 on the community as a whole.

The results of this analysis, as presented in the Business Case, are provided in Table 24 below.

Table 23: Economic appraisal results for Inland Rail (\$2015)

	Net Present Value	Benefit Cost Ratio
PV at 4% Discount Rate	\$13,928 m	2.62
PV at 7% Discount Rate	\$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.

5.5 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 a general equilibrium modelling framework.⁸⁴ For the purposes of this analysis, a CGE model (KPMG-SD) has been applied to examine the flow-on effects arising from the proposal on the broader economy.

⁸⁴ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

As described throughout this report, the regional economy is represented by the Riverina and Murray labour market region.

5.5.1 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 CAPEX program associated with the proposal's rail development commences.
- 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 economy during the expenditure of the CAPEX program associated with the development of the proposal.

The key modelling assumptions and inputs that underpin the regional economic assessment results are provided in Appendix B. It is noted 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 account for the COVID-19 impacts.

5.5.2 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 as a transitory expenditure shock to the economy. Accordingly, modelling each of the construction phases of the 13 projects of the Inland Rail Program in isolation is reasonable. If there is significant overlap in the timing of the construction phases of the other sections of the Inland Rail Program, modelling each section 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 construction phase of each section is modelled 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 ('slack labour market') so that any increases in the demand for labour can be accommodated without increasing real wages.
- In the second scenario, it is assumed that real wages are sensitive to additional labour market demand ('tight labour market').

Operational phase

Due to the nature of the proposal, the operational economic impacts of the proposal will only be fully realised once all components of Inland Rail are completed. As detailed above, assessing each section of the Inland Rail Program individually and in isolation of the whole program will not capture all the benefits expected to be generated upon completion of the entire Melbourne to Brisbane rail connection.

In the context of the regional impact analysis, when modelling each section of Inland Rail in isolation, the CAPEX is disproportionate to the benefits directly attributable to that particular link. If the proposal was built but no other section 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 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.

5.5.3 Regional economic impact analysis results

The headline impacts of the proposal on the Riverina and Murray labour market region during the construction phase are summarised in Table 25.

Table 24: Summary of the direct and indirect economic impacts of the proposal on regional economic catchment over the construction period

	Murray SA4		Riverina SA4	
Measure	Slack Labour Markets	Tight Labour Markets	Slack Labour Markets	Tight Labour Markets
Additional Real Gross Regional Product (\$2021)	\$13 m	\$5 m	\$21 m	\$9 m
Additional Direct and Indirect Jobs (Persons)⁸⁵	69	14	110	28

Source: KPMG

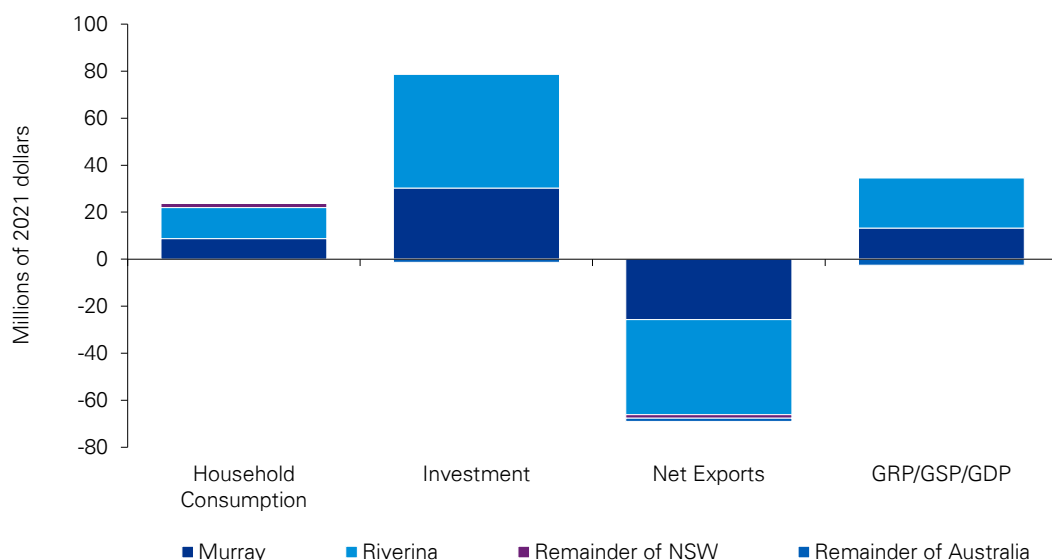
At the end of the construction phase, real GRP for the Murray and Riverina regions is projected to be \$13 million and \$21 million, respectively, higher than the baseline level under the assumption of slack labour markets. This increase is more than halved if labour markets are assumed to be tight (\$5 million for Murray and \$9 million for Riverina).

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 69 direct and indirect jobs are generated in Murray, and 110 in Riverina.⁸⁶ 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 14 jobs in Murray and 28 jobs in Riverina. Under tight labour markets, wages are bid up to attract currently employed workers to the construction 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 Murray and Riverina labour market regions in the context of the rest of the New South Wales and Australian economies. Employment results are presented in Figure 10.

⁸⁵ Averaged over 17 months of the construction period.

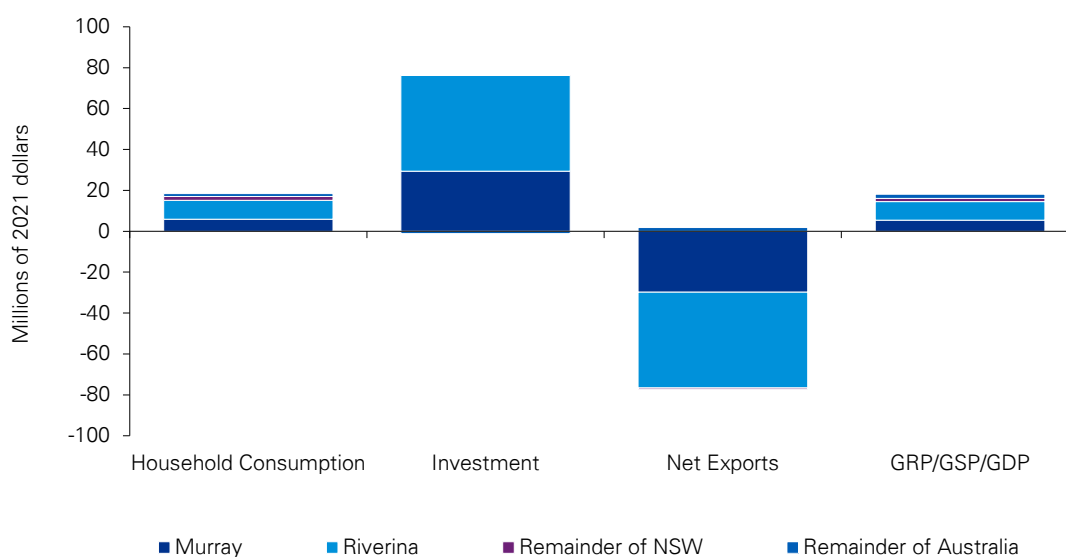
⁸⁶ To put this in context, the planned direct workforce requirements of the proposal during the construction phase average up to about 20 to 50 people in each construction area.

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



Source: KPMG *Gross State Product (GSP), Gross Domestic Product (GDP).

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

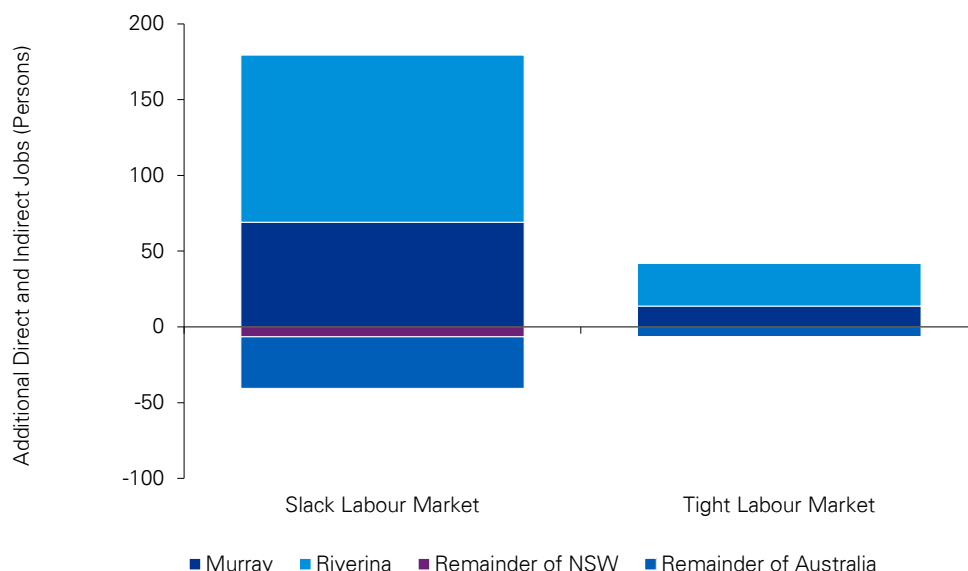


Source: KPMG

The simulation results indicate that the economic impacts of the proposal during the construction phase are concentrated in the Murray and Riverina labour market regions. 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.⁸⁷

Figure 10: Direct and indirect employment results



Source: KPMG

The labour market conditions in 2023 and 2024 during the construction phase of the proposal are highly uncertain. The outlook for the construction sector and the broader economy more generally remains highly uncertain, particularly in how the private sector responds to a global economic environment characterised by higher public debt and by risks that have been crystallised by the COVID pandemic and associated policy responses. However, construction activity, including rail construction, may be robust during this period supported by government infrastructure programs aimed at boosting the economy as it recovers from the COVID shock. The current information set suggests that a “tight” labour market scenario is most likely to apply in the period 2023 to 2024. However, the probability of a “slack” labour market remains high.

Recent labour market trends can be used to inform workforce capacity and capability within the local region. In Riverina, the labour market has shown signs of improvement with the unemployment rate in the March quarter 2021 declining to 4 percent from its peak of 5.6 percent observed in the September quarter 2020⁸⁸, and the participation rate averaged 78.8 percent over the 12 months ending in March 2021, in line with the State’s participation rate.⁸⁹

The labour market in Murray, on the other hand, has appeared to deteriorate since the December quarter 2020, rising from its trough during the September quarter 2020 at 4.4 percent to 6.2 percent in the March quarter 2021.⁹⁰ The participation rate was about 83.4 percent in March 2021 and was observed to be trending upwards,

⁸⁷ The A2I CAPEX program associated with A2I constitutes a temporary expenditure shock to the economy. Some of the goods and services purchased by customers in the Murray and Riverina economies 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, it has been 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 the figures above are roughly linear for small deviations in the assumed CAPEX. For example, if A2I CAPEX was increased by 5 percent then net exports for Murray and Riverina would fall by a further 5 percent.

⁸⁸ Based on Australian Government’s Small Area Labour Markets (SALM) publication, March 2021.

⁸⁹ Participation rate of working-age population 15 – 64 years; ABS, Labour Force Survey 2021, cat. no. 6291.0.55.001. Released 22 July 2021.

⁹⁰ Based on Australian Government’s Small Area Labour Markets (SALM) publication, March 2021.

reverting from its downward trend prior to the trough at 69.8 percent in May 2020, suggesting a potential growing pool of labour for the proposal if this trend continues.⁹¹

At this stage, it remains uncertain how much of the deterioration in the labour market is due to the impacts of the COVID pandemic, especially amid the resurgence of cases and extended lockdowns, and how quickly the economy will recover. Current regional labour market indicators suggest that the labour market in Riverina is stretched, while in Murray there appears to be a degree of slackness in the labour market. It is noted that the official labour force data at this level of regional granularity is quite volatile and it is important to consider these statistics in a broader context, including the 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 March 2021. More recent macro-economic data and the continuing difficulties authorities are having in managing the COVID-19 pandemic suggest that considerable downside risks are likely to persist in the short to medium term. However, while the recovery in overall economic conditions is anticipated to be modest and characterised by a high degree of uncertainty, rail construction activity is forecast to be strong over the next five years due to Federal and State stimulus through shovel-ready infrastructure projects.⁹² Therefore, the national and regional labour markets, especially the workforce in the railway track construction sector, are likely to be stretched during 2023-24. This supports our assessment that labour market conditions expected to prevail during the proposal's construction phase will be most consistent with the "tight" labour market scenario. This characterisation of the labour market considering specific construction skills during the construction phase are discussed below.

Looking specifically at skilled labour capacity, recent Labour Force Survey results indicate the potential pool of unemployed workers who were last employed in the Construction sector has been contracting.⁹³ In New South Wales, during the reference week in the quarter ended May 2021, the number of unemployed persons who reported that their last job was in Construction was down by 25.9 percent compared to the same period in the preceding year. Nationally, over the same period, the share of unemployed persons who reported losing their job last worked in the Construction industry declined slightly from 11.1 percent in the quarter ended May 2020 to 9.4 percent in the quarter ended May 2021. More recently, the ABS has estimated that as at May 2021, job vacancies in the Construction sector have continued to rise from a trough in May 2020, up by 12 percent compared to the quarter ended February 2021.⁹⁴ These indicators suggest a tightening of capacity in the Construction sector.

Although the overall labour demands of the various infrastructure projects expected to be constructed are relatively high, the risks of labour market disruption can be controlled (e.g. through optimising scheduling). There also exist opportunities for ARTC to upskill the currently unemployed and under-employed labour in the regional economies, especially Indigenous and young persons, which not only helps meet the workforce requirements for the construction of the proposal in 2023-24 but also contributes to creating greater job opportunities for the regional labour pool in the long term.

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.

It is noted that there may be benefits from having additional infrastructure projects in the adjacent and surrounding areas at 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.

⁹¹ Based on population of working age: 15 – 64 years; ABS, Labour Force Survey 2021, cat. no. 6291.0.55.001. Released 22 July 2021.

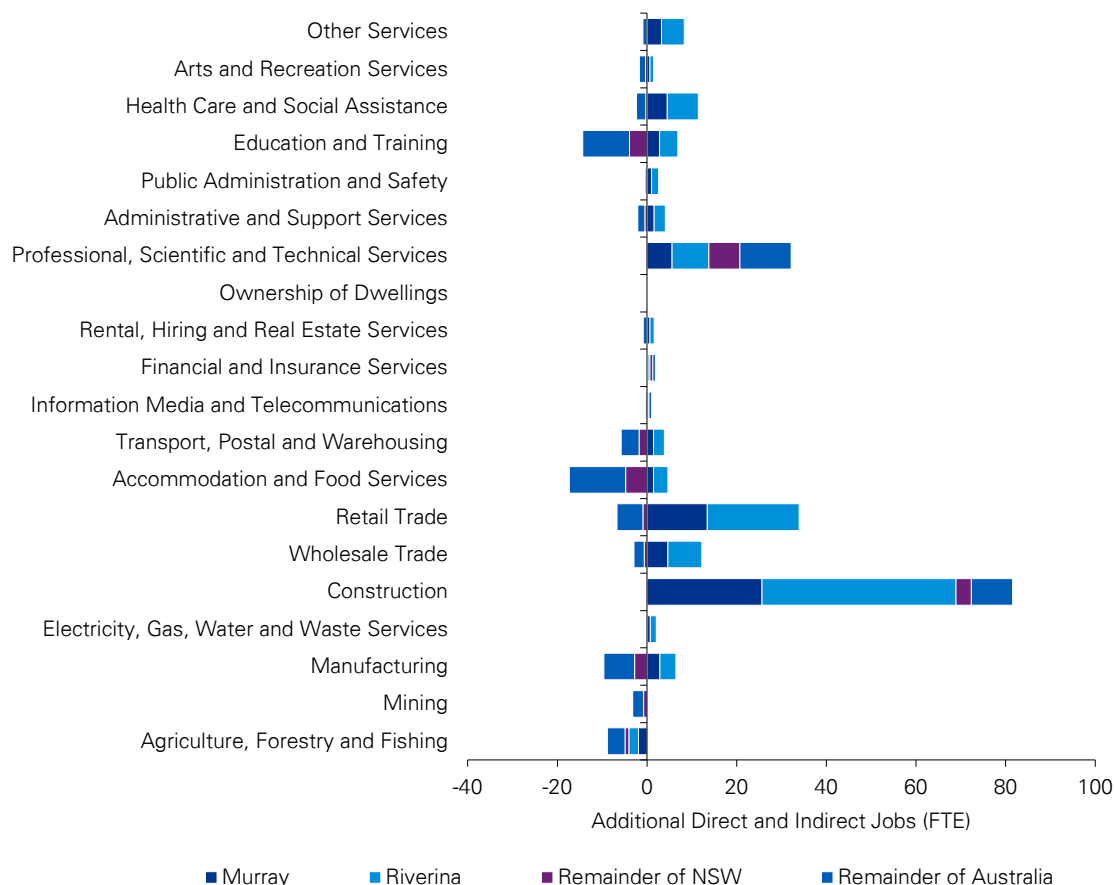
⁹² Kelly, A. (2021, June). IBISWorld *Australia Specialized Industry Report OD5135: Railway Track Construction in Australia*.

⁹³ Based on ABS, Labour Force Survey, Detailed, cat no. 6291.0.55.001. Released 24 June 2021.

⁹⁴ Based on ABS, Job Vacancies, May 2021, cat no. 6354.0. Released 1 July 2021.

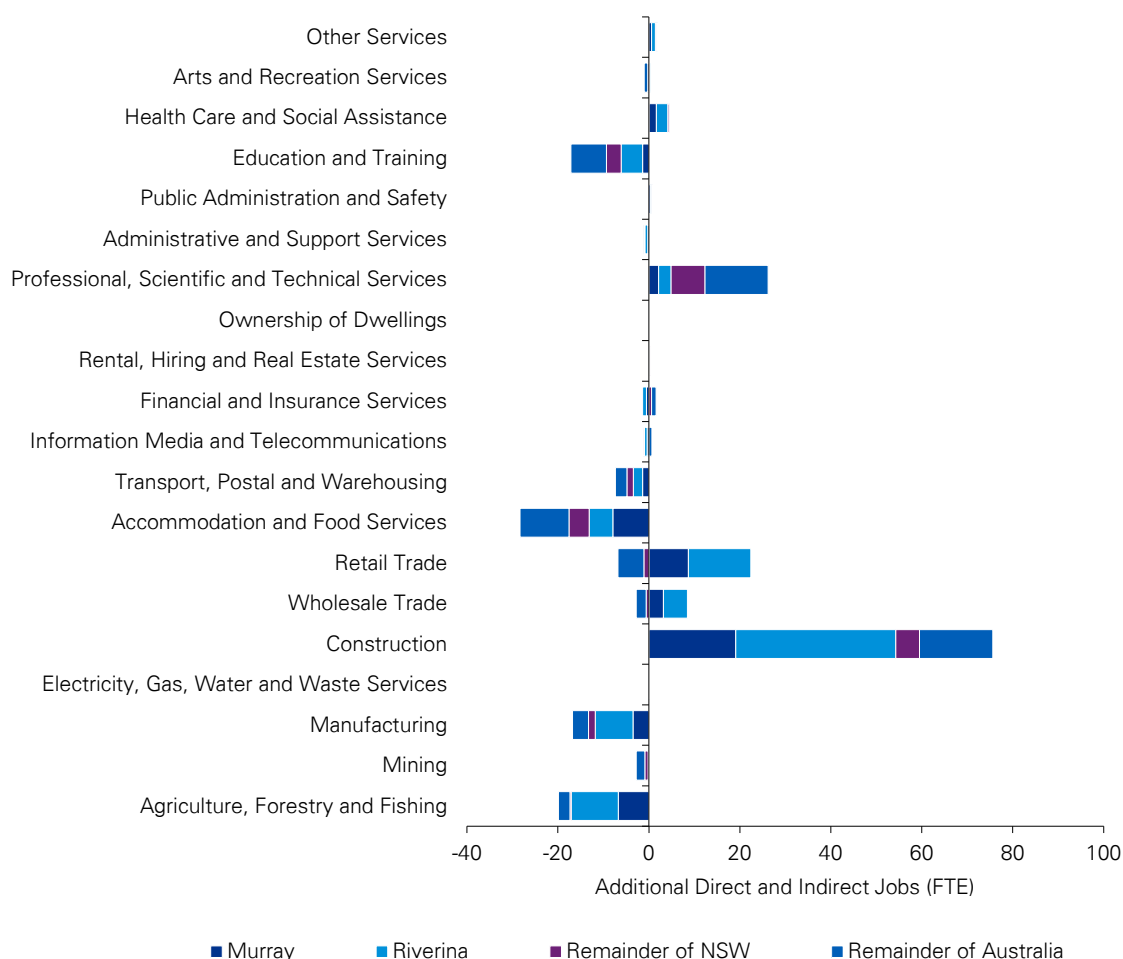
Employment results at the industry level are presented in Figure 11 and Figure 12. Although the patterns are the same under the two labour market scenarios, it is evident that under the tight labour market assumption, there is greater displacement of workers.

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 construction of the proposal, is anticipated to expand employment the most. 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 sector's supply chain. The increase in demand for resources to complete the construction of the proposal tends to increase resource 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.

6. Cumulative impacts

6.1 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 Tottenham to Albury (T2A) and Illabo to Stockinbingal (I2S) projects, and relevant projects which have been determined by ARTC to have a relationship to the proposal. The projects identified were screened in relation to their potential for cumulative impacts with the proposal, based on their nature, size and proximity to the proposal site. The construction and operation timeframes of other projects were also considered during screening. This relationship has been determined by ARTC according to the conditions detailed in EIS Chapter 26: Cumulative impacts.

The details provided below reflect known information 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 EIS Chapter 26: Cumulative Impacts.

The construction of the proposal is anticipated to be undertaken between early-2024 and would be completed by mid-2025. During the overlapping construction period with the projects outlined in Table 26, the cumulative impacts may include:

- Potential labour drawn from the regional economic catchment
- Potential draw on construction materials from the regional economic catchment
- 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
- Potential impact on rental housing availability and affordability.

Table 25: Projects with the potential to interact with the construction of the proposal

Project	Nature of potential cumulative impact
Inland Rail – Tottenham to Albury (Victoria)	Upgrade of 305 kilometres of existing rail corridor between the Victoria-NSW border at Albury and Melbourne.
Inland Rail – Illabo to Stockinbingal	Construction and operation of new rail and associated facilities to accommodate double-stacked freight trains up to 1800 metres long.
Thurgoona Link Road	Construction of a new road that will provide connectivity to the Hume Freeway at Davey Road, in addition to an east-west link from Elizabeth Mitchell Drive to Kerr Road.
Nexus Industrial Precinct	A 450ha site zoned to support large or heavy industrial development.
Jindera Solar Farm	A 120 megawatt (MW) solar farm with energy storage and associated infrastructure.
Glenellen Solar Farm	200MW solar farm with energy storage and associated infrastructure.
Walla Walla Solar Farm	A 300MW solar farm and associated infrastructure.
Culcairn Solar Farm	400MW solar farm with energy storage and associated infrastructure.

Project	Nature of potential cumulative impact
Uranquinty Solar Farm	200MW solar farm including, battery storage and associated infrastructure.
Sandy Creek Solar Farm	17MW solar farm including connection to the existing 22kV line along the Olympic Highway, via a new switching station.
Gregadoo Solar Farm	47MW solar farm and associated infrastructure.
Solar farm (five MW) – Uranquinty	A five MW solar farm and associated infrastructure.
Solar farm (five MW) – Bomen	A five MW solar farm and associated infrastructure.
Wagga Wagga Special Activation Precinct (SAP)	The Wagga Wagga precinct covers an area of approximately 4,500 hectares, including 300 hectares already developed as part of the Bomen Industrial Precinct. The precinct will focus on advanced manufacturing, agribusiness, and freight & logistics.
Riverina Intermodal Freight and Logistics Hub	Construction of approximately 4.9 kilometre rail siding off the Main South Line and the intermodal freight terminal.
Olympic Highway intersection upgrades	Upgrade of the Olympic Highway intersections at Old Narrandera Road and Travers Street, Wagga Wagga.
Project EnergyConnect (NSW – Eastern Section)	Development of a new transmission line (330kV minimum) connecting Buronga Substation and Wagga Wagga Substation, and construction of the new Dinawan Substation (170km west of Wagga Wagga).
HumeLink	Development of a new transmission line (330 kV minimum) connecting Buronga Substation and Wagga Wagga Substation, and construction of the new Dinawan Substation (170 km west of Wagga Wagga).
Junee Station Upgrade	Upgrades to Junee Station to improve accessibility for those with a disability or limited mobility.
Junee to Griffith Line Upgrade	Line upgrade work between Junee and Griffith to allow for increased train speeds to improve efficiency for freight carriers as part of the Fixing Country Rail program.
Illabo Solar Farm	80MW solar farm and associated on-site infrastructure, including a 132kV substation and overhead transmission lines.
Grade separating road interfaces	Transport for NSW is currently in the early planning stages to grade separate road and rail interfaces at four priority locations where Inland Rail crosses the NSW road network to improve road safety and improve freight efficiency.

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

6.1.1 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 in NSW, and potentially nationally.

The subsequent labour market impact of this cumulative demand on 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 5.5, the results of the regional economic impact assessment indicate that the regional labour market will have a potential growing pool of labour to support the proposal. The labour market conditions in 2023 and 2024 during the construction phase⁹⁵ of the proposal are highly uncertain. The outlook for the construction sector and the broader economy more generally remains highly uncertain, particularly in how the private sector responds to a global economic environment characterised by higher public debt and by risks that have been crystallised by the COVID pandemic and associated policy responses. However, construction activity, including rail construction, may be robust during this period supported by government infrastructure programs aimed at boosting the economy as it recovers from the COVID shock.

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. Although the overall labour demands of the various infrastructure projects expected to be constructed are relatively high, the risks of labour market disruption can be controlled through optimising scheduling.

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.

6.1.2 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. Furthermore, spending on consumer-orientated products by the construction workforce has the potential to benefit local retail businesses by increasing their trading levels.

6.1.3 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 the economic return of the proposal.

⁹⁵ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

7. Mitigation and management measures

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.

The economic impacts in this report are indirect impacts from either environmental impacts or social impacts. Mitigating the direct environmental or social impact also mitigates the indirect economic impact. For example, impacts to local businesses as a result of changed transport accessibility are addressed by transport mitigation measures. As such these mitigation, management and enhancement measures reflect the relevant measure from other technical areas in the EIA including EIS Chapter 12: Land Use and Property, EIS Chapter 15: Noise and vibration, EIS Chapter 17: Landscape and visual amenity, and Technical Paper 4: Social.

Table 26: Summary of proposed management and mitigation measures

Impact	Proposed mitigation/management measures
Local, youth and Indigenous employment	<ul style="list-style-type: none"> As outlined in Technical paper 4: Social, a workforce management plan will be implemented to manage local and Indigenous employment opportunities, potential impacts of the non-resident construction workforce on host communities (including community services) and workforce wellbeing and integration with host communities. The plan would include: <ul style="list-style-type: none"> Recruitment and training strategies to address the skills and qualifications required for employment on the proposal, including a specific strategy for employment of Indigenous people A code of conduct for workers, including a zero-tolerance policy relating to anti-social behaviour Health and wellbeing services needs of the temporary construction workforce, including medical, allied health and wellbeing services Strategies to promote positive interaction and integration with the local community Consultation with Council, local health and emergency services to establish processes for managing potential increased demand due to non-resident workforce, if required Engagement with other Inland Rail projects (such as I2S) to identify potential opportunities to provide, where possible, the continuation of employment to maximise worker retention Monitoring of regional infrastructure projects to pre-emptively identify potential constraints in labour markets.
Housing and accommodation	<ul style="list-style-type: none"> Standard mitigation measures will be employed on construction sites to manage noise impacts on housing and accommodation. An operational noise and vibration review will be undertaken to review the potential for operational impacts and guide the approach to identifying feasible and reasonable mitigation measures to be incorporated in the detailed design. This will be informed where applicable by further investigations of internal noise. Refer to EIS Chapter 15: Noise and vibration for the mitigation measures.

Impact	Proposed mitigation/management measures
	<ul style="list-style-type: none"> As outlined in Technical paper 4: Social, a temporary workforce accommodation plan will be implemented to address the provision of temporary workers' accommodation. The plan would align with ARTC's Inland Rail Programme Accommodation Principles and would be prepared in consultation with local councils and service providers. The plan would be developed in accordance with ARTC's Inland Rail Program Accommodation Principles. The plan would: <ul style="list-style-type: none"> prioritise the use of existing facilities to minimise amenity impacts to any surrounding sensitive receivers avoid the use of private rental housing accommodation for mitigating temporary accommodation shortages during workforce peak periods (possession) consider a target of rooms remaining available to ensure sufficient supply for tourism, seasonal workforce and student demand is met Consider the following combined alternatives to mitigate shortages of accommodation: <ul style="list-style-type: none"> Increase the 1-hour distance limit to sites during March and September 2024 (this would provide the opportunity for townships such as Narrandera, Tumut and Leeton). Using accommodation camps available around the social locality As a last resource option, consider flying in up to 150 people per month in Jan, Feb, March and September 2024 to address potential cumulative impacts Develop a monitoring and management mechanism for identifying the capacity of local short-term accommodation and rental housing for use by workers, to having regard to forecasting tourism, seasonal workforce, students and traveller demand plans for supporting the safe movement of workers to and from the work site daily The plan would be developed in consultation with: <ul style="list-style-type: none"> councils and local tourism associations to understand average and peak tourist demand patterns local agricultural bodies to understand demand patterns associated with seasonal agricultural workers local short-term accommodation providers to understand seasonal peaks and identify constraints. Consultation would provide an opportunity for the above-mentioned stakeholders to provide input into the development of the accommodation plan, and also where possible to provide comments on the draft versions of the plan.
Local business and industry engagement	<p>As detailed in Technical paper 4: Social, an industry participation plan will be implemented to manage the potential regional economic benefits of the proposal. The plan will be developed in consultation with relevant stakeholders, including industry bodies and chambers of commerce, and would include:</p> <ul style="list-style-type: none"> The capacity of local and Indigenous businesses suitable to supply the proposal Local and Indigenous procurement targets ARTC and the principal contractor will promote the Inland Rail information hub and ICN portal to businesses in the region.

Impact	Proposed mitigation/management measures
	<ul style="list-style-type: none"> The principal contractor will leverage support from the local Chambers of Commerce to promote supply opportunities prior to the construction phase. ARTC will maintain a register of local businesses able to supply the proposal during the operational phase. <p>To manage the impact on local businesses from noise, vibration, access changes (EIS Chapter 15: Noise and vibration) and visual amenity (EIS Chapter 17: Landscape and visual amenity) the below mitigation measures are proposed.</p> <ul style="list-style-type: none"> Operational noise and vibration compliance monitoring will be undertaken, once Inland Rail has commenced operation, at representative locations to compare actual noise performance against that predicted by the operational noise and vibration review. Compliance monitoring requirements will be defined by the operational noise and vibration review. The results of monitoring will be included in an operational noise and vibration compliance report, prepared in accordance with the conditions of approval. The need for any additional feasible and reasonable mitigation measures will be identified as an outcome of the monitoring. Communication with relevant stakeholders will be undertaken regularly to minimise congestion and inconvenience to road users in areas affected by diversions, such as during the works for the replacement of the Edmondson Street Bridge in Wagga Wagga and Kemp Street Bridge in Junee, or level crossing closures (including full or partial closure). Stakeholders will include the relevant local council, bus operators, state government departments, emergency services and affected property owners/occupants. The community will be notified in advance of any proposed road or pedestrian network closures and diversions through signage, the local media and other appropriate forms of communication. Appropriate wayfinding signage for road and pedestrian diversions will be provided, clearly articulating alternative routes. Consultation would also discuss opportunities for broader diversions away from congested roads. Additional measures identified as an outcome of the consultation will be implemented during construction where practicable. During detailed design and in consultation with the relevant council, opportunities to screen the rail corridor and enhance local landscape character through the provision of additional trees and shrubs within local parks and streets adjoining enhancement sites will be investigated in locations such as Culcairn, Henty, Yerong Creek and Uranquinty.
Access and restricted movements	<p>The relevant mitigation and management measures for the EIA from EIS Chapter 9: Transport and traffic outlines for access and restricted movements are detailed below.</p> <ul style="list-style-type: none"> The design and construction planning will continue to be refined to minimise potential impacts on land uses and properties as far as reasonably practicable. Consultation with landholders will be ongoing to identify opportunities to minimise impacts on their operations where practicable.

Impact	Proposed mitigation/management measures
	<ul style="list-style-type: none"> ● Property landholders and occupants will be consulted in accordance with the communication management plan to ensure these parties are informed about: <ul style="list-style-type: none"> ○ timing and scope of activities in the area ○ potential property impacts/changes, particularly in relation to impacts on access, fencing or services ○ activities that have the potential to impact the use of the property. ○ This includes: <ul style="list-style-type: none"> - Communicating the changes at the Murray River bridge, the river will be maintained as navigable by the provision of a channel under the bridge to maintain access for watercraft. - Establishing an agreement with operators of grain silos and other infrastructure within the proposal site would be required prior to construction, and access to these sites would be maintained with relevant traffic management plans. ● Where temporary changes to access arrangements or where adjustments to internal access roads are required for individual properties, ARTC will advise relevant property owners/occupants and consult with them in advance regarding alternative access arrangements. <ul style="list-style-type: none"> ○ This includes Local Land Services which would be notified of construction activities along the TSRs and of any temporary closures of level crossings so that stock handlers, including walking permit holders.

8. Conclusion

As detailed previously, this EIA has been undertaken for the Albury to Illabo section of the Inland Rail Program, in accordance with the requirements under Section 4 of the SEARs.

As per the requirements of the SEARs, this EIA has focused on the specific economic impacts resulting from the proposal. However, the assessment acknowledges the role of the proposal, and the other proposal 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 (including Indigenous) businesses through the supply of resources and materials for the construction of the proposal. ARTC has developed a Sustainable Procurement Policy which will ensure that local, regional and Indigenous 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 and construction areas have been designed by ARTC to minimise impacts to local business and industry, as far as practicable, however, the proposal may result in disruption to local businesses (including tourism) during construction from changes in local transport connectivity and construction noise. The majority of impacts during construction are anticipated to be temporary and associated with construction equipment, site compounds and storage. The enhancement sites outside these urban areas are surrounded by predominantly rural and agricultural land uses.

During construction, broader accessibility impacts due to changes in the surrounding road network may affect local businesses and properties. The potential impacts on transport access and infrastructure would be managed

through the appropriate measures identified in consultation with individual landholders and defined in the individual property agreements.

The peak workforce across the proposal will be approximately in March 2024, with 770 resources in total. The results of the economic benefits assessment estimate that the proposal is expected to provide a total of \$179.80 million (\$2021) in incremental benefits to the proposal area (at a 7 percent discount rate).

The proposal will promote regional economic growth across the Murray and Riverina region. The current information set suggests that a “tight” labour market scenario is most likely to apply in the period 2023 to 2024.⁹⁶ However, the probability of a “slack” labour market remains high. Under the “tight” scenario at the end of the construction phase, real GRP for the Murray and Riverina regions is projected to be \$13 million and \$20 million respectively 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 (\$5 million for Murray and \$9 million for Riverina).

Under the slack labour market scenario, it is estimated that an additional 69 direct and indirect jobs are generated in Murray, and 110 in Riverina.⁹⁷

As per the requirements of the SEARs, this EIA has focused on the specific economic impacts resulting from the proposal. However, the assessment acknowledges the role of the proposal, and the other proposal 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.

⁹⁶ 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 it explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

⁹⁷ To put this in context, the planned direct workforce requirements of the proposal during the construction phase average up to about 20 to 50 people in each construction area.

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Appendix A Evaluation approach for the identified economic impacts

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Appendix A: Evaluation approach for the identified economic impacts

The *Social Impact Assessment Guideline for State Significant Projects 2021* has been used to consider the economic impacts of the proposal on local business. The SIA Guideline draws on the agreed principles and frameworks detailing how social impacts should be identified, evaluated, responded to and, if appropriate, monitored and managed. The SIA Guideline provides a framework to consider the qualitative economic impacts on local business as the quantitative assessment of costs do not form part of the approach to the EIA.

Table 28 defines the key impact characteristics and criteria used to assess impacts identified. G. Magnitude scales are defined in Table 29, and include the extent, duration, severity, sensitivity of the impact and level of concern/interest of stakeholders. Defining likelihood has been established through an understanding of the proposal context, as per the SIA guideline and is outlined in Table 30. Table 31 was then used to evaluate significance both before and after the application of the mitigation measure.

Table 27: Dimensions of social impact magnitude

Dimensions		Detail needed to enable assessment
Magnitude	Extent	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations)
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Severity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Intensity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity

Source: DPE, 2021 SIA Guideline for State significant projects.

Table 28: Defining magnitude levels

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20 percent of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.

Magnitude level	Meaning
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: DPE, 2021 SIA Guideline for State significant projects.

Table 29: Defining likelihood levels

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Source: DPE, 2021 SIA Guideline for State significant projects.

Table 30: Impact significance matrix

	Magnitude Level				
	1	2	3	4	5
Likelihood level	Minimal	Minor	Moderate	Major	Transformational
A Almost Certain	Low	Medium	High	Very high	Very high
B Likely	Low	Medium	High	High	Very high
C Possible	Low	Medium	Medium	High	High
D Unlikely	Low	Low	Medium	Medium	High
E Very unlikely	Low	Low	Low	Medium	Medium

Source: DPE, 2021 SIA Guideline for State significant projects.

Table 29 refers to the levels of magnitude set out in Table 27 and Table 28 and likelihood as defined in Table 30.

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Appendix B Regional economic assessment—Assumptions

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Appendix B: Regional economic assessment - Assumptions

The choice of exogenous variables determines the economic environment in which the construction of A2I will be assessed. The construction phase CAPEX required to construct A2I 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 A2I are directly related to the stimulus that is provided to the economy through the boost to expenditure required to construct A2I. Analysis of the construction phase of A2I 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 Murray and Riverina Rail Transport sector is imposed to reflect A2I CAPEX assumptions whilst investment in the remaining sectors responds to sector-specific rates of return
- iv. the labour market is assumed to have sufficient slackness in the short term 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
- 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 that are already employed.

In this report the sensitivity of the labour market assumption is calculated by simulating the construction phase of A2I under the two approaches described above (i.e. slack or tight labour markets).

Model inputs

The numerical inputs (or shocks) that are imposed on KPMG-SD are designed to capture the direct impacts of the construction phase of A2I on the economy. KPMG-SD then estimates the flow-on effects of these shocks on the economy.

Table 32 below reports the projected CAPEX for A2I. Over the construction phase of 17 months, total CAPEX is projected to be \$76.1 million (\$2021).

The A2I segment of the Inland Rail Program traverses two regional economies: Murray and Riverina. In the absence of details regarding how the CAPEX will be allocated between the two regions, we have assumed an

allocation that is proportional to the length of track in the two regions. On this basis, **38.4 percent of the projected CAPEX** is assumed to occur in Murray and **61.6 percent** in New England and North West.

Table 31: Modelling inputs - Construction Phase

Regional economies	Proportion of CAPEX	CAPEX (\$2021)
Murray SA4	38.4%	\$29.2 m
Riverina SA4	61.6%	\$46.9 m
Total	100%	\$76.1 m

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Appendix C Treatment of coal demand for the Inland Rail EIS

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Appendix C: 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 33 below, extracted from the Inland Rail Business Case Chapter 9. Economic Analysis), where coal benefits are equal to zero (0).

Table 32: 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)
COSTS				
Capital costs	7650	6590	7607	6553.8
Operating costs	133	66	133	65.6
Maintenance costs	793	380	775	371.4
Total costs	8575	7036	8515	6991
BENEFITS				
1) Intercapital/intermodal freight	15 361	4666	15 862	4716
Melbourne to Brisbane	12 222	3697	12 621	3737
Brisbane to Adelaide	1278	389	1320	393
Brisbane to Perth	1860	579	1921	585
2) Regional freight	3524	1271	1995	693
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
3) Community	2821	879	3126	962
4) Passengers	50	16	52	16
5) Rail network owners (ARTC & QR)	747	321	772	324
Total benefits	22 503	7152	21 806	6711
Net present value of costs and benefits	13 928	116	13 291	(280)
Benefit cost ratio	2.62	1.02	2.56	0.96

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 network⁹⁸, 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.

Furthermore, 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.

⁹⁸ (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”)