APPENDIX V

INLAND RAIL

Economic Impact Assessment

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

IR_1534

ARTC

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

KPMG

Inland Rail

Border to Gowrie Project

Environmental Impact Statement

Technical Report

2-0000-310-EAP-00-RP-0001

Disclaimers

Inherent Limitations

This report has been prepared as per the purpose outlined in the Introduction. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, ARTC management, personnel and stakeholders consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

Third Party Reliance

This report is solely for the purpose set out in the Introduction and for ARTC's information, and is not to be used for any other purpose without KPMG's prior written consent.

This report has been prepared at the request of ARTC in accordance with the terms of KPMG's contract (9000-0013) dated 4 May 2018. Other than our responsibility to ARTC, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.

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1 Summary

Introduction

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

The purpose of the EIA is to form part of an Environmental Impact Statement (EIS) being prepared by ARTC to address the Terms of Reference (ToR) issued by the Coordinator-General under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and for the purposes of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)(EPBC Act). The Commonwealth Minister for the Environment and Energy determined that the Project is a 'controlled action' under the EPBC Act on 9 April 2018.

The final ToR were issued on 16 November 2018. The following assessment addresses the information requirements of Section 5.1 and 11.141 of the ToR. Specifically, this assessment:

- Establishes the **existing economic environment and local context** to understand the local economic context and form the basis to measure the economic impacts;
- Identifies potential **economic benefits and impacts** on affected local and regional communities and businesses. This will be drawn from local community consultation and industry engagement undertaken by ARTC, evaluation of publically available information, and the outputs from the Social Impact Assessment, and Land Use and Tenure Assessment;
- Assesses the projected economic benefits of the Project, including the basis for their estimation through a detailed economic benefits assessment. The outcomes of the proposed the Project link-specific analysis will be contextualised against the results of the **cost benefit analysis** (CBA) undertaken for the entire Inland Rail, as per the Inland Rail Program Business Case (2015);
- Assesses the economic significance of the Project 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 project links; and
- Proposes measures to **enhance economic benefits** and to **avoid, mitigate or manage adverse economic impacts**.

Impact assessment area

The Project traverses two local government areas (LGAs) – Goondiwindi and Toowoomba. Combined, these LGA boundaries form the **impact assessment area** which represents a local catchment for workers and economic activity.

For the purposes of the regional impact analysis, the **regional economic catchment area** is defined as the Australian Bureau of Statistics (ABS) labour market region boundaries of the Australian Statistical Geography Standard that captures the regional economy within which the Project is located. The Project is located within the Darling Downs – Maranoa labour market region and accordingly this region is defined as the regional economic catchment.

This EIA also acknowledges the proximity of the Project to regional communities in northern New South Wales, particularly within the Moree Plains and Gwydir LGAs at the southern extent of the Project alignment.

Baseline and impact assessment[1]

Existing labour market conditions

According to the Australian Government's quarterly regional estimates of unemployment, as at December 2019 there were a total of 3,259 unemployed persons in the impact assessment area and 2,324 in the Darling Downs – Maranoa region. For this period, the unemployment rate in the impact assessment area was 2.5 percent in Goondiwindi and 4.2 percent in Toowoomba. This is compared to an average unemployment rate over the four quarters to December 2019 of 3.2 percent and 4.8 percent respectively. The regional economic catchment has an unemployment rate of 3.4 percent, averaging 5.1 percent over the past four quarters. The unemployment rate across the impact assessment area and regional economic catchment is below the Queensland average of 6.1 percent.

For the December 2019 quarter, the labour force participation rate across the impact assessment area was lower than the average for the regional economic catchment and Queensland - 72.1 percent in Goondiwindi and 72.9 percent in Toowoomba, compared to 77.6 percent and 78.7 percent respectively.[2]

According to the 2016 Census, the Indigenous population is inadequately represented in the impact assessment area's workforce, which is reflected in high rates of Indigenous unemployment and low labour force participation. Across the impact assessment area and regional economic catchment, approximately one fifth of the Indigenous population is unemployed, and the labour force participation rate is below 60 percent.

Youth unemployment rates are also high across the impact assessment area and regional economic catchment, more than double the total unemployment rate.

These labour market trends indicate that locally there is some latent capacity in the local and regional labour force.

Employment by industry

The sectoral distribution of employment for local residents varies between Goondiwindi and Toowoomba, reflecting the impact assessment area's diverse land use and the geographic distribution of the population.

In Goondiwindi, the Agriculture, Forestry and Fishing industry employs over a quarter of the working population (27.7 percent). Within this industry, the primary source of employment is in Sheep, Beef and Grain Farming, employing 17.0 percent of the working population.

In Toowoomba, the largest proportion of workers are employed in service-based industries such as Health Care and Social Assistance (14.7 percent), Education and Training (11.0 percent) and Retail Trade (9.5 percent).

There are a number of residents within the impact assessment area employed in directly relevant industry sectors and occupations to support the construction of the Project. According to the 2016 Census, 8.4 percent of the total workforce are employed in the Construction industry (6,403 workers), with the largest proportion of workers residing in Toowoomba (6,053 workers). Within the Construction industry, 10.7 percent of local workers are employed in Heavy and Civil Engineering Construction (685 workers). Across the broader Darling Downs - Maranoa region, 4,216 workers are employed in the Construction industry, with 15.3 percent of the region's workers in Heavy and Civil Engineering Construction (643 workers) and 58.1 percent in Construction Services (2,448 workers).

[1] Since the completion of the economic modelling detailed in this report there have been series of changes to the project and the project environment. This includes changes to the Inland Rail construction program and the economic shock associated with the 2020 quarter 2 market conditions which are not reflected in the economic analysis or economic impact assessment contained within this report at the request of ARTC.

[2] Australian Government's Small Area Labour Markets publication, December 2019; ABS, *Labour Force Survey, Australia,* December 2019 (12-month moving average) – published 26 March 2020; ABS 2016 Census of Population and Housing. Participation rate for working age population 15 to 64 years #June 2016

Occupation

The impact assessment area's primary occupations of employment reflects the area's industry profile and distribution of employment across industries. Within Goondiwindi, the largest proportion of workers are employed as Farmers and Farm Managers (12.9 percent), followed by Farm, Forestry and Garden Workers (6.4 percent). This reflects the area's industry strength in Agriculture, Forestry and Fishing. In Toowoomba, the largest proportion of workers are employed as Sales Assistants and Salespersons (6.6 percent), School Teachers (4.0 percent) and Farmers and Farm Managers (3.4 percent). Across the impact assessment area 1,053 workers were employed as Construction or Mining Labourers (1.5 percent).

Construction labour availability

A Railway Skills Capability Study was undertaken by the Australasian Railway Association in 2018 which evaluated workforce capability for the rail industry based on planned and forecast rail infrastructure development in Australia and New Zealand over the next 10 years. The results of the analysis found that, in Queensland, workforce gaps are present in rail infrastructure construction sectors, most severe among specialist managers and professionals (such as engineers). The analysis also found that there is currently a slight oversupply of labourers.[3]

These trends are also reflected at a national level. The Australian Industry Group Construction Outlook (November 2018) found that, at a national level, businesses are reporting widespread and increasing difficulties in sourcing skilled labour.[4]

According to the survey, construction companies are forecasting strong growth in major project work, led by a strong pipeline of transport infrastructure projects. The results indicate that 69.2 percent of respondents, up from 66.7 percent six months prior, reported either 'major' or 'moderate' difficulty in recruiting skilled labour in the six months to September 2018. With workforce demand expected to continue at high levels in line with major project activity, labour sourcing difficulties are expected to remain.[5] It is most likely that these shortages in labour availability are for specific specialist trades.

Workforce profile

Direct employment resulting from the construction and operation of the Project has been estimated based on the indicative construction schedule and component activities. Early works (pre-construction) on the Project are scheduled for commencement in 2021, with construction expected to be completed in the beginning of 2026. The Project is anticipated to require an average workforce of 400 full time equivalent (FTE) personnel per year during construction (expected to peak at 950 FTE), and between 10 - 15 FTE personnel once operational.

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

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

Based on current labour market trends, and industries and occupations of the local workforce, there may be latent capacity and capability within the impact assessment area and regional economic catchment to support the construction and operation of the Project. The ability for the local economy to supply labour to the Project, depends on the specific location of works along the alignment. At the southern extent of the Project alignment, workers may be drawn from the surrounding local and regional communities, including across the New South Wales state border. At the northern extent, labour supply is likely to be sourced locally within the Toowoomba region. This reflects labour market conditions, with tight labour market conditions in Goondiwindi compared to

[3] Australasian Railway Association, 2018, *Skills Capability Study*

[4] A national perspective of labour availability can be used to identify trends in skills shortages. According to the Productivity Commission, workers in the construction industry are likely to be more geographically mobile because of the inherent project-based or seasonal nature of the work; Productivity Commission, 2014, *Geographic Labour Mobility.*

[5] AiGroup, Construction Outlook November 2018

Toowoomba (see Section 5.2.1). Along the alignment, labour supply may be sourced from the local or broader economy due to the establishment of non-resident workforce accommodation at Millmerran, Inglewood and Yelarbon.

Youth employment

The Project represents a source of potential training and career pathway development for young people in the impact assessment area. As detailed in the Social Impact Assessment (EIS Appendix U), local training agencies and some local secondary schools have a strong interest in the potential for the Project to create employment for local residents. ARTC is also establishing the Inland Rail Skills Academy to help create opportunities for education, training, skills development and employment for communities along the Inland Rail alignment.

Indigenous employment

The Project offers the potential to increase Indigenous employment and create business opportunities. Consultation with Traditional Owners undertaken by ARTC revealed that there is interest from Indigenous persons in participating in the Project, however that there is a need to ensure that there are culturally appropriate job readiness programs and that the Indigenous community are engaged early to build capability.

The Social Impact Management Plan (SIMP) specifies that ARTC commits to ongoing engagement with Indigenous communities, families and Elders to support Indigenous employees, underpinned by a high level of coordination between contributing programs and agencies (see Social Impact Assessment - EIS Appendix U).

Local businesses and industry

Agriculture

The Darling Downs – Maranoa region is one of Queensland's most fertile and productive agricultural areas, positioned on the western slopes of the Great Dividing Range and traversing the Condamine River catchment. In 2017-18, the gross value of agricultural production in the Darling Downs – Maranoa region was $3.3 billion, representing close to 30 percent of the total gross value of agricultural production in Queensland ($13 billion).

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

- Loss of agricultural land;
- Acquisition of land used for intensive livestock operations;
- Disruption to access and infrastructure;
- Disruption to stock and product movement;
- Flood inundation; and
- Improvements in supply chain efficiency.

Consultation with landholders is ongoing to further determine potential impacts as the Project progresses through detail design. Details on consultation undertaken for the Project is included within EIS Appendix C: Stakeholder Engagement Report.

Loss of agricultural land

As detailed in Chapter 7: Land use and Tenure, the Project will result in the sterilisation of productive agricultural land within the permanent disturbance footprint.[6] Productive land that is mapped within the existing South Western System and Millmerran Branch Line rail corridors has been previously sterilised, and has therefore been excluded from the assessment below. The scale of the total loss (within permanent disturbance) of Class A and B agricultural land is anticipated to be low. At a local government level, within Goondiwindi the permanent disturbance footprint traverses approximately 388 hectares (ha) of Class A (less than 0.1 percent of land of this type within Goondiwindi), 6 ha of Class B (less than 0.1 percent), and 250 ha of Important Agricultural Area (IAA)

[6] The permanent disturbance footprint is defined as the physical rail corridor including the rail tracks and associated infrastructure. It also includes other permanent works associated with the Project, such as where changes to the road network are required.

land (less than 0.1 percent). Within Toowoomba, the permanent disturbance footprint traverses approximately 1,434 ha of Class A (0.2 percent), 74 ha of Class B (0.2 percent) and 1,452 ha of IAA land (0.2 percent). Of these areas, land is primarily used for grazing and cropping, as well as some irrigated cropping and irrigated perennial horticulture uses.

Overall, the permanent disturbance footprint will traverse approximately 0.22 percent of total productive agricultural land in the impact assessment area. This proportion can be used to estimate, at a high level, the potential loss of agricultural production resulting from the Project. In 2017-18, the gross value of agricultural production in Goondiwindi and Toowoomba LGAs was $1.28 billion.[7] Accordingly, it is estimated that the Project could result in a loss of $2.85 million (value foregone) in gross agricultural production per year.[8]

The Project footprint will be limited where possible while providing the necessary land to safely construct, operate and maintain the rail corridor. The alignment of the Project will be further refined during detail design to ensure the permanent footprint traverses along, or as close as possible, to property boundaries to reduce potential fragmentation and sterilisation of agricultural land. Impacts such as severance or loss of land which may have the potential to impact the operations of agricultural businesses will be considered by the Constructing Authority in the terms of the acquisition agreements.

Disruption to access and infrastructure

The Project utilises existing rail corridors for approximately 33.0 percent of the length of the rail alignment. Where the Project does not utilise these corridors, it may result in impacts to agricultural land, including:

- Water access and infrastructure: The development of the Project may impede essential access to water, through impacts to drainage lines, diversions, and dams. The Project crosses a 12.5 km section of the Condamine River floodplain, which is heavily regulated in terms of water access, especially where the floodplain connects to the Murray-Darling Basin.

  Any disruption to water access has the potential to impact on the viability of farming operations. Where disruption to water supply occurs, crossing points will be provided or the relocation of dams or irrigation systems will be undertaken in consultation with landowners to limit the impact of this disturbance. The extent of these impacts will be confirmed during detail design.

  Further details are provided in Chapter 12: Surface Water and Hydrology.

- Transport access and infrastructure: Disruptions to access during construction will be addressed through temporary diversions and onsite traffic management in consultation with the local community. Roads will only be closed permanently where the impact of diversions or consolidations is considered acceptable, or where the existing location is not considered safe and cannot reasonably be made safe. In consultation with landowners, ATRC will ensure an appropriate level of access is maintained for agricultural businesses across and between properties affected by the Project. During construction regular Project updates will be provided which forecast road works, road realignments and closures, and explain alternative routes to enable agricultural and other business operators to plan their travel with minimal disruptions.

  Further details are provided in Chapter 18: Traffic, Transport and Access.

Acquisition of land used for livestock operations

The Project traverses a number of large feedlots and piggeries. ARTC has worked with landowners to ensure there is minimal disruption to the ongoing operation of intensive animal husbandry.

ARTC will work with directly affected property owners to mitigate potential impacts on farm and business operations, and develop cooperative strategies which will reduce impacts on productivity and connectivity. The mitigation of impacts will include the design of level crossings on private roads and in consultation with GRC and DNRME temporary and permanent access for use of stock routes. ARTC will complete, and where relevant to

[7] Queensland Government, 2019, *Queensland Spatial Catalogue: Gross Value of Agricultural Production (GVAP) per Local Government Area in Queensland.*

[8] This value is an indicative estimate only - it does not consider the value of individual commodities produced per lot or the value-add activities which contribute to the gross value of agricultural production in the region. An assessment of the composition of agricultural production by lot and commodity may be undertaken following detail design.

pre-construction, implement property-specific measures to address potential impacts on land use, property, access, water infrastructure or access.

Where acquisition is required, impacts such as severance of the land parcel and potential fragmentation of infrastructure and services may affect the operations of these businesses, resulting in losses of employment for farmworkers and reduced economic activity. The extent of these impacts will be confirmed during detail design.

Disruption to stock and product movement

The Project footprint crosses twelve formal stock routes, and is likely to cross informal stock routes used to transfer stock to various grazing paddocks and holding yards. ARTC has worked with Goondiwindi Regional Council and the Department of Natural Resources Mines and Energy to ensure planning of the proposed the Project alignment maintains the connectivity of stock routes.

Flood inundation

The Project crosses 16 major waterways and 66 minor waterways, with key waterways being the Macintyre River, Macintyre Brook, Condamine River and Gowrie Creek. Other major creek crossings include Pariagara Creek, Cattle Creek, Native Dog Creek, Bringalily Creek, Nicol Creek, Back Creek and Westbrook Creek. The Macintyre Brook and Condamine River floodplains, and to a lesser extent the Gowrie Creek and Westbrook Creek floodplains. These floodplains contain productive agricultural land, including irrigated land in places.

The Inland Rail feasibility design includes cross drainage structures in the form of bridges and culverts to maintain existing surface water flow paths and flood flow distributions. The Project's design criteria objectives include avoidance of unacceptable increases in peak water levels, velocities and time of submergence. The Project does not increase the existing extent (i.e. footprint) of flood inundation.

The Project may necessitate localised modification of land management practices, including cropping regime, in response to confined afflux and time of inundation impacts. ARTC will work with landholders to develop suitable property specific solutions based on land management practices.

Improvements in supply chain efficiency

Efficient supply chains support the regional and national capacity to enhance economic opportunities within local communities. The Project is a critical link in the broader Inland Rail, offering a more efficient solution for intra and interstate freight operators who will be able to avoid inland and coastal road and rail networks. Specifically, the Project:

- Offers opportunities to improve the productivity of local export industries (such as agriculture);
- Improves freight transportation infrastructure between the eastern and western side of the Great Dividing Range; and
- Has the potential to unlock the construction of ancillary and complementary infrastructure, which will improve market access and expand local agricultural businesses and industry (see *Transport Industry - Freight and Logistics* below).

Tourism

Tourism is a significant industry for the regional economic catchment. The Darling Downs is recognised as a popular tourist destination for visitors seeking to explore rural landscape and attractions. The Project has the potential to change local amenity and service capacity within the impact assessment area, during both construction (temporary) and operation (permanent).

During construction, there is potential for road works, the visual impact of laydown areas, and the accommodation of non-residential workers to affect tourists' experience and travel times. This impact is anticipated to be small and will be temporary whilst construction activities are undertaken in particular areas.

As required, the non-resident workforce accommodation (located near Millmerran, Inglewood and Yelarbon) will service the non-residential workforce for the duration of the Project's construction. Accordingly, the construction workforce will not impact on the availability of local tourism accommodation in the rural areas surrounding these accommodation areas. Subject to planning and approval, following construction, the buildings and infrastructure

established for the non-resident workforce accommodation may be left for community use. This may enhance access to local facilities, with the potential to support tourism.

During operation, there is potential for reduced scenic amenity due to the Project's location within the rural and regional landscape. It is likely that some visitors will see the proposal as diminishing rural character while others will find interest in the proposal structure. According to the Social Impact Assessment (EIS Appendix U), this is not expected to have a significant impact on tourism visitation.

Local businesses

Construction materials

There are a number of construction businesses located within the impact assessment area, with a total of 1,153 employing businesses (87 in Goondiwindi and 1,094 in Toowoomba) and a further 1,559 non-employing businesses across the area. These businesses are likely to be a significant source of services and equipment during the Project's construction.

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

The impact of the Project on local businesses is likely to vary depending on the location along the Project alignment. Due to their scale and experience, businesses in Toowoomba are more likely to have the capacity and capability to support the construction of the Project compared to rural businesses along the Project alignment. Within Toowoomba, the recent completion of the Toowoomba Second Range Crossing may present an opportunity for skills transfer to meet the needs of the Project. Where required, it is likely that small businesses will need to develop their current capacity to ensure that they can competitively participate in the Project's supply chain.

ARTC have confirmed that pre-cast concrete may be sourced from Toowoomba, ballast material will be sourced from local quarries and borrow pits, and other components such as rehabilitation supplies and fencing may also be sourced within the impact assessment area. Concrete sleepers are likely to be sourced from outside the impact assessment area.

ARTC has also developed the Inland Rail Sustainable Procurement Policy which will ensure that local, regional and Indigenous businesses will have opportunities to supply the Project.

Transportation

During construction, the Project may provide opportunities for transport or logistics businesses in Goondiwindi and Toowoomba to transport materials to laydown areas and remove waste materials and recyclables from construction compounds and non-resident workforce accommodation. Following construction, these opportunities for transport or logistics businesses have the potential to expand over the long term, particularly if a regional rail distribution point, rail-based warehousing or associated freight precincts are established on the Project alignment.

During operation, the anticipated mode shift from road freight to rail freight is likely to reduce the number of heavy vehicles travelling on the road network, with the potential to impact on levels of trade for local transportation businesses. These impacts may be partially offset by the aforementioned opportunities to increase investment and activity in freight / logistics operations adjacent to Inland Rail.

Freight and logistics

As part of Inland Rail, the Project has the potential to stimulate business and industry development at the Toowoomba Enterprise Hub in Wellcamp. By providing efficient transport access to intrastate and interstate markets, the Project may act as a catalyst for further private sector investment in this area, particularly for freight and logistics operations. The further development of the Toowoomba Enterprise Hub has the potential to unlock greater economic activity in the region, such as through promoting greater international export opportunities via Wellcamp Airport.

Secondary service and supply businesses

The Project is likely to offer opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses 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 may lead to increased trading levels for small businesses, such as food and beverage businesses in the impact assessment area.

Retail businesses in Millmerran, Inglewood and Goondiwindi have the potential to benefit from opportunities to supply materials and services to the Project's non-resident workforce accommodation. Some local retail businesses may also benefit from increased trade from workers residing in these accommodation areas.

As identified in the Social Impact Assessment (EIS Appendix U), it is likely that some small businesses will need to scale up their current capacity to participate in the Project, particularly for businesses in rural areas along the alignment. Importantly, businesses must understand the temporary nature of the construction phase and adjust capacity accordingly.

Following Project approval, ARTC will liaise with Regional Skills Initiative Strategy officers in Goondiwindi and Toowoomba to identify potential cooperation or partnerships for the development of employment and business capacity in the impact assessment area (see SIMP, EIS Appendix U).

Telecommunications

Inland Rail is planning telecommunications systems as part of construction requirements and ongoing safe rail operations. ARTC is working with telecommunications carrier network operators to provide services for construction site offices, non-resident workforce accommodation and the railway corridor. While the focus will mainly be for the provision of voice and high speed data services around the rail track vicinity, it is envisaged that the extended wireless telecommunications network coverage and optical fibre systems will add benefit to the local communities (such as businesses) in those areas where previously such services did not exist.

Inland Rail Program impacts

As per the requirements of the ToR, this EIA has focussed on the specific economic impacts resulting from the construction and operation of the Project. However, the assessment acknowledges the role of the Project, and the remaining project links, in collectively delivering the benefits of Inland Rail. 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 Inland Rail include:

- Lower prices for consumers as a result of lower inter-capital 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 Gross Domestic Product ($2015) over its 10 year construction period and 50 years of 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 during operation.
- 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 Project, as a discrete project, to the community. These economic benefits have been estimated based on the impacts of the Project on the transport network, in particular freight operators, along with the benefits accrued by non-users (the community). Where the Project improves the transport connectivity and efficiency between freight originators and destinations, these movements across road and rail have been assessed in the appraisal.

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

1. Evaluation of the likely benefits of the discrete the Project (economic benefits assessment). This analysis assesses just those impacts that would be likely if freight operators were to respond to the completion of the individual Project (in isolation of the whole Inland Rail). A Project-specific CBA has not been undertaken as the results will not capture the full economic impact that is expected to be delivered upon completion of Inland Rail.
2. Description of the economic performance measures calculated for Inland Rail as a whole (as per the Inland Rail Program Business Case (2015)).

Economic benefits assessment results

The results of the economic benefits assessment estimate that the Project is expected to provide a total ($2019 present value terms) of $674.36 million in incremental benefits to the Project area[9] (at a 7 percent discount rate). This consists of $516.52 million in freight benefits and $157.84 million in community benefits.

Observing the composition of benefits, the largest share of benefits for the Project is freight operating cost savings, representing ~49 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 and availability) represent ~77 percent of the total projected benefits for the Project. Reductions in environmental externalities (i.e. air pollution and greenhouse gas emissions) from reduced heavy vehicle kilometres travelled represents ~9 percent of the total benefits (at the 7 percent discount rate).

Results of the economic benefits assessment, present value terms ($2019)

Benefits	Discount Rate		
	4%	7%	10%
Freight Benefits	**$1,012.73 m**	**$516.52 m**	**$304.86 m**
Travel Time Savings	*$64.32 m*	*$33.61 m*	*$20.14 m*
Operating Cost Savings	*$608.18 m*	*$329.71 m*	*$204.22 m*
Improved Availability	*$264.92 m*	*$117.82 m*	*$61.02 m*
Improved Reliability	*$75.32 m*	*$35.37 m*	*$19.47 m*
Community Benefits	**$290.80 m**	**$157.84 m**	**$97.82 m**
Crash Reduction	*$39.89 m*	*$21.65 m*	*$13.42 m*
Environmental Externalities	*$115.99 m*	*$62.96 m*	*$39.02 m*
Road Decongestion Benefits	*$134.92 m*	*$73.23 m*	*$45.39 m*
TOTAL BENEFITS	**$1,303.53 m**	**$674.36 m**	**$402.68 m**

Source: KPMG

[9] The project area represents the transport network (road and rail) impacted by the associated freight movements due to the Project.

Cost Benefit Analysis: Inland Rail Program Business Case

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

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

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).

Regional impact analysis

A regional impact analysis has been undertaken to highlight the economic impacts of the Project on the regional, state and national economy using an equilibrium modelling framework. The regional economy is represented by the Darling Downs – Maranoa labour market region.

A CGE model (KPMG-SD) was developed to examine the direct and indirect (flow-on) effects arising from the construction of the Project 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.[10]

The key impacts of the Project on the Darling Downs – Maranoa region during the construction phase are summarised in the table below.

Direct and indirect economic impacts of the Project on the regional economic catchment, construction phase

	Darling Downs – Maranoa	
Measure	**Slack Labour Markets**	**Tight Labour Markets**
Additional Real Gross Regional Product ($2018-19)	$344 m	$149 m
Average Annual Additional Direct and Indirect Employment (persons)	344	78

Source: KPMG

During the construction phase, real Gross Regional Product (GRP) for the Darling Downs – Maranoa region is projected to be $344 million higher than the baseline level under the assumption of slack labour markets. This increase is more than halved if labour markets are assumed to be tight ($149 million).

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

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 344 direct and indirect jobs are generated.[11] 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 78 jobs. Under tight labour markets, wages are bid up to attract currently employed workers to the construction businesses contracted to construct the Project. 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.

Recent labour market trends can be used to inform workforce capacity and capability within the local region. In Darling Downs – Maranoa, over the four quarters ending in the December quarter 2019, the unemployment rate averaged 5.1 percent[12], and the participation rate averaged 77.6 percent over the 12 months ending December 2019.[13] In addition, labour market conditions in Darling Downs – Maranoa appear to have deteriorated marginally with the average annual unemployment rate increasing from 5 percent in the December quarter of 2018 to 5.1 percent in the December quarter of 2019. Similarly, the 12-month average participation rate has been on the decline since its peak in April 2019. 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 with regard to labour market conditions at the state and national levels.

At the time of writing the latest available regional labour market statistics in the Small Area Labour Markets (SALM) publication contained data to December 2019. More recent macro-economic data suggest that labour market conditions may have deteriorated further and the economic shock associated with the 2020 quarter 2 market conditions has added considerable downside risks to the broader economy in the short to medium term. The National Accounts data for Quarter 4, 2019 show domestic demand has remained soft, even before recent natural disaster events (i.e., bushfires and floods) and the global coronavirus outbreak. Economic conditions are anticipated to deteriorate markedly in the short to medium run, increasing the likelihood that the national and regional labour markets will be consistent with the "slack" labour market scenario during the construction phase.

The possibility of some tightness in the labour market cannot be completely dismissed. If the government's health and economic policy responses to the 2020 quarter 2 market conditions are highly effective, the economy may grow much faster than expected resulting in significantly more activity in the construction sector than anticipated. For example, the government may seek to bring forward projects to stimulate the economy. If this transpires then labour market conditions may tend towards somewhere between the "slack" and "tight" scenarios.

Cumulative economic impacts

The cumulative economic impact assessment refers to the potential impact of cumulative stimulus to the economy resulting from a set of existing or planned projects within or adjacent to the study area. Cumulative impacts may result from the spatial and / or temporal interaction between these projects.

For the purposes of this report, the cumulative impact assessment has two components:

- **Inland Rail Program in Queensland**

  A quantitative assessment of the cumulative macroeconomic impact of Inland Rail on the economy, resulting from the construction of the Queensland sections of Inland Rail.

  There are five sections of Inland Rail which fall in Queensland, including the Project, G2H, Helidon to Calvert (H2C), Calvert to Kagaru (C2K) and Kagaru to Acacia Ridge and Bromelton (K2ARB).

[11] To put this in context the planned direct workforce requirements of the Project during the construction phase peak at approximately 950 FTE. About 70 percent of the Project CAPEX is expended in 2022 and 2023. KPMG estimate that the average annual number of jobs in those two years for Darling Downs – Maranoa is about 950 in slack labour market conditions and 150 in tight labour market conditions.

[12] Based on Australian Government's Small Area Labour Markets (SALM) publication

[13] Based on population of working age: 15 – 64 years; ABS, *Labour Force Survey 2019*, cat. no. 6291.0. Released 27 February 2020.

- **Broader cumulative assessment**

  A qualitative assessment of cumulative impact of state significant projects (that have been identified by ARTC as having a relationship to the Project - refer Appendix A) on local and regional labour markets, the supply chain and local businesses.

Inland Rail Program in Queensland

Under the assumption of slack labour markets the incremental economic impacts of the construction of the Queensland sections include an increase in real GSP of $1.75 billion (measured in 2019 dollars) and an increase in the average number of jobs over the period 2020 to 2025 of 2,059 jobs per year. If labour markets are tight then the incremental benefits are smaller with real GSP increasing by $0.83 billion and the average number of jobs increasing by 485 per year over the same period.

The Project is the only section of Inland Rail that is located within the Darling Downs – Maranoa region. Construction activities related to this section will directly impact the Darling Downs – Maranoa economy. The remaining Queensland sections of Inland Rail, which are located in the Greater Brisbane and Toowoomba regions, will impact Darling Downs – Maranoa indirectly.

The regional impact analysis reported the results of simulations when the Project was considered in isolation. In that context the direct and indirect increment to jobs in the Darling Downs – Maranoa economy was estimated to be 344 jobs per year under the assumption of slack labour markets and 78 jobs per year under the assumption of tight labour markets. When all the Queensland projects are considered jointly, the analogous increment to jobs (direct and indirect) in Darling Downs – Maranoa decreases to 290 jobs per year assuming slack labour markets and 69 jobs per year assuming tight labour markets. The increment to jobs in Darling Downs – Maranoa peaks in 2022 at 722 and 175 jobs under slack and tight labour market conditions respectively. As discussed in the regional impact analysis. The labour market conditions expected to prevail in the Darling Downs – Maranoa economy over the period 2020 to 2025 will be most consistent with those assumed in the "slack" labour market scenarios which have been simulated. Further, the assessment indicates that the labour market conditions in other regional economies in Queensland, over the Inland Rail construction phase period, will generally be much closer to the "slack" than to the "tight" characterisation.

Broader cumulative assessment

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 Queensland, 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 Project, without major disruption. However, these conditions may change in the context of cumulative labour market demand. Prior to the change in 2020 quarter 2 market conditions, the 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. However, the overall labour demands of the various infrastructure projects expected to be constructed were modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Toowoomba and Greater Brisbane labour market, and the ability of workers to mobilise to project locations, suggested that the risks of labour market disruption were limited. In the current environment, this risk has now been further reduced.

There may be benefits from having additional infrastructure projects in the adjacent and surrounding areas around the same time as the Project. 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 Project's construction phase.

Mitigation and management strategies

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

A Social Impact Management Plan (SIMP) has been developed which outlines the objectives, outcomes and performance measures required to manage the social and socio-economic impacts of the Project, and enhance Project benefits and opportunities. There are two sub-plans which are directly relevant to the economic impacts identified and assessed in this EIA – Workforce Management and Local Business and Industry Participation.

There are a number of economic impacts identified within this EIA which are not addressed within the SIMP. Where these impacts cannot be avoided, a range of measures have been proposed by ARTC to carefully manage and mitigate these impacts. For example, measures include working with individual land owners to develop suitable solutions based on individual farm management practices, rehabilitating land as close as possible to pre-construction conditions, and consulting with tourism associations to ensure that generalised impacts on tourism values are reduced wherever possible.

Conclusions

Local and regional employment, business and industry impacts

At a local level, the Project will support regional economic development through opportunities for local and regional employment, businesses and industries:

- The Project offers opportunities to encourage, develop and grow Indigenous, local, and regional businesses through the supply of resources and materials for the construction and operation of the Project (e.g. borrow and ballast materials, fencing, electrical installation (excluding rail systems) and instrumentation, rehabilitation and landscaping, cleaning and maintenance of construction and accommodation facilities);
- The Project offers opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses in close proximity to the construction footprint (including opportunities to supply the three proposed non-resident workforce accommodation facilities in Millmerran, Inglewood and Yelarbon. 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; and
- As part of Inland Rail, the Project has the potential to stimulate business and industry development at the Toowoomba Enterprise Hub in Wellcamp. By providing efficient transport access to intrastate and interstate markets, the Project may act as a catalyst for further private sector investment in this area, particularly for freight and logistics operations. The further development of the Toowoomba Enterprise Hub has the potential to unlock greater economic activity in the region, such as through promoting greater international export opportunities via Wellcamp Airport.

The Project alignment has been designed to minimise impacts to local business and industry, however the Project may result in the disruption of the agriculture and tourism industries through:

- The loss of agricultural land (through disturbance, acquisition, or sterilisation by the permanent disturbance footprint), disruption to farm management, or changes in accessibility or connectivity to market. This may negatively impact on the productive capacity and total economic value add from the local agricultural industry. Based on the proportion of productive agricultural land lost, it is estimated that the Project could

result in a loss of $2.85 million (value foregone) in gross agricultural production per year.[14] ARTC will work with individual land owners to develop suitable management solutions based on individual farm management practices to mitigate and manage these impacts; and

- In consultation with landowners, ARTC will ensure an appropriate level of access is maintained for agricultural businesses across and between properties affected by the Project. During construction Project updates will be provided which forecast road works, road realignments and closures, and explain alternative routes to enable agricultural and other business operators to plan their travel with minimal disruptions. Impacts such as severance or loss of land which may have the potential to impact the operations of agricultural businesses will be considered by the Constructing Authority in the terms of the acquisition agreements.
- Changes to the amenity of, or connectivity to, the local landscape and attractions. The Social Impact Assessment (EIS Appendix U) assessment concludes that a significant decrease in visitation as a result of this impact is unlikely. ARTC will work with chambers of commerce, tourist information centres and the Goondiwindi and Toowoomba Regional Councils to ensure potential impacts on tourist visitation are mitigated through support for marketing campaigns targeting potentially impacted communities.

Economic benefits assessment

The economic benefits assessment estimate that the Project is expected to provide a total of $674.36 million ($2019) in incremental benefits (at a 7 percent discount rate). These benefits result from improvements in freight productivity, reliability and availability, and benefits to the community from crash reductions, reduced environmental externalities and road decongestion benefits.

Regional impact analysis

The Project will promote regional economic growth across the Darling Downs – Maranoa region. Using recent labour market trends and projected construction sector activity to inform workforce capacity and capability within the local region, it has been concluded that it is likely that the labour market conditions that will prevail during the construction phase of the Project will most likely be closer to those characterised by the "slack" labour market scenario. Under this scenario, over the construction phase, real Gross Regional Product is projected to be $344 million higher than the baseline level.

Under a "slack" labour market scenario, the Project is also expected to deliver an additional 344 jobs (direct and indirect) per year over the construction period.

The possibility of some tightness in the labour market cannot be completely dismissed. If the government's health and economic policy responses to the 2020 quarter 2 market conditions are highly effective the economy may grow much faster than expected resulting in significantly more activity in the construction sector than anticipated. For example, the government may seek to bring forward projects to stimulate the economy. If this transpires then labour market conditions may tend towards somewhere between the "slack" and "tight" scenarios.

Cumulative regional impact analysis

Under the assumption of slack labour markets the incremental economic impacts of the construction of the Queensland sections include an increase in real GSP of $1.75 billion (measured in 2019 dollars) and an increase in the average number of jobs over the period 2020 to 2025 of 2,059 jobs per year. If labour markets are tight then the incremental benefits are smaller with real GSP increasing by $0.83 billion and the average number of jobs increasing by 485 per year over the same period.

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 Project, without major disruption. However, these conditions may change in the context of cumulative labour market demand. Prior to the change in 2020 quarter 2 market conditions, the major infrastructure projects in the

[14] This value is an indicative estimate only - it does not consider the value of individual commodities produced per lot or the value-add activities which contribute to the gross value of agricultural production in the region. An assessment of the composition of agricultural production by lot and commodity may be undertaken following detail design.

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. However, the overall labour demands of the various infrastructure projects expected to be constructed were modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Toowoomba and Greater Brisbane labour market, and the ability of workers to mobilise to project locations, suggested that the risks of labour market disruption were limited. In the current environment, this risk has now been further reduced.

The expansion in construction activity and regional employment is also likely to increase demand for a range of local infrastructure and services, including in the construction supply chain and for local retail and hospitality businesses.

Impact management

ARTC are committed to enhancing the economic benefits of the proposal while avoiding, mitigating or managing any adverse economic impacts. Accordingly, ARTC will undertake and / or require its contractor to undertake to manage the social and socio-economic impacts of the Project, and enhance proposal benefits and opportunities.

2 Introduction

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

While the following EIA is focussed on the specific impacts resulting from the Project, the assessment acknowledges the role of the Project, and the remaining project links, in collectively delivering the benefits of the Inland Rail Program. In its entirety, Inland Rail will enhance Australia's existing national rail network and serve the interstate freight market. The primary economic objective of Inland Rail is to promote economic growth by improving the efficiency of transport for Australia's exports, and increasing the productivity of domestic supply chains.

Since the completion of the economic modelling detailed in this report there have been series of changes to the Project and the Project environment. This includes changes to the Inland Rail construction program and the economic shock associated with the 2020 quarter 2 market conditions which are not reflected in the economic analysis or economic impact assessment contained within this report at the request of ARTC. However, the economic shock associated with the 2020 quarter 2 market conditions is discussed qualitatively in relation to the economic modelling outputs.

2.1 Legislation

The purpose of the EIA is to form part of an Environmental Impact Statement (EIS) being prepared by ARTC to address the ToR issued by the Queensland Coordinator-General under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and for the purposes of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)(EPBC Act). The Commonwealth Minister for the Environment and Energy determined that the Project is a 'controlled action' under the EPBC Act on 9 April 2018.

The final ToR were issued on 16 November 2018. The following assessment addresses the information requirements of Section 5.1 and 11.141 of the ToR.

Table 1: EIS EIA Information Requirements

Section 11.141: EIS Economic Objectives	
The construction and operation of the Project should aim to: (a) avoid or mitigate adverse economic impacts arising from the Project (b) capitalise on opportunities potentially available for capable local industries and communities (c) create a net economic benefit to the region and state.	
Information Requirements	**EIA Section**
Identify the economic impacts of the Project on the local and regional area and the state.	Section 6.2, 6.3, 6.4 and 6.5
Estimate the costs and benefits and economic impacts of the proposal using both regional impact analysis and cost–benefit analysis. The analysis should be consistent with the Coordinator-General's Economic impact assessment guideline (April 2017).	Section 6.3 and 6.4

Table 2: Other relevant ToR Information Requirements

Information Requirements	EIA Section
Section 5.1 The objectives of the EIS are to ensure that all relevant environmental, social and economic impacts of the Project are identified and assessed, and to recommend mitigation measures to avoid or minimise adverse impacts. The EIS should demonstrate that the Project is based on sound environmental principles and practices.	Section 6.1, 6.2, 6.3, 6.4, 6.5 and 7 (These requirements are addressed through remainder of the EIS)

2.2 Guidelines

As identified in the ToR, the following EIA has been undertaken in accordance with the guidance provided by the Coordinator-General's Economic Impact Assessment Guideline (April 2017).

The guideline states that the *'EIA must estimate the Project's economic impacts and identify measures to manage any negative impacts and capture the economic opportunities generated by the Project. It must:*

- *include both a description of the economic environment with and without the Project;*
- *use standardised methodologies and information;*
- *make all assumptions transparent; and*
- *propose targeted impact management measures.*

The EIA must meet the requirements of the ToR and be consistent with the social impact assessment and other elements of the EIS. The EIA must be developed in consultation with key stakeholders such as local governments, industry bodies and local businesses.'

2.3 Policy and planning

Across Federal, State and Local Government, there are a number of strategic policy and planning documents relevant to the Project EIA, including regional infrastructure and economic development planning.

Australian Infrastructure Plan 2016, Infrastructure Australia

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

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

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

The Plan highlights the importance of the Melbourne to Brisbane freight corridor in supporting population, production and employment precincts. Inland Rail will improve the efficiency, effectiveness and safety of freight

movements travelling along this corridor. As both a greenfield and enhancement (brownfield) Project, the Project will contribute to the realisation of these benefits, including improvements to the productivity and competitiveness of Australia's freight sector.

Queensland Freight Strategy, Queensland Government

The Queensland Freight Strategy - Advancing Freight in Queensland (the Strategy) sets a shared vision for the state's freight system through a series of commitments that have the aim of guiding policy, planning and investment decision-making over the next ten years. The vision for Queensland is "an integrated, resilient and safe freight system that supports the economy and community".

The Strategy makes a commitment to optimise existing freight infrastructure and target investment towards creating economic opportunities. The Strategy also acknowledges the importance of smarter connectivity and access, identifying the role of competitive rail freight services in promoting the mode shift for freight from road to rail. The development of the Project supports the strategic intent and direction of the Strategy, by ensuring connectivity to existing operating lines (such as the South Western Line and the Millmerran Branch Line) to improve the efficiency of rail freight. The Project is projected to improve the productivity of regional and state supply-chains and industry.

South-East Queensland Regional Plan 2017 (Shaping SEQ), Queensland Government

Shaping SEQ (South-East Queensland Regional Plan, or the Plan) is the Queensland Government's plan to guide the future development of the SEQ region. The Plan aims to "set the direction for sustainability, global competitiveness and high-quality living". The planning framework for the next 25 years is based off five strategic goals; grow, prosper, connect, sustain and live.

In particular, the Plan addresses 'prosper' through a focus on regional economic clusters such as the Western Gateway, which will be further enabled by the development of Inland Rail (including the Project, which includes critical greenfield infrastructure within the Program). The Plan recognises the role of Inland Rail in unlocking opportunities for the greater intensification and consolidation of industrial activities (and rail-dependent industries) within the western subregion.

Additionally, the Plan recognises the role of Inland Rail in improving national freight network connections, including links to the port of Brisbane. This will support efficient freight movements, align with the Plan's goal of 'connection' and contribute to economic development throughout SEQ.

Darling Downs Regional Transport Plan 2019, Queensland Government

The Darling Downs Regional Transport Plan (Darling Downs RTP) outlines a shared direction for shaping the region's transport system over the next 15 years. The Darling Downs RTP sets out regional transport priorities and actions for developing the transport system in a way that supports regional communities, growth and productivity. The Darling Downs RTP details the economic importance of the relationship between infrastructure, transport and land use.

The Darling Downs RTP recognises the vital role of the freight network (particularly rail freight) across Darling Downs in supporting future trade development and growth of the regions' export orientated industries. The Plan highlights the potential for Inland Rail to enable improvements in supply chains and freight productivity. Specifically, Inland Rail has been identified as an opportunity to improve access to export gateways and affords the region the opportunity to be the gateway for southern Queensland and north-western New South Wales to local, national and international markets.

Overall, the Project, as part of the broader Inland Rail Program, will increase the attractiveness and competitiveness of rail freight, consistent with the planning intent of the Darling Downs RTP.

Goondiwindi Regional Council Community Plan 2012-2022, Goondiwindi Regional Council

The Goondiwindi Community Plan 2012-2022 (the Plan) describes a shared vision for the Goondiwindi community's future and economic growth. The Plan's economic priority is to develop 'a strong and sustainable regional economy that supports the growth of existing and new industry and business activities that enhance local lifestyle and provide long term employment opportunities.'

As part of the broader Inland Rail Program, the Project 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.

Through participation in the construction and ongoing operation of the Project, there are also opportunities to increase local business capacity and worker capability.

Toowoomba Regional Council Corporate Plan 2019-2024, Toowoomba Regional Council

The Toowoomba Corporate Plan (the Plan) sets a vision for a "vibrant, inclusive and liveable region where respect for tradition and diversity is embraced". This vision will be achieved through goals focusing on people, place, sustainability, prosperity and performance.

The region aspires to achieve its 'Prosperity' goal by leveraging opportunities inherent in major regional, state and national infrastructure projects. Planning and investment in major infrastructure will support long term economic growth, in addition to enhancing the identity of the region. 'Prosperity' has the potential to be achieved through the Project, as a major Project with opportunities to promote employment and economic activity.

The Plan specifically highlights Inland Rail as a major development, with the potential to substantially elevate the Toowoomba region's economic role in Australia. Toowoomba's strong agricultural foundation has given the region a competitive advantage in the agriculture industry. Inland Rail is recognised as a project that has the ability to enhance economic activity in the region, and promote development of other established industries such as freight and logistics.

Toowoomba Region Sustainable Transport Strategy 2014, Toowoomba Regional Council

The Toowoomba Region Sustainable Transport Strategy (the Strategy) is a plan for the future integrity and sustainability of the transport system in Toowoomba. The Strategy provides the planning framework to improve the connectivity of the region, and has been developed to complement upcoming infrastructure developments, including Inland Rail. Inland Rail is identified as a project that will significantly change how freight moves through the region.

Freight transport is identified as a major component of the Strategy, with a clear focus on supporting greater rail freight mode share (including mode shift from road freight). By supporting improved rail freight efficiency, the Project will encourage this mode shift, subsequently improving road safety and local traffic operations.

Toowoomba Region Economic Development Strategy – Bold Ambitions 2038, Toowoomba Regional Council

The Toowoomba Region Economic Development Strategy (the Strategy) describes an ambition for the future economic position of the region. The vision states that by 2038 "the Toowoomba region has an internationally competitive, vibrant, diverse and inclusive economy that provides opportunities for employment, entrepreneurship and investment that enhance the region's lifestyle and environment."

The development of Inland Rail is included in the Strategy as an opportunity to enhance the regions agricultural industry supply chain and increase the competitiveness of Toowoomba's agriculture in domestic and international markets. This is especially important in maintaining the region's role as an agricultural hub and pivotal freight and logistics centre. Industries such as food product manufacturing, machine manufacturing, and freight and logistics have the ability to capitalise on the freight link provided by the Project and the broader Inland Rail Program.

The Strategy also mentions the opportunity for transport and logistics, and freight and warehousing business development as a result of major road, rail and infrastructure investment in the region. The Project alignment is adjacent to the Toowoomba Enterprise Hub, which includes the InterlinkSQ intermodal facility and Toowoomba Wellcamp Airport. The connection of the Project to this hub will enable the region to further capitalise on its export potential to Asia and other global markets through international exports out of the Toowoomba Wellcamp Airport. In addition, the Economic Development Strategy highlights the opportunity for further growth and development of these facilities as a result of Inland Rail. The Project has the potential to assist in facilitating greater intermodal opportunities and freight movements, in addition to supporting investment into these adjacent freight and logistics businesses.

Darling Downs Regional Plan, Queensland Government

The Darling Downs Regional Plan (the Plan) reflects the planning and development interests articulated in the State's Planning Policy, and sets the strategic direction for the Darling Downs region. The development of the Project is consistent with the intent of the Plan, which lists priority outcomes for the region's transport network as including:

- Prioritisation of transport programs to improve freight movement and reduce conflicts in urban areas and with other network users.
- Facilitating the role and function of airports and associated infrastructure in supporting economic development in Queensland.

The Project will unlock opportunities to better leverage the region's existing rail infrastructure, to increase economic development and support a modal shift towards increased rail freight. While the Project is not a complete greenfield link, there are sections along the alignment which will be enhancements of the existing line.

The Project is consistent with the Plan's intent to maintain the eastern area of the Darling Downs region as the major transport and service hub of the region. The Project, as part of the broader Inland Rail Program, will enable the region's transport network to continue to facilitate the movement of goods and resources between Queensland's south-east and west, enabling access to domestic and international markets through strategic ports along the east coast.

3 Methodology

3.1 Impact assessment area

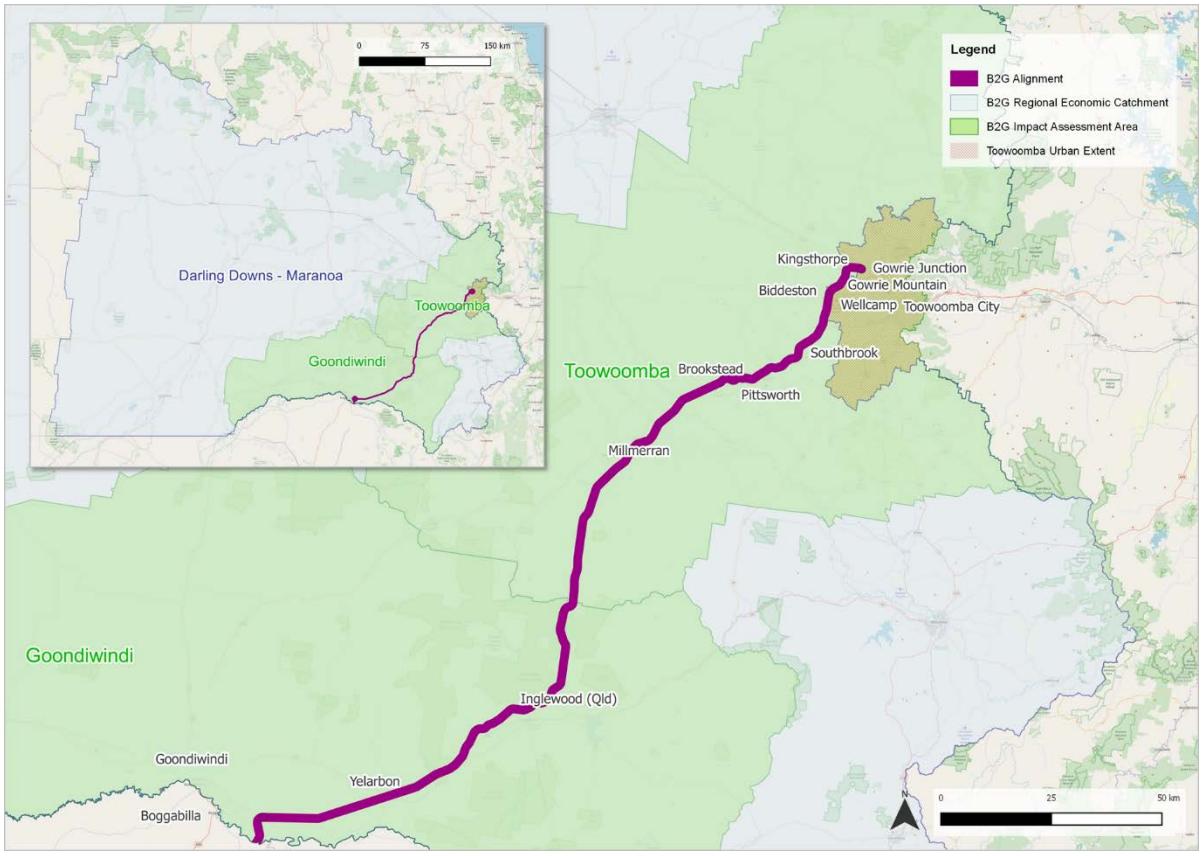
The Project traverses two local government areas (LGAs) – Goondiwindi and Toowoomba. Combined, these LGA boundaries form the **impact assessment area** which represents a local catchment for workers and economic activity.

For the purposes of the regional impact analysis, the **regional economic catchment area** is defined as the Australian Bureau of Statistics (ABS) labour market region boundaries of the Australian Statistical Geography Standard that captures the regional economy within which the Project is located. The Project is located within the Darling Downs – Maranoa labour market region and this region is defined as the regional economic catchment.

Area Definitions:

- **Impact assessment area:** Goondiwindi and Toowoomba Local Government Areas.
- **Regional economic catchment area:** Darling Downs – Maranoa Statistical Area Level 4 (SA4).

Figure 1: The Project impact assessment area and regional economic catchment



Source: ARTC
Note: From a spatial perspective, the geographic boundaries of the Darling Downs – Maranoa region does not capture the complete Toowoomba LGA (orange shaded area). These communities are captured in the impact assessment, however this geographic constraint should be noted when interpreting local demographic and economic information.

Importantly, this EIA acknowledges the potential impacts of the Project on local residents, businesses and industry within the impact assessment area and regional economic catchment, in addition to the surrounding areas, particularly at the Project extents. This EIA also acknowledges the proximity of the Project to regional communities in northern New South Wales, particularly within the Moree Plains and Gwydir LGAs at the southern extent of the Project alignment.

There are a number of population centres (ABS defined State Suburbs) that are located within proximity to the Project including Boggabilla, Toomelah, Goondiwindi, Inglewood, Yelarbon, Millmerran, Brookstead, Pittsworth, Southbrook, Biddeston, Kingsthorpe, Wellcamp, Gowrie Mountain, Gowrie Junction and Toowoomba. [15] As a result of their proximity to the Project, these communities may be impacted during the construction or operation of the Project. These population centres align with ARTC's local business and industry participation catchment.

Boggabilla

Located within the Moree Plains LGA, Boggabilla is a small locality sitting on the southern side of the New South Wales / Queensland border approximately 9 km south-east of Goondiwindi. Boggabilla is serviced by the Newell Highway to the north and south, and the Bruxner Highway to the south-east. As of the 2016 Census, Boggabilla had a population of 551 persons. The locality has a high Indigenous population, with 62.7 percent of the population identifying as Aboriginal and / or Torres Strait Islander.

Toomelah

Toomelah is an Aboriginal community located east of the most southerly part of the Project. Approximately 98.5 percent of the localities small population (of 202 persons) identify as Aboriginal and / or Torres Strait Islander. There are strong community links between the Boggabilla and Toomelah communities.

Goondiwindi

Located within the Goondiwindi LGA, Goondiwindi sits on the northern side of the Macintyre River, forming part of the Queensland / New South Wales border. The town is situated approximately 300 km south-west of Brisbane and is connected by the Newell Highway, Cunningham Highway and Leichhardt Highway. Goondiwindi's local economy is driven by strong agricultural production due to its location on the floodplains of the Border Rivers basins. The area has a population of 6,355 persons.

Inglewood

The town of Inglewood sits within the Goondiwindi LGA and is the second largest town in the Goondiwindi region. The town is accessed by the Cunningham Highway, located approximately 270 km from Brisbane and 150 km from Toowoomba. It forms part of the Border Rivers region of waterways and is the crossroad for major stock routes, joining Texas to the south and Millmerran to the north-west. Inglewood has a population of 954 persons. Local agricultural land use is predominantly sheep and cattle grazing, timber milling and cropping.

Yelarbon

Yelarbon is a small town that sits midway between Goondiwindi and Inglewood, accessed by the Cunningham Highway. The town sits within the Goondiwindi LGA and is approximately 300 km from Brisbane and 200 km from Toowoomba, bounded in the south and east by the Macintyre Brook. According to the SEQ Regional Plan, Yelarbon is a Priority Living Area[16]. The area has a population of 364 persons.

Millmerran

Millmerran is located within the Toowoomba LGA, approximately 75 km south-west of Toowoomba and 200 km west of Brisbane. The Project is located approximately 3 km south-east of Millmerran and access to the town is provided by the Gore Highway. The township's land uses are largely low-medium density residential, community spaces including sport and recreation and a main street commercial zone, with some medium impact manufacturing/industrial uses at the terminus of the rail line. An industrial area located to the north of town is

[15] Boggabilla and Toomelah are defined as Localities (ABS Urban Centres and Localities).

[16] A Priority Living Area (PLA) is an area of regional interest under the Regional Planning Interests Act 2014 (RPI Act). A PLA is an area that includes the existing settled area of a city, town or other community and other areas necessary or desirable: a) for the future growth of the existing settled area; and b) as a buffer between the existing or a future settled area and resource activities. Queensland Department of State Development, Manufacturing, Infrastructure and Planning.

zoned for High Impact Industry (Toowoomba Regional Council, 2018). Millmerran has a population of 1,563 persons.

Brookstead

Brookstead is a small town located within the Toowoomba LGA. The Condamine River forms the western boundary of the town, with access provided by the Gore Highway. It is located approximately 60 km south-west of Toowoomba city centre. Brookstead includes residential, community and industrial uses, with the surrounding area used predominantly for irrigated agriculture and cropping. Brookstead has a population of 217 persons.

Pittsworth

Pittsworth is located within the Toowoomba LGA, approximately 170 km south-west of Brisbane and 41 km south-west of Toowoomba. The town is dissected by the Millmerran Branch Line (rail), and access to the town is provided by the Gore Highway. Pittsworth is a service centre for the surrounding agricultural area and is well defined as a commercial / retail corridor. According to the SEQ Regional Plan, the area (and a buffer of up to 3 km) is a Priority Living Area, with the surrounding area a Priority Agricultural Area. Pittsworth has a population of 3,294 persons

Southbrook

Southbrook is a town north-east of Pittsworth and is part of the Toowoomba LGA. The Gore Highway passes through the north of the town and forms the main access route. Southbrook is approximately 30 km from Toowoomba and 155 km from Brisbane. The area is designates as a Priority Living Area, land use outside of the township includes dry land cropping, grazing and limited irrigated agriculture (designated a Priority Agricultural Area). Southbrook has a population of 599 persons.

Biddeston

Biddeston is located in the Toowoomba LGA, approximately 24 km west of Toowoomba along Toowoomba Cecil Plains Road. The town includes some rural residential dwellings as well as cropping, dairying and dryland production and grazing agricultural properties. Biddeston has a population of 284 persons.

Kingsthorpe

Kingsthorpe is a town located 16 km north-west of Toowoomba and 147 km west of Brisbane in the Toowoomba LGA. The area is bounded by the Westbrook Creek to the south and the Western Line Railway to the north. Access to the town is provided by the Warrego Highway. Land use in the area includes residential, commercial and recreational uses as well as cropping and grazing agriculture. Kingsthorpe has a population of 1,867 persons.

Wellcamp

Wellcamp is located within the Toowoomba LGA, 15 km west of Toowoomba, and is the location of the Toowoomba Wellcamp Airport and surrounding industrial precinct. Land use in the area is predominantly industrial uses, open space and rural Wellcamp can be accessed by Toowoomba Cecil Plains Road and is bounded by Dry Creek to the north and Spring Creek to the south. The area has a population of 295 persons.

Gowrie Mountain

Gowrie Mountain is a small residential locality on the western side of the 'Gowrie Mountain', located within the Toowoomba LGA. The area has a population of 224 persons. Residential lots are characterised as large lifestyle blocks, and access to the area is provided by the Warrego Highway and Jannuschs Road. Gowrie Mountain is approximately 20 km from Toowoomba and 145 km from Brisbane.

Gowrie Junction

Gowrie Junction is a town located in the Toowoomba LGA, approximately 10 km north-west of the Toowoomba city centre. The town is bounded by the ridges of Mount Kingsthorpe to the north and is dissected by Gowrie Creek. Access to the town is provided by the Warrego Highway. Land uses include residential and intensive uses in the township, and grazing native vegetation, irrigated cropping and cropping (with some limited conservation and natural environments) in the surrounds. Gowrie Junction has a population of 2,120 persons.

Toowoomba City

Toowoomba City is a town located in the Toowoomba LGA, approximately 125 km west of Brisbane. According to the SEQ Regional Plan, the area is designated as urban footprint. Toowoomba City is on the crest of the Great Dividing Range, with the town's urban land use located to the west of the divide. Access to and through Toowoomba is provided by the Warrego Highway. Toowoomba City has a population of 2,088 persons.

There are a number of other small communities adjacent to the Project, including Kurumbul (46 people), Whetstone (65 people), Canning Creek (5 people), Bringalily (83 people), Millwood (23 people) and Clontarf (25 people), Yandilla (46 people), Pampas (62 people), Umbiram (139 people), and Athol (134 people). These communities are described in the Social Impact Assessment (EIS Appendix U).

3.2 Assessment methodology

The EIA has been developed according to the ToR and Coordinator-General's economic impact assessment guideline. Accordingly, the approach adopted for this report is reflective of the recognised industry approach to undertaking an EIA. It represents a whole of life approach, comprising an evaluation of the economic impacts and benefits generated by the Project across both the construction and operational phases. Further, the report considers the cumulative impacts and benefits that will be realised due to the development and operation of adjacent and complementary projects. The EIA methodology has been endorsed by the Office of the Coordinator-General.

Specifically, this assessment:

- Establishes the **existing economic environment and local context** to understand the local economic context and form the basis to measure the economic impacts;
- Identifies potential **economic benefits and impacts** on affected local and regional communities and businesses. This will be drawn from local community consultation and industry engagement undertaken by ARTC, evaluation of publically available information, and the outputs from the Social Impact Assessment and Land Use and Tenure Assessment;
- Assesses the projected economic benefits of the Project, including the basis for their estimation through a detailed economic benefits assessment. The outcomes of the proposed the Project 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 Project 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 project links; and
- Proposes measures to **enhance economic benefits** and to **avoid, mitigate or manage adverse economic impacts**.

3.2.1 Existing economic environment

The existing economic environment section describes the existing economic profile of the impact assessment area, and provides a baseline for assessment of the potential economic impacts of the Project. The economic baseline includes key socio-economic characteristics and identifies existing economic activities in the impact assessment area. This section has been developed based on data and information sourced from:

- Strategic economic development, transport and community plans for the impact assessment area and regional economic catchment (see Section 2.3)
- ABS 2016 Census of Population and Housing
- ABS Regional Population Growth, 2018-19
- Queensland Government Statisticians Office 2018 edition population projections

- ABS, Labour Force Survey, Australia, December 2019
- Australian Government's Small Area Labour Markets publication, December 2019
- Consultation with local business and industry, government agencies, peak bodies and the community undertaken by ARTC.

3.2.2 Economic benefits assessment

A large proportion of the benefits of the Inland Rail Program stem from improving the connection between producers and markets; through to both domestic markets in cities and international markets through ports. Due to the structure of the EIS (assessing each of the 13 Inland Rail project links in isolation of the whole Program), an incremental CBA approach assessing each link of the Inland Rail Program individually will not capture the full impact that is expected to be delivered upon completion of the entire Melbourne to Brisbane connection. Put simply, the benefits of Inland Rail will outweigh the sum of the individual projects.

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

1. Evaluation of the likely benefits of the discrete Project (economic benefits assessment). This analysis assesses just those impacts that would be likely if freight operators were to respond to the completion of the individual Project. While the scope of this EIA is to assess the core Inland Rail infrastructure, it is recognised that ancillary infrastructure has the potential to support the realisation of additional economic benefits to the local community.
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;
- Queensland Government's Project Assessment Framework (PAF) guidance material;
- Transport for New South Wales Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (2018); and
- The Australian Transport Assessment and Planning (ATAP) guidelines.

3.2.3 Regional impact analysis

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

KPMG-SD is ideally suited to quantifying the industry, regional and economy-wide impacts of major projects like Inland Rail, because it can capture the upstream and downstream linkages between a 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.

As described above, the regional economy is represented by the Darling Downs – Maranoa labour market region.

3.2.4 Local economic impact assessment

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

- consultation with the local community undertaken by ARTC (see EIS Appendix C: Stakeholder Engagement Report for details on community consultation);
- the outcomes of the Social Impact Assessment (EIS Appendix U) process to identify local and regional business capacity, aspirations and initiatives; and
- the outcomes of the Land Use and Tenure Assessment (EIS Chapter 7) to identify local and regional impacts on industry resulting from land use changes.

3.2.5 Cumulative impact assessment

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

In considering the cumulative impacts of the Project it is necessary to identify the range of existing, planned and potential projects, within or adjacent to the impact assessment area, that may contribute to local and regional economic impacts. Cumulative impacts may result from the spatial and / or temporal interaction between these projects.

This cumulative impact assessment has two components:

1. Quantitative assessment of the cumulative impact of the Inland Rail Program on the Queensland economy (sections of Inland Rail in Queensland); and
2. Qualitative assessment of cumulative impact of state significant projects (that have been identified by ARTC as having a relationship to the Project - see Appendix A) on labour markets, the supply chain and local businesses.

3.2.6 Limitations of the assessment methodology

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

- This assessment has not been prepared to inform financial or commercial decision-making processes. The sole purpose of the impact assessment is to meet the requirements of the Coordinator-General's guidelines for EIA.
- 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 Project, and represent those that are reasonably likely to make use of the Project as an independent Project.
- The assessment assumes capital expenditure consistent with the Inland Rail Program Business Case (2015).
- A large proportion of the benefits of the Inland Rail Program stem from improving the connection between producers and markets; through to both domestic markets in cities and international markets through ports. As such, an incremental EIA approach assessing each link of the Inland Rail Program individually and in isolation of the whole Program will not capture the full impact that is expected to be delivered upon completion of the entire Melbourne to Brisbane connection.

ARTC Statement

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

4 Project description

The Project is a rail corridor, approximately 216.2 km in length, comprising 145.0 km of greenfield development and 71.2 km of brownfield (upgraded track). The Project connects the Queensland / New South Wales border, near Yelarbon, with Gowrie Junction, north-west of Toowoomba. The Project is a vital section of the Inland Rail Program, providing a more direct route between Melbourne and metropolitan Brisbane. It connects directly into the North Star to New South Wales / Queensland border project in the south and the Gowrie to Helidon project in the north east. This section will link one of Australia's most productive farming regions by rail to Brisbane, Melbourne, Sydney, Adelaide and Perth.

Where possible, the Project has been aligned to utilise the existing rail corridors of the South Western System which runs east over approximately 610 km from Thallon to Warwick, then north to Toowoomba and south to Wallangarra, and includes a branch line to Millmerran. Specifically, the Project utilises existing rail corridor for the South Western Line and the Millmerran Branch Line (for approximately 33.0 percent of the length of the rail alignment).

The key components of the Project are detailed in the table below.

Table 1: Key components of the Project

Key Component	
Start and finish point	Queensland / New South Wales Border and Gowrie Junction
Local government areas	Goondiwindi Local Government Area; Toowoomba Local Government Area
Length of alignment	216.2 km total length, 145.0 km of new track and 71.2 km of upgraded track
Key features	• 31 new rail bridges • 3 new road bridges • 2 turnouts to the South Western Line (Kildonan and Whetstone) and 2 turnouts to the Millmerran Branch Line (Millmerran and Yarranlea) • Turnouts and 5 new crossing loops (Yelarbon, Inglewood, Koorangarra, Yandilla and Broxburn) • 61 local government road / level crossings, 9 local government road grade separations, 44 local government road closures / realignments • 9 state-controlled roads directly impacted • 343 locations with one or more culvert cells • 7 turnouts to existing Queensland Rail sidings and loops (3x Kurumbul, 3x Yelarbon, and 1x Brookstead) • Ancillary rail infrastructure including maintenance sidings and signalling infrastructure to support the Advanced Train Management Systems (ATMS) • Ancillary works including engineering infrastructure and utility crossings and realignments.
Train lengths	Up to 1,800 m in length, with potential for future accommodation of 3,600 m length

Key Component	
Construction	Commencement in 2021, with construction expected to be completed in the beginning of 2026.
Employment	Construction employment: Preliminary estimates indicate that the workforce on site for the Project will average approximately 400 full time equivalent (FTE) over the construction period, with a peak of approximately 950 FTE. Operational employment: it is anticipated that ongoing operation and maintenance will require a workforce of 10 - 15 FTEs.

5 Existing economic environment

The following section describes the key demographic and socio-economic characteristics of the impact assessment area including the local population, and the existing regional and local economic environment. Unless otherwise stated, all information has been drawn from the ABS 2016 Census of Population and Housing. This information may not reflect recent changes in demographic and employment outcomes resulting from the economic shock associated with the 2020 quarter 2 market conditions.

5.1 Population summary

5.1.1 Population and age profile

In June 2019, the impact assessment area had an estimated resident population of 179,807 people.[17] Between 2009 and 2019, the population grew at an average annual rate of 1.0 percent, due to weak growth in both Goondiwindi (0.1 percent) and Toowoomba (1.0 percent). In comparison, the population in Queensland grew at an average annual rate of 1.6 percent over the same period. Population growth across the impact assessment area is projected to continue to slow to 2026, increasing by an average of approximately 1,433 persons per year to reach 189,836 residents (at an average annual rate of 0.8 percent).[18] Most of this growth will occur in Toowoomba (average annual growth of 0.8 percent), with the population in Goondiwindi projected to increase by only 7 persons (net growth) over this period (average annual growth of 0.01 percent). By comparison, the population across Queensland is projected to increase at an average annual rate of 1.7 percent to 2026.

Within Goondiwindi, historical and projected population growth reflects an ongoing trend in rural Queensland as the population, particularly young people, leave rural areas and relocate to larger, urbanised areas to access employment, education and social opportunities.[19]

The impact assessment area is expansive, covering 32,215.3 square km comprising both rural and urban areas. Goondiwindi is predominately a rural area with a geographically dispersed population, characterised by low population density and large areas of farmland (density of 0.6 persons per square kilometre). There are a number of urban areas within Goondiwindi in its townships (e.g. Goondiwindi and Inglewood). Toowoomba is a growing residential area, with a population density of 13.0 persons per square kilometre. The area is comprised of significant rural and rural-residential areas, and some industrial and commercial land use.

Table 3: Estimated resident population and projections, impact assessment area

	2009	2019	2026	% average annual growth 2009 – 19	% average annual growth 2019 – 26
Goondiwindi LGA	10,722	10,799	10,806	0.1%	0.01%
Toowoomba LGA	152,525	169,008	179,030	1.0%	0.8%
Impact assessment area	163,247	179,807	189,836	1.0%	0.8%
Queensland	4,328,771	5,094,510	5,722,780	1.6%	1.7%

Source: ABS Regional Population Growth, 2018-19; Queensland Government Statisticians Office 2018 edition population projections

The current and projected age profile for the impact assessment area reflects a broader trend of a rapidly increasing cohort of ageing population, particularly in regional and rural areas across Australia. The proportion of

[17] ABS Regional Population Growth, 2018-19
[18] Queensland Government Statisticians Office 2018 edition population projections
[19] ABS, Australian Social Trends, cat.no. 4102.0

the population aged 65 years or older is projected to increase to represent close to a quarter of the population by 2026 (20.1 percent from 17.7 percent in 2016). Within the impact assessment area, this trend is projected to be most pronounced in Goondiwindi, with the proportion of the population aged 65 years or older projected to increase from 17.6 percent to 21.8 percent by 2026. At a state level, the proportion of the Queensland population aged 65 years or older is projected to increase from 15.3 percent to 17.9 percent over the same period.

Currently, 61.9 percent of the impact assessment area's population are of working age (15 to 64 years) compared to a state average of 65.3 percent. By 2026, this population segment is projected to decline to represent 60.2 percent of the population across the impact assessment area. This can be attributed to the region's slow growth and ageing population, with the working age population in Goondiwindi projected to represent 58.9 percent of the population by 2026 and 56.4 percent by 2036 (from 61.0 percent in 2016). 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.

5.1.2 Indigenous population

The proportion of the population that identify as Indigenous (Aboriginal, Torres Strait Islander, or both) within the impact assessment area is comparable to the proportion seen across Queensland as a whole (4.1 percent compared to 4.0 percent). Within the impact assessment area, Goondiwindi has a higher Indigenous population, representing 5.4 percent of the total population compared to 4.0 percent in Toowoomba.

5.2 Description of the economy

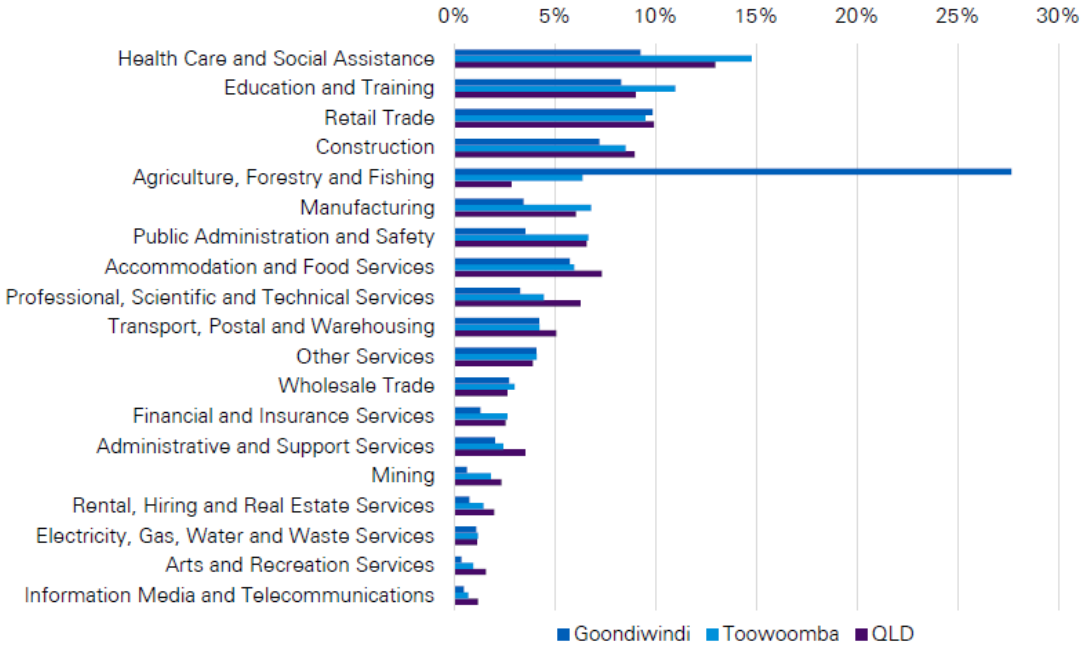
5.2.1 Labour market and employment characteristics

Employment by industry[20]

As shown in Figure 2 below, the sectoral distribution of employment for local residents varies between the Goondiwindi and Toowoomba LGAs, reflecting the impact assessment area's diverse land use and the geographic distribution of the population.

[20] 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 2: Employment by industry, impact assessment area, 2016



Source: ABS 2016 Census of Population and Housing

In Goondiwindi, the Agriculture, Forestry and Fishing industry employs over a quarter of the working population (27.7 percent). Within this industry, the primary source of employment is in Sheep, Beef and Grain Farming, employing 17.0 percent of the working population.

In Toowoomba, the largest proportion of workers are employed in service-based industries such as Health Care and Social Assistance (14.7 percent), Education and Training (11.0 percent) and Retail Trade (9.5 percent).

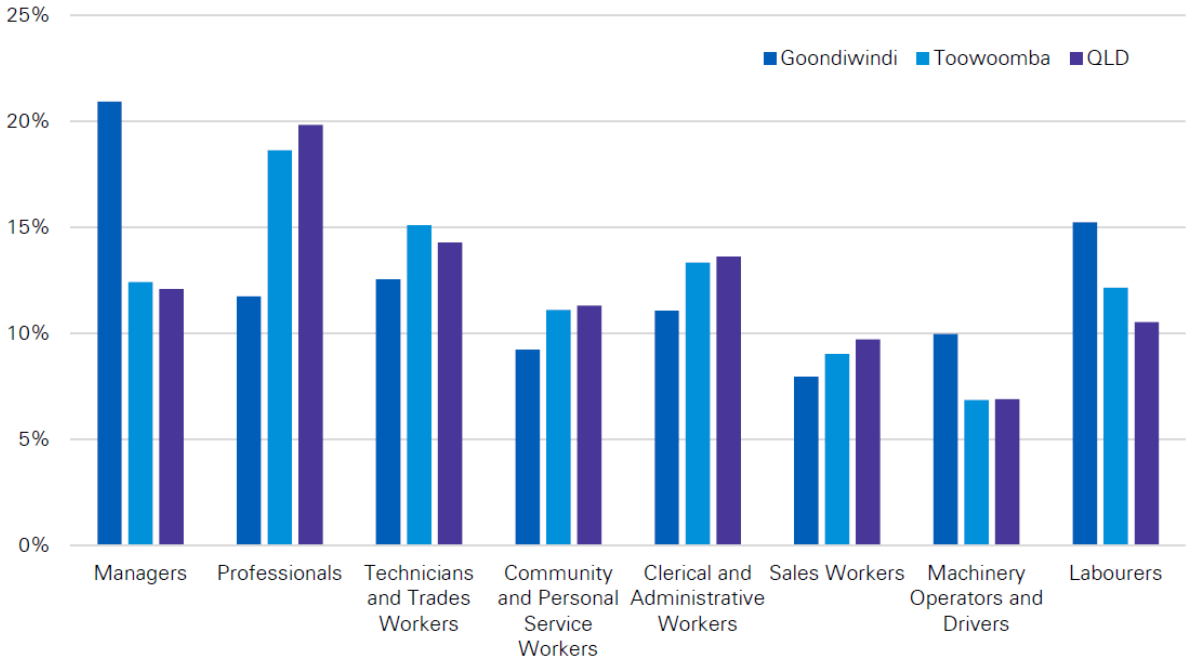
There are a number of residents within the impact assessment area employed in directly relevant industry sectors and occupations to support the construction of the Project. According to the 2016 Census, 8.4 percent of the total workforce are employed in the Construction industry (6,403 workers), with the largest proportion of workers residing in Toowoomba (6,053 workers). Within the Construction industry, 10.7 percent of local workers are employed in Heavy and Civil Engineering construction (685 workers). Across the broader Darling Downs - Maranoa region, 4,216 workers are employed in the Construction industry, with 15.3 percent of the region's workers in Heavy and Civil Engineering construction (643 workers) and 58.1 percent in Construction Services (2,448 workers).

Occupation

The impact assessment area's primary occupations of employment reflects the area's industry profile and distribution of employment across industries. At the broadest level, the area has a higher proportion of Managers, Machinery Operators and Drivers, and Labourers than the Queensland average (Figure 3).

More specifically, within Goondiwindi, the largest proportion of workers are employed as Farmers and Farm Managers (12.9 percent), followed by Farm, Forestry and Garden Workers (6.4 percent). This reflects the area's industry strength in Agriculture, Forestry and Fishing. In Toowoomba, the largest proportion of workers are employed as Sales Assistants and Salespersons (6.6 percent), School Teachers (4.0 percent) and Farmers and Farm Managers (3.4 percent). Across the impact assessment area 1,053 workers were employed as Construction or Mining Labourers (1.5 percent).

Figure 3: Local workers occupation, impact assessment area, 2016



Source: ABS 2016 Census of Population and Housing

Construction labour availability

A Railway Skills Capability Study was undertaken by the Australasian Railway Association in 2018 which evaluated workforce capability for the rail industry based on planned and forecast rail infrastructure development in Australia and New Zealand over the next 10 years.

The results of the analysis found that in Queensland, workforce gaps are present in rail infrastructure construction sectors, most severe among specialist managers and professionals (such as engineers). The analysis also found that there is currently a slight oversupply of labourers.[21]

These trends are also reflected at a national level. The Australian Industry Group Construction Outlook (November 2018) found that, at a national level, businesses are reporting widespread and increasing difficulties in sourcing skilled labour.[22] According to the survey, construction companies are forecasting strong growth in major project work, led by a strong pipeline of transport infrastructure projects. The results indicate that 69.2 percent of respondents, up from 66.7 percent six months prior, reported either 'major' or 'moderate' difficulty in recruiting skilled labour in the six months to September 2018. With workforce demand expected to continue at high levels in line with major project activity, labour sourcing difficulties are expected to remain.[23] It is most likely that these shortages in labour availability are for specific specialist trades.

Labour force

According to the Australian Government's quarterly regional estimates of unemployment, as at December 2019 there were a total of 3,259 unemployed persons in the impact assessment area (146 persons in Goondiwindi and 3,113 persons in Toowoomba) and 2,324 in the Darling Downs – Maranoa region. For this period, the unemployment rate in the impact assessment area was 2.5 percent Goondiwindi and 4.2 percent in Toowoomba. This is compared to an average unemployment rate over the four quarters to December 2019 of 3.2 percent and 4.8 percent respectively. The regional economic catchment has an unemployment rate of 3.4 percent, averaging 5.1 percent over the past four quarters. The unemployment rate across the impact assessment area and regional economic catchment is below the Queensland average of 6.1 percent.

[21] Australasian Railway Association, 2018, *Skills Capability Study*

[22] A national perspective of labour availability can be used to identify trends in skills shortages. According to the Productivity Commission, workers in the construction industry are likely to be more geographically mobile because of the inherent project-based or seasonal nature of the work; Productivity Commission, 2014, *Geographic Labour Mobility.*

[23] AiGroup, Construction Outlook November 2018

Table 4: Summary of labour force characteristics, December 2019

	Labour force	Participation rate*	Unemployed persons	Unemployment rate	12 month unemployment rate average
Goondiwindi LGA	5,937	72.1%#	146	2.5%	3.2%
Toowoomba LGA	74,127	72.9%#	3,113	4.2%	4.8%
Darling Downs – Maranoa region[24]	68,038	77.6%	2,324	3.4%	5.1%
Queensland	2,717,291	78.7%	142,928	6.1%	6.1%

Source: Australian Government's Small Area Labour Markets publication, December 2019; ABS, *Labour Force Survey, Australia,* December 2019 (12-month moving average) – published 26 March 2020; ABS 2016 Census of Population and Housing. *Participation rate for working age population 15 to 64 years #June 2016

For the December 2019 quarter, the labour force participation rate across the impact assessment area was lower than the average for the regional economic catchment and Queensland (Table 4) - 72.1 percent in Goondiwindi and 72.9 percent in Toowoomba, compared to 77.6 percent and 78.7 percent respectively.

Indigenous labour force

According to the 2016 Census, the Indigenous population is inadequately represented in the impact assessment area's workforce, which is reflected in the high rates of Indigenous unemployment and low labour force participation.

Across the impact assessment area and regional economic catchment, approximately one fifth of the Indigenous population is unemployed (18.6 percent in the impact assessment area and 18.0 percent in Darling Downs – Maranoa). Within the impact assessment area, the Indigenous unemployment rate is highest in Toowoomba at 19.0 percent.

The labour force participation rate for the Indigenous population in the impact assessment area was 57.2 percent, compared to a total rate of 72.8 percent. Within the regional economic catchment, participation was marginally lower at 54.2 percent, compared to a total labour participation rate of 79.7 percent.

Youth labour force

As shown in the table below, youth (15 to 24 years) unemployment rates are high across the impact assessment area and regional economic catchment, more than double the total unemployment rate. In Toowoomba, the youth unemployment rate is more than three times the total unemployment rate (15.0 percent compared to a total unemployment rate of 4.8 percent). In Darling Downs – Maranoa, the youth unemployment rate is 11.6 percent, compared to a total unemployment rate of 5.1 percent.

Table 5: Youth labour force December 2019

	Youth Labour Market			Total Labour Market		
	Unemployment rate	Unemployed persons	Participation rate	Unemployment rate*	Unemployed persons	Participation rate
Goondiwindi	7.9%	57	62.7%	3.2%	146	72.1%
Toowoomba	15.0%	2,062	66.1%	4.8%	3,113	72.9%
Darling Downs – Maranoa region	11.6%	1,046	63.7%	5.1%	2,324	77.6%

[24] Notably, the Darling Downs – Maranoa labour market region does not capture the entire Toowoomba Local Government Area, as shown in Figure 1.

Source: Australian Government's Small Area Labour Markets publication, December 2019; ABS; ABS 2016 Census of Population and Housing.
Note: Participation rate for working age population 15 to 64 years, June 2016; Youth Labour Market data as per 2016 Census. *12 month average.

The youth labour force participation rate within the impact assessment area and across the regional economic catchment is lower than the total participation rate (Table 5). Youth labour force participation is highest in Toowoomba at 66.1 percent, compared to 62.7 percent in Goondiwindi and 63.7 percent in the Darling – Downs Maranoa region. Lower levels of labour force participation indicates 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). Across the impact assessment area and regional economic catchment, approximately one fifth of young persons who are not in the labour force are studying full time (19.7 percent in Goondiwindi, 20.0 percent in Toowoomba and 19.0 percent in Darling Downs – Maranoa). This indicates that locally, there is latent capacity in the youth labour force, who may have the skills to be engaged in the Project. Local workforce participation programs may be required to support youth employment.

Household income

The distribution of the population by total household income level in the impact assessment area and regional economic catchment are compared in Table 6 below. As a measure of socio-economic disadvantage, household income levels reflect relative disadvantage across the impact assessment area and regional economic catchment compared to state average. As outlined in the table, a higher proportion of households across the impact assessment area and regional economic catchment earn less than $500 per week compared to Queensland.

The median weekly household income across the impact assessment area and regional economic catchment is lower than the state average ($1,402). Median weekly household income is highest in Toowoomba and Goondiwindi at $1,269 and $1,212 per week respectively, and lowest across the Darling Downs – Maranoa region at $1,129 per week.

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

	< $500	$500 - $1,249	= or > $1,250	Median Income
Goondiwindi LGA	17.1%	34.5%	48.4%	$1,212
Toowoomba LGA	15.2%	34.1%	50.7%	$1,269
Darling Downs – Maranoa region	18.4%	32.1%	39.7%	$1,129
Queensland	14.3%	30.7%	55.0%	$1,402

Source: ABS 2016 Census of Population and Housing.
Note: This excludes all the following responses: negative, partial and incomplete income declaration.

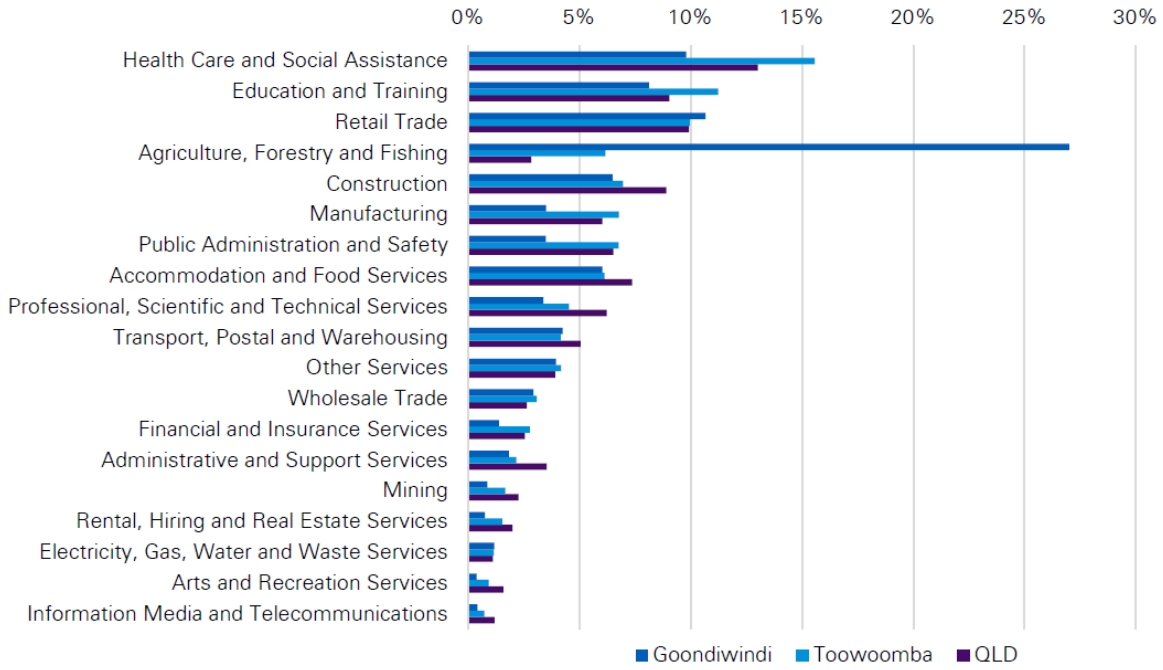
5.2.2 Business and industry

Industry by employment

The impact assessment area is a place of work for approximately 74,139 persons (who live both within and outside the catchment area) which broadly reflects the number of jobs located within the impact assessment area. Industry by employment[25] in the impact assessment area is shown in Figure 4.

[25] 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 4: Industry by employment, impact assessment area, 2016



Source: 2016 Census of Population and Housing

Consistent with the impact assessment area's employment by industry, the sectoral distribution of jobs differs between Goondiwindi and Toowoomba.

Within Goondiwindi, Agriculture, Forestry and Fishing is the largest industry of employment, accounting for nearly a third of all jobs in the area (1,286 jobs). Within this industry, most workers are employed in the Sheep, Beef Cattle and Grain Farming sector (807 persons) which is reflected in the local business and industry profile below (Section 5.3).

The strength of the impact assessment area's agricultural sector highlights the importance of supply chain efficiency in supporting the area's economy. There are opportunities offered by the Project to improve the productivity of the local industry by reducing the distance between dispersed agricultural activities to processing facilities and markets. These impacts are outlined in the economic benefits assessment (Section 6.4).

The distribution of employment across industry in Toowoomba is more diverse. The highest proportion of jobs are in service-based industries such as Health Care and Social Assistance (15.6 percent), Education and Training (11.2 percent) and Retail Trade (10.0 percent). These sectors are important in meeting the demand for local services from the local population.

While the Agriculture, Forestry and Fishing industry only represents 6.2 percent of jobs in Toowoomba, the industry supports approximately 4,275 jobs, predominately in the Sheep, Beef Cattle and Grain Farming. A further 1,096 jobs are in Meat and Meat Product Manufacturing.

5.3 Local businesses and industry

5.3.1 Agriculture industry

The Darling Downs – Maranoa region is one of Queensland's most fertile and productive agricultural areas, positioned on the western slopes of the Great Dividing Range and traversing the Condamine River catchment. The most common land use in the region is grazing modified pastures which occupies 95,141 square km or 57 percent of the Darling Downs – Maranoa region. Dry land and irrigated cropping, timber production and intensive horticulture and animal production are also common production activities in the region.[26] Accordingly, the

[26] ABARES, About My Region – Darling Downs – Maranoa Queensland, 2017-18

agriculture industry offers significant export opportunities for the region, particularly for agricultural and livestock products.

In 2017-18, the gross value of agricultural production in the Darling Downs – Maranoa region was $3.3 billion, representing 25 percent of the total gross value of agricultural production in Queensland ($13 billion). The region's agricultural sector is diverse, with the most valuable agricultural commodities being cattle and calves (~33.3 percent), cotton (~18.2 percent) and sorghum (~6.4 percent). The region accounts for 100 percent ($51 million) of the total value of Queensland's apple production.

The Darling Downs – Maranoa region contains a quarter of all farm businesses in Queensland (4,633 recorded farms). The highest proportion of businesses are in beef cattle farming (42.0 percent), followed by grain growing establishments (17.8 percent).[27]

At a local level, the total value of agricultural production in Goondiwindi is approximately $383.7 million. By value of production, livestock represents close to half of major agricultural commodities produced in the region (47.6 percent).[28] The combination of biophysical attributes exhibited in this area (including slope and water-holding capacity) enables this region to support large areas of broad acre cropping, comprised mainly of cotton.[29] The cotton industry in Goondiwindi is worth over $350 million.[30]

The Toowoomba region produces a wide range of agricultural products, including grain, beef, poultry, eggs, fruit and vegetables. The region has long been an agricultural hub, with 96.4 percent of its land area being used for agricultural production in 2018. The total value of agricultural production in the region in 2017-18 was $894.7 million.[31] In 2017, agricultural exports from the region were valued at $831 million, and comprised 55.0 percent of the region's total agricultural output, highlighting the regions strong export focus. Accordingly, the Toowoomba region is well placed to leverage its strengths in agriculture, and benefit from exporting its products to interstate and overseas markets.[32]

Across the impact assessment area, the largest proportion of businesses are in the Agriculture, Forestry and Fishing industry. This reflects the area's land use and inland location, with 879 businesses in Goondiwindi (45.3 percent) and 3,378 businesses in Toowoomba (21.2 percent) operating in this industry sector.[33]

Livestock operations and stock routes

As identified in EIS Chapter 7: Land Use and Tenure, a number of current intensive livestock operations are traversed by the Project:

- Yarranbrook Farms Pty Ltd., Whetstone - Cattle Feedlot.
- D M Fletcher, Bringalily - Cattle Feedlot.
- Russel Sydney & Kim Maree Stevens, Millwood – Cattle Feedlot
- Cameron Pastoral Co. Pty Ltd., Yandilla – Piggery
- Doug Hall Poultry Pty Ltd., Yandilla – Poultry Farm.

The Project also interfaces with twelve stock routes. As described in EIS Chapter 5: Project Description, two of these stock routes are classified as primary open stock routes, two are classified as secondary open stock routes, and five stock routes are classified as minor and unused.

[27] ABARES, About My Region – Darling Downs – Maranoa Queensland, 2017-18

[28] Queensland Government, 2019, *Queensland Spatial Catalogue: Gross Value of Agricultural Production (GVAP) per Local Government Area in Queensland.*

[29] EIS Chapter 8 Land Use and Tenure

[30] Goondiwindi Regional Council, *Rural Production*, 2019

[31] Queensland Government, 2019, *Queensland Spatial Catalogue: Gross Value of Agricultural Production (GVAP) per Local Government Area in Queensland.*

[32] Toowoomba Regional Council, *Agriculture Profile*, 2018. Most current data as at the time of drafting this report.

[33] ABS, Counts of Australian Businesses, including Entries and Exits, Jun 2014 to Jun 2018, cat. no. 8165.0

5.3.2 Tourism industry

Tourism is a significant industry for the regional economic catchment. The Darling Downs is recognised as a popular tourist destination for visitors seeking to explore rural landscape and attractions.

According to Tourism Research Australia (TRA), total tourism expenditure in the Darling Downs region[34] was $1,485 million in 2018, and has been increasing year-on-year since 2015. The region received over 6.4 million visitors during 2018, comprised of approximately 2.2 million domestic overnight visitors and 0.06 million international visitors, with the remaining 4.2 million domestic day visitors.[35]

Table 7: Tourism visitation and expenditure

	Domestic Overnight Visitors		International Overnight Visitors		Domestic Daytrip Visitors	
Area	**Total Visitors**	**Expenditure**	**Total Visitors**	**Expenditure**	**Total Visitors**	**Expenditure**
Goondiwindi LGA	172,000	$40 million	2,000	$2 million	np	np
Toowoomba LGA	841,000	$303 million	23,000	$36 million	2 million	$250 million
Darling Downs – Maranoa region	2.2 million	$796 million	56,000	$58 million	4.2 million	$631 million

Source: Tourism Research Australia, *Local Government Area Profiles*, 2017; Tourism Research Australia, *National and International Visitor Survey*, 2018 *np – the sample is small and therefore unreliable

At a local level, Toowoomba received approximately 2.8 million visitors in 2017, the majority of which were domestic day visitors (2.0 million). The remaining were international visitors (23,000) and domestic overnight visitors (841,000). Expenditure by these visitors totalled $589 million in 2017, including local spending at the region's 1,651 recorded tourism businesses.[36]

Goondiwindi received 174,000 visitors in 2017, the majority of which were domestic overnight visitors (172,000) with the remaining international visitors (2,000). Expenditure by these visitors totalled $42 million in 2017, through participation with 138 recorded tourism businesses. A high proportion of these visitors are travelling through the area on driving holidays.

5.3.3 Mineral resource interests

There is one granted mining lease within the impact assessment area near the localities of Clontarf and Domville - this mining lease is associated with the open cut Commodore Mine.

There are three exploration permits within the impact assessment area for coal at Canning Creek, Millwood, Biddeston and Wellcamp. There are also two mineral development licences for coal within the impact assessment area near Bringalily and Domville.

5.3.4 Local businesses

Construction

There are a number of construction businesses located within the impact assessment area, with a total of 1,181 employing businesses (87 in Goondiwindi and 1,094 in Toowoomba) and a further 1,559 non-employing businesses across the area. These businesses are likely to be a significant source of services and equipment

[34] Darling Downs region now known as Southern Queensland Country for TRA
[35] Tourism Research Australia, National and International Visitor Survey, 2018
[36] Tourism Research Australia, *Local Government Area Profiles*, 2017

during the Project's construction. The supply of labour from these local businesses may be limited with only three businesses in Goondiwindi and 26 businesses in Toowoomba employing more than 20 persons. [37]

As detailed in the Social Impact Assessment (EIS Appendix U), seven nearby quarries have been identified with the potential to supply the Project, including:

- Inglewood Quarry
- Captains Mountain Quarry
- Bland Quarries, Pittsworth
- Quarry Road Quarry
- Toowoomba Quarry
- Wellcamp Downs Quarry
- Toowoomba Wellcamp Quarry.

The Project will also require material sourced from borrow pits. 16 potential borrow pit locations have been identified as possibly suitable for the sourcing of structural fill. Further feasibility assessment of each borrow pit location will be undertaken during detail design based on construction methodology to confirm material suitability, volumes and commercial arrangements.

Potential borrow pit locations have been located in the Yelarbon, Inglewood, Millmerran, and Pittsworth areas, between Inglewood and Millmerran, and between Southbrook and Gowrie Junction (see EIS Chapter 5: Project Description).

Transport

While transport is not a significant industry within the impact assessment area, there are several large transport companies based in the impact assessment area and regional economic catchment, which may have the capacity to support the construction of the Project, including:

- Marshall Group, operating a number of aluminium trailers including B Doubles and Road Trains to haul grain into feedlots in SEQ.
- Frasers Livestock Transport, operating livestock transportation with more than 150 trailers of all configuration.
- Woods Transport which has a large fleet of vehicles travelling between Goondiwindi, Toowoomba and the Port of Brisbane.

Toowoomba Enterprise Hub

The Toowoomba Enterprise Hub is located south-east of the Project, encompassing an internationally capable airport and a freight facility with more than 2,000 ha of industrial land at the western outskirts of Toowoomba.

The Toowoomba Enterprise Hub is comprised of:[38]

- **Toowoomba Wellcamp Airport:** Located approximately 15.5 km west of Toowoomba CBD, Wellcamp Airport supports interstate, intrastate and international connection for the Darling Downs, Granite Belt, Surat Basin and Southern Downs regions. Wellcamp Airport is passenger and freight airport.
- **Wellcamp Business Park**: An airport-centred precinct with an aviation, logistics, transport, corporate and mining services focus. The Park is located approximately 17 km west of the Toowoomba CBA, and north of the Toowoomba Wellcamp Airport.
- **The Witmack Industry Park:** An industrial precinct offering large industrial land parcels, located in close proximity to transport infrastructure including Warrego Highway, the Toowoomba Second Range Crossing and Inland Rail.
- **The Charlton Logistics Park**: An industrial precinct for transport and logistics operators, located on the Warrego Highway with easy access to the Second Range Crossing.
- **InterlinkSQ:** A proposed major intermodal (rail and road) freight and logistics centre, north of the Warrego Highway. InterlinkSQ includes an Inland Port, Intermodal Terminal and port rail shuttle.

[37] ABS, Counts of Australian Businesses, including Entries and Exits, Jun 2014 to Jun 2018, cat. no. 8165.0

[38] Toowoomba Enterprise Hub, 2019, www.toowoombaenterprisehub.com.au

6 Economic impacts

6.1 Inland Rail Program impacts

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

- Lower prices for consumers as a result of lower inter-capital 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 Gross Domestic Product ($2015) over its 10 year construction period and 50 years of 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 during operation.
- 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).

6.2 Workforce impacts

6.2.1 Direct employment

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

Pre-construction

Pre-construction activities will be undertaken during the six months before construction commences, and will include:

- Securing land access and undertaking land surveys
- Geological and geotechnical investigations
- Ecological investigations

- Cultural heritage surveys
- Securing access to borrow material (for construction of rail ballast and embankments)
- Establishment of site compounds, fencing and access tracks.

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. Pre-construction on the Project are scheduled for commencement in 2021, with construction expected to be completed in the beginning of 2026. For the majority of the construction period, the workforce is expected to average approximately 400 FTE but is expected to peak at 950 FTE.

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

Operations

Once operational, a workforce of approximately 10 - 15 FTE is expected for the Project's operation. These positions will be based in Queensland and comprise of drivers and track maintenance personnel.

Local employment

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

Based on current labour market trends, and industries and occupations of the local workforce, there may be latent capacity and capability within the impact assessment area and regional economic catchment to support the construction and operation of the Project. The ability for the local economy to supply labour to the Project, depends on the specific location of works along the alignment. At the northern extent, labour supply is likely to be sourced locally within the Toowoomba region. At the southern extent of the Project alignment, workers may be drawn from regional communities across the New South Wales state border. This reflects the local labour market conditions, with tighter labour market conditions in Goondiwindi compared to Toowoomba (see Section 5.2.1). Along the alignment, labour supply may be sourced from the local or broader economy due to the implementation of non-resident workforce accommodation facilities at Millmerran, Inglewood and Yelarbon.

The Project represents a source of potential training and career pathway development for local workers in the impact assessment area. As detailed in the Social Impact Assessment (EIS Appendix U), local training agencies have a strong interest in the potential for the Project to create employment for local residents. During consultation, these agencies have emphasised the need for construction contracts to require that training includes both certification and skill development, with recruitment closely following training. The need for early information regarding the nature of required skills was also raised, to allow them to customise their training with sufficient lead-time to ensure that trainees are 'job-ready'. There are also potential opportunities for ARTC to work with local secondary schools who have identified a strong focus on skills development and work experience.

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.

Indigenous participation

As identified in Social Impact Assessment (EIS Appendix U), the Project offers the potential to increase Indigenous employment and create business opportunities. Traditional Owners were consulted by ARTC through the Cultural Heritage process – a meeting with the Bigambul Native Title Aboriginal Corporation Board, an interview with a Western Wakka elder and an interview with another Aboriginal party (between Inglewood and Pampas). A number of opportunities and issues were raised with regard to Indigenous employment and training opportunities, including:

- There is interest in participating in the Project, including employment and business opportunities;
- There is a need to ensure that there are culturally appropriate job readiness programs and skills training for Indigenous persons
- Early engagement with the Indigenous community should be undertaken regarding employments and business opportunities so they have time to build capacity.

The Social Impact Management Plan (SIMP) (specifically the health and wellbeing sub-plan) specifies that ARTC commits to ongoing engagement with Indigenous communities, families and Elders to support Indigenous employees, underpinned by a high level of coordination between contributing programs and agencies (see Social Impact Assessment - EIS Appendix U).

Workforce accommodation

The construction workforce is expected to be drawn predominantly from SEQ, with some personnel sourced from nearby communities (including within northern New South Wales). As indicated earlier, a large proportion of the latent workforce located in close proximity to the Project is in the urban areas of Toowoomba at the northern extent of the Project. Due to travel distances, if engaged on the Project, these workers may be required to stay locally. Temporary non-resident workforce accommodation is to be established in the Millmerran, Inglewood and Yelarbon areas, each accommodating up to 300 workers.

Changes to property and housing

As described in the Social Impact Assessment (EIS Appendix U), a number of changes to property and housing could occur as a result of the Project including:

- Potential impacts to property prices due to noise, severance and visual amenity factors associated with the Project.
- Increase in housing demand, in Millmerran, Pittsworth and Goondiwindi, with potential to inflate rents and displace low income rental households.
- The housing demand resulting from the Commodore Mine and Millmerran Power Station projects will compound, with potential impacts on rental housing availability and affordability in Millmerran and Pittsworth.

As identified in the Social Impact Assessment, the implementation of temporary non-resident workforce accommodation will limit the extent of any negative impact resulting from changes to property and housing. The SIMP (specifically the housing and accommodation sub-plan) specifies that construction contractors are to develop a workforce accommodation plan for ARTC approval. This workforce accommodation plan is intended to avoid, minimise and manage any potential impacts of the Project on property and housing.

Impacts on employment in other industries

Construction activity may draw existing staff or tradespeople away from local businesses. The Social Impact Assessment (EIS Appendix U) states that this may be difficult to overcome with the relatively low level of unemployment in the impact assessment area (particularly towards the southern section of the Project alignment) and may cause temporary disruptions to business operations.

6.2.2 Indirect employment

The industrial and consumption effects of the Project will result in the creation of indirect jobs both due to upstream and downstream linkages between the Project'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 impact modelling results (Section 6.4) indicate that indirect employment during the Project's construction will be generated in the Professional, Scientific and Technical Services and Wholesale Trade sectors, reflecting the importance of these two sectors in the construction sector's supply chain.

6.3 Economic benefits assessment

6.3.1 Introduction

An economic benefits assessment has been undertaken to identify and assess the likely benefits of the Project, as a discrete project, to the community.[39] This analysis assesses just those impacts that would be likely if freight operators were to respond to the completion of the individual Project. These economic benefits have been estimated based on the impacts of the Project on the transport network, in particular freight operators, along with the benefits accrued by non-users (the community). [40] Where the Project improves the transport connectivity and efficiency between freight originators and destinations, these movements across road and rail have been assessed in the appraisal.

6.3.2 Methodology

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

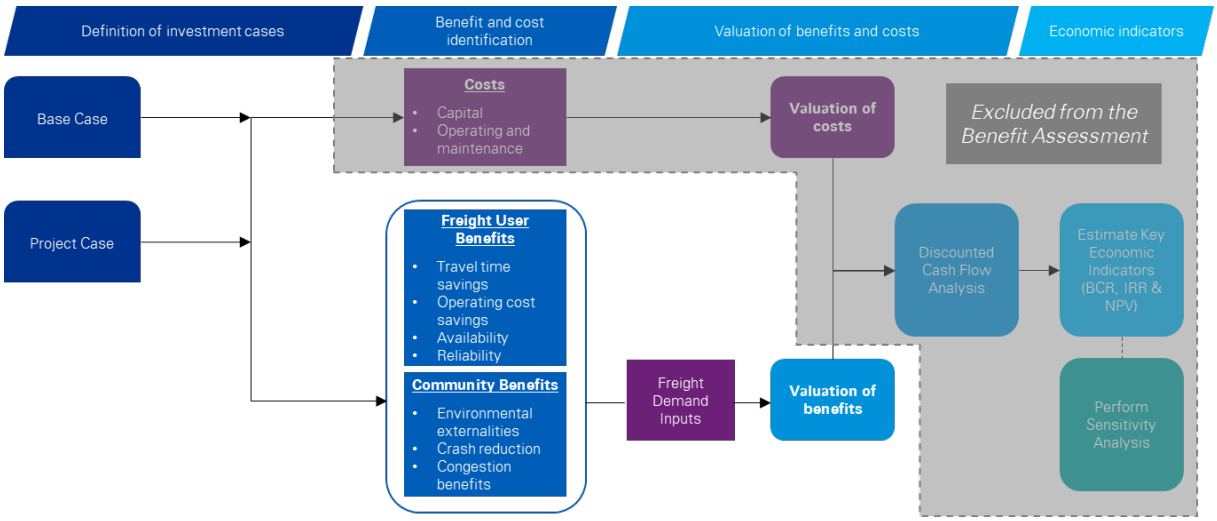
1. **Define base and investment cases**: a clear articulation of the problem, investigation and definition of Base Case and Project Case option, and future demand drivers
2. **Identify benefits**: identification of relevant economic, social and environmental benefits associated impact groups which can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

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

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

[40] The benefits associated with the entire Inland Rail Program are well established and are presented in the Inland Rail Program Business Case (2015).

Figure 5: CBA approach and the economic benefits assessment



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

6.3.3 Base Case and Project Case

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

- The **Base Case** adopted for this benefit 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 benefit assessment is the Project. The economic benefits estimated as part of the analysis assess just 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 benefit assessment are presented in Table 8.

Table 8: Economic benefits assessment assumptions

Parameter	Value	Source
Discount rate	A 7% real discount rate is used for the Project Case with sensitivity tests conducted at 4% and 10%	Infrastructure Australia Business Case Assessment Template 2016
Price year	2019	
Discount reference year	2019	
Appraisal period	50 years from the year of opening. First year of measured benefits is 2024 (first full year of benefits)[41]	Australian Transport Assessment and Planning (ATAP) Guidelines (Category 4, Section 2.4)

[41] While noting the operational life of the Project 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.

Parameter	Value	Source
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	Australian Bureau of Statistics
Annualisation	Demand projections are presented in annual terms	Inland Rail Program Business Case (2015)

6.3.4 Freight demand

Demand inputs to the benefit 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 Project EIS.

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 Project were to be constructed independently of the overarching Inland Rail Program.

To enable an incremental economic benefits assessment to be undertaken for the Project, selected OD pairs were chosen which represent freight movements that would benefit from the improved rail connectivity associated specifically with the Project. The selected OD pairs, which originate both within and south of the New South Wales Border-Gowrie area and flow through to Brisbane, consist of:

- North Star- Brisbane
- Narrabri Cotton to Brisbane
- North Moree- Brisbane
- Goondiwindi Cotton to Brisbane
- South Queensland / North New South Wales to Brisbane Port Cottonseed
- South Queensland / North New South Wales to Brisbane Port Grain on existing narrow gauge

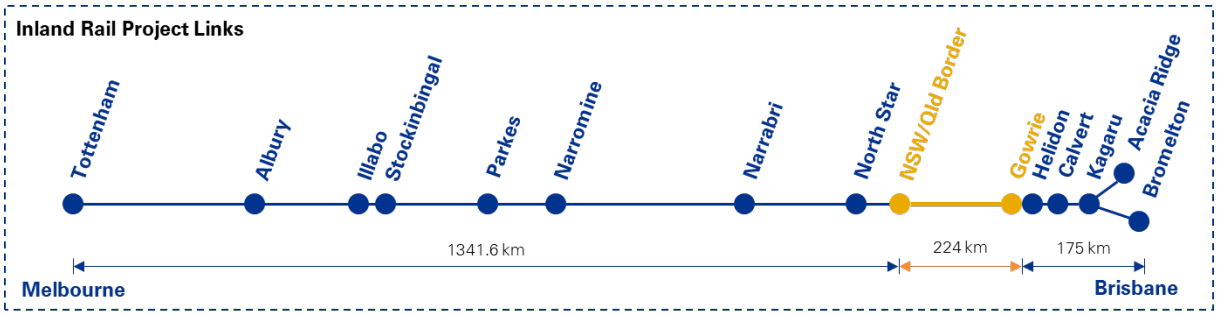
The transport network (road and rail) impacted by these freight movements represent the Project area for the purposes of the economic benefits assessment.

As the projected travel time (both in terms of net tonne hours and hours travelled) for these OD pairs are dependent on downstream upgrades, the benefits associated with these freight movements have been apportioned. The factor used to scale these benefits is the ratio of the length of track upgrades that forms the Project, and the total length of proposed track upgrades from New South Wales Border to the program extent at Acacia Ridge (e.g. 224 km / 399 km).[42]

Notably, some road 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 Project has been estimated using the ratio of the length of track upgrades that forms the Project, and the total length of track upgrades as part of Inland Rail (e.g. 224 km / 1,740.6 km).

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

Figure 6: Inland Rail Program – Project extents



Source: ARTC Note: figure is not to scale, used for illustrative purposes only.

For the purposes of the economic benefit assessments contained within the Inland Rail EIS', freight movements from coal demand have been excluded. This is on this basis of the CBA results for the scenarios "No Western Line Upgrade" (see Inland Rail Program Business Case (2015) Chapter 9. Economic Analysis), where coal benefits are equal to zero (0). Subsequently, in the absence of the Western Line upgrade to the existing Queensland Rail network, no benefits are expected to accrue to coal movements as a result of the delivery of Inland Rail. These results imply that, under this scenario, there is no net benefit to coal trips traversing any of the new links to be delivered as part of the Inland Rail Program.

Further, the results of the Inland Rail Program Business Case (2015) CBA highlight 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. For a more detailed note on the treatment of coal in the EIS' please refer to Appendix C to this report.

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

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

Table 9: Benefit category descriptions

Benefit Category	Description
Freight Benefits	
Travel time savings	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 than enable shorter distances, faster travel, and subsequently, increased capacity. Where freight demand is induced (either diverted from road to rail, or new generated freight travel) as a result of improvements to the rail network, the rule of half has been used to estimate the benefits to the new rail freight. There is no induced freight demand assumed for the Project.

Benefit Category	Description
Operating cost savings	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 Project. 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.
Improved service availability	Improved service availability represents the increased flexibility in arrival and departure times afforded to the rail freight network as result of the Project. This is due to fewer restrictions on freight service times provided by the increased network capacity. Freight service availability benefits have been estimated based on the values presented in the Inland Rail Program Business Case (2015). These benefits were derived by ARTC in 2015, and have been apportioned to individual projects for the purposes of this incremental benefit assessment. The values calculated by ARTC have been escalated to a 2019 price year using PPI Rail Freight Transport (A2314067L).
Improved service reliability	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 timelier manner. As with availability benefits, reliability benefits have been estimated based on the values presented in the Inland Rail Program Business Case (2015). These benefits were derived by ARTC in 2015, and have been apportioned to individual projects for the purposes of this incremental benefit assessment. The values calculated by ARTC have been escalated to a 2019 price year using PPI Rail Freight Transport.
Community Benefits	
Crash reduction	Crash cost savings represent the reduced costs associated with fatal and serious injuries resulting from both road and rail incidents.
Environmental externalities	Reduced environmental externality costs represent reductions in air pollution and greenhouse gas emissions due to the Project. The majority of these benefits can be attributed to the mode shift from road freight to rail freight.
Road decongestion benefits	As the Project encourages greater movement of freight by rail, the reduced truck movements that are projected upon completion of the Project result in reduced congestion in urban areas.

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 10.

Value of freight per tonne hour unit rates have been derived from 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 demonstrate the efficiency improvements gained in rail operations through the completion of the Project, with higher capacity trains and improved transit times resulting in lower rail operating parameters (unit rates drop from $0.040 – $0.039 per NTK in the Base Case down to $0.017 – $0.018 NTK in the Project

Case for agricultural freight. These parameters have been estimated based on the outputs from the Inland Rail Program Business Case (2015) and Transport for New South Wales 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 Project.

Table 10: Freight benefit parameter values ($2019)

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)
Value of Freight (Road)	$1.45 tonne hour	ATAP, Inland Rail Program Business Case (2015), PPI Road Freight Transport (A2314058K)
Operating Cost		
Rail Operating Cost – Base Case	2024: 0.040 $/ntk 2054: 0.034 $/ntk 2074: 0.039 $/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Rail Operating Cost – Project Case	2024: 0.017 $/ntk 2054: 0.017 $/ntk 2074: 0.018 $/ntk	TfNSW (2018), Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Road Operating Costs	0.063 $/ntk	ATAP, Inland Rail Program Business Case (2015), PPI Road Freight Transport (A2314058K)
Road Driver Costs	29.95 $/h	Austroads, Inland Rail Program Business Case (2015), CPI
Freight Service[43]		
Freight Service Availability (annual estimates)	2024: $16.75 m 2054: $182.69 m 2074: $299.23 m	Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)
Freight Service Reliability (annual estimates)	2024: $11.17 m 2054: $45.35 m 2074: $81.07 m	Inland Rail Program Business Case (2015), PPI Rail Freight Transport (A2314067L)

The total freight demand for the Project consists of agricultural freight travelling from Northern New South Wales (including North Star, Narrabri and North Moree) and Southern Queensland (including Goondiwindi) regions through to Brisbane. As within the Inland Rail Program Business Case (2015), induced freight demand

[43] For the freight service benefits, interpolation has been applied using years 2024, 2054, and 2074. These values are then apportioned based on the approach described in Section 6.3.4 - Freight demand.

has only been modelled for the entire extents of Inland Rail (e.g. Melbourne to Brisbane and Brisbane to Melbourne), as such no induced demand has been included in the analysis for the Project.[44]

Consistent with the assumption contained within the Inland Rail Program Business Case (2015), the resulting freight demand from the Project is expected to see all future contestable freight carried by rail. Under these demand projections, freight users will benefit from a significant reduction in average travel times by rail in the Project Case (from 8.80 hours in the Base Case to 5.83 hours in the Project Case in 2054). This results in the 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. As a result of the shift to rail freight and longer average trip distances, the total net tonne kilometres (NTK) travelled increases in the Project Case (in 2054 the Base Case 1,250 mNTK increases to 1,261 mNTK in the Project Case).

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

Table 11: Freight demand assumptions – the Project

	Base Case			Project Case		
	2024	2054	2074	2024	2054	2074
Annual Trips						
Rail	622	864	1,075	1,542	1,754	2,183
Road	58,328	80,986	100,793	-	-	-
Total Annual Tonnes ('000s)						
Rail	654	908	1,130	2,164	3,005	3,740
Road	1,511	2,097	2,610	-	-	-
Average Trip Time (hours)						
Rail	7.34	8.80	9.88	5.46	5.83	6.55
Road	6.87	7.29	7.59	-	-	-
Annual Million Net Tonne Km (mNTK)						
Rail	249	346	430	908	1,261	1,570
Road	651	904	1,125	-	-	-
TOTAL mNTK	**900**	**1,250**	**1,555**	**908**	**1,261**	**1,570**

Source: Inland Rail Program Business Case 2015

Freight benefits have been estimated using the appropriate change in freight demand (such as mNTK) by mode type by the relevant parameter unit. The estimated freight benefits for the Project are provided over a 50 year analysis period in the table below. Overall, the Project's freight benefits represent an incremental $516.52 million in present value terms over the Base Case.

Table 12: Estimated freight benefits ($2019)

Benefit	Undiscounted - $m	Present Value (7%) - $m
Freight Time Savings	202.93	33.61
Operating Cost Savings	1,838.32	329.71
Freight Service Availability	1,025.52	117.82
Freight Service Reliability	277.74	35.37
TOTAL	**3,344.50**	**516.52**

Operating cost savings represent 64 percent the of freight benefits with $329.71 million in present value terms as freight shifts from road to rail. This is representative of the significant efficiency benefits gained from lower transit times (the average rail freight journey time in 2054 drops from 8.80 hours in the Base Case to 5.83 hours in the Project Case) and higher capacity freight trains. In addition, each rail trip in the Project Case is expected to remove the equivalent of 46 road freight trips from the Project area in 2054.

Freight service availability and reliability represent a combined $153.19 million in present value terms to freight benefits (~30 percent). This is apportioned to the Project 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 Project area.

Freight time savings provide the remaining $33.61 million in present value terms to freight benefits (~7 percent). As with operating cost savings this is largely representative of the combined efficiency improvements and the resulting mode shift of road freight trips to rail.

Community Benefits

The community benefits have been quantified and monetised using demand assumptions from the Inland Rail Program Business Case (2015) and the parameters set out in Table 13.

The avoided crash cost saving per net tonne kilometre has adapted from the Bureau of Transport Economics (BTE) estimates. The parameters are consistent with typical transport appraisal methodologies used in business cases throughout Australia. The values presented in the table below have been escalated by CPI.

The environmental externalities cost saving per kilometre travelled parameters have been adapted from Austroads Guide to Project Evaluation Part 4 Section 5 (2012) and are consistent with the parameters applied within the Inland Rail Program Business Case (2015). The values presented in the table below have been escalated by CPI.

The marginal cost of congestion per vehicle kilometre travelled parameters have been adapted from Transport for New South Wales Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives. This is consistent with the approach applied within the Inland Rail Program Business Case (2015). The value presented in the table below has been escalated using PPI for Road Freight Transport.

Table 13: Community benefit parameter values ($2019)

Parameter Value	Variable/s	Source/s
Crash Cost Savings		
Road	0.0053 $/ntk	BTE (1999), CPI
Rail	0.0005 $/ntk	BTE (1999), CPI
Environmental Externalities		
Road (Urban)	37.87 $/1000 km	Part 4 Section 5 Guide to Project Evaluation Austroads (2012), Inland Rail Program Business Case (2015), CPI
Road (Rural)	12.53 $/1000 km	Part 4 Section 5 Guide to Project Evaluation Austroads (2012), Inland Rail Program Business Case (2015), CPI
Rail (Urban)	6.15 $/1000 km	Part 4 Section 5 Guide to Project Evaluation Austroads (2012), Inland Rail Program Business Case (2015), CPI
Rail (Rural)	1.64 $/1000 km	Part 4 Section 5 Guide to Project Evaluation Austroads (2012), Inland Rail Program Business Case (2015), CPI
Road Decongestion Benefits		
Marginal congestion cost	2.81 $/vkt	TfNSW, Inland Rail Program Business Case (2015), CPI

The shift of road freight to rail provides significant reduction in freight demand by kilometres travelled. This frees up capacity on the road network, and reduces the level of interaction between heavy vehicles and cars. Subsequently, businesses and community members are able to move more freely through the local network. Table 14 provides the assumed freight demand by kilometres travelled as per the modelling completed for the Inland Rail Program Business Case (2015).

Table 14: Freight demand by kilometres travelled ('000s) – the Project

Mode	2024	2054	2074
Base Case			
Rail	237	329	409
Road	25,148	34,917	43,456
Project Case			
Rail	673	792	986
Road	-	-	-

Source: Inland Rail Program Business Case 2015

Community benefits have been estimated using the appropriate change in freight demand (such as kilometres travelled) by mode type by the relevant parameter unit. The estimated community benefits for the Project are provided over a 50 year analysis period in the table below. Overall, the Project's community benefits represent an incremental $157.84 million in present value terms over the Base Case.

Table 15: Estimated community benefits ($2019)

Benefit	Undiscounted - $m	Present Value (7%) - $m
Crash Cost Savings	120.22	21.65
Environmental Externalities	349.61	62.96
Road Decongestion Benefits	406.66	73.23
TOTAL	**876.49**	**157.84**

Crash cost savings represent ~14 percent the of community benefits ($21.65 million in present value terms) as freight traffic is removed from the road network.

The reduction in heavy freight traffic within the Project area will provide further cost savings from environmental externalities, such as air pollution, greenhouse gas emissions, noise and other environmental disruptions. The avoided environmental externality costs resulting from the Project has been estimated to provide $62.96 million in benefits to the community (~40 percent of community benefits).

Road decongestion benefits provided the greatest share of community benefits (~46 percent), with an estimated $73.23 million in present value terms. Relative to the Base Case, the Project Case is expected to remove all road freight traffic from the area allowing other commuters to travel more freely across the road network.

6.3.6 Economic benefits assessment results

The results of the economic benefits assessment estimate that the Project is expected to provide a total ($2019 present value terms) of $674.36 million in incremental benefits to the Project area (at a 7 percent discount rate). This consists of $516.52 million in freight benefits and $157.84 million in community benefits.

Observing the composition of benefits, the largest share of benefits for the Project is freight operating cost savings, representing ~49 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 and availability) represent ~77 percent of the total projected benefits for the Project.

Reductions in environmental externalities (i.e. air pollution and greenhouse gas emissions) from reduced heavy vehicle kilometres travelled represents ~9 percent of the total benefits (at the 7 percent discount rate).

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

Table 16: Results of the economic benefits assessment, present value terms ($2019)

Benefits	Discount Rate		
	4%	7%	10%
Freight Benefits	**$1,012.73 m**	**$516.52 m**	**$304.86 m**
Travel Time Savings	*$64.32 m*	*$33.61 m*	*$20.14 m*
Operating Cost Savings	*$608.18 m*	*$329.71 m*	*$204.22 m*
Improved Availability	*$264.92 m*	*$117.82 m*	*$61.02 m*
Improved Reliability	*$75.32 m*	*$35.37 m*	*$19.47 m*
Community Benefits	**$290.80 m**	**$157.84 m**	**$97.82 m**
Crash Reduction	*$39.89 m*	*$21.65 m*	*$13.42 m*
Environmental Externalities	*$115.99 m*	*$62.96 m*	*$39.02 m*
Road Decongestion Benefits	*$134.92 m*	*$73.23 m*	*$45.39 m*
TOTAL BENEFITS	**$1,303.53 m**	**$674.36 m**	**$402.68 m**

Source: KPMG

6.3.7 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 Project-specific CBA has not been undertaken as the results will not capture the full impact that is expected to be delivered upon completion of the Inland Rail Program. Instead, the results of the economic analysis undertaken for the Inland Rail Program Business Case (2015) are provided to illustrate the anticipated net economic impact of Inland Rail to the community as a whole.

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

Table 17: 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

The CBA results indicate that Inland Rail is estimated 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). 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.

6.4 Regional economic impact analysis

A regional impact analysis has been undertaken to highlight the impacts of the Project section of the Project on the regional, state and National economies using a computable general equilibrium modelling framework.[45] For the purposes of this analysis, a CGE model (KPMG-SD) has been applied to examine the flow-on effects arising from the Project on the broader economy.

As described throughout this report, the regional economy is represented by the Darling Downs – Maranoa labour market region.

6.4.1 Key considerations

The direct and indirect economic impacts of the Project 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 Project. Rather, in comparative static mode, KPMG-SD provides estimates of how the economy is impacted over the construction phase period, during which the Project'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 Project:

- 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 Project's rail development commences.
- The second snapshot is a **revised** representation of the economy that includes the impacts of the Project. 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 Project.

The key modelling assumptions and inputs that underpin the regional economic assessment results are provided in Appendix B to this report. The analysis in this report was largely completed before the economic shock associated with the 2020 quarter 2 market condition. In particular, the baseline representation of the economy does not account for the 2020 quarter 2 market conditions.

6.4.2 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 Project is modelled as a transitory expenditure shock to the economy. If there is significant overlap in the timing of the construction phases of the other links in the Inland Rail Program, modelling each link in isolation may result in an underestimation 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 analysis models the construction phase of each link under two labour market scenarios:

- In the first scenario, it is assumed that labour markets are characterised by the availability of unemployed and under-employed workers with relevant skills ('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').

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

Operational phase

Due to the nature of the Project, the operational economic impacts of the Project will only be fully realised once all components of Inland Rail are completed. As detailed above, assessing each link 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 connection.

In the context of the regional impact analysis, when modelling each link of Inland Rail in isolation, the CAPEX is disproportionate to the benefits directly attributable to that particular link. If the Project was built but no other link was completed the benefits would be insufficient to justify the investment. From a modelling perspective it would appear as if there had been a significant overinvestment 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 Project link in isolation rather than a reflection of what will actually happen in the economy. For this reason the operational phase modelling results are not included in this EIA.

6.4.3 Regional economic impact analysis results

The headline impacts of the Project on the Darling Downs – Maranoa region during the construction phase are summarised in the table below.

Table 18: Summary of the direct and indirect economic impacts of the Project on the Darling Downs – Maranoa region over the construction phase

	Darling Downs – Maranoa	
Measure	**Slack Labour Markets**	**Tight Labour Markets**
Additional Real Gross Regional Product ($2018-19)	$344 m	$149 m
Average Annual Additional Direct and Indirect Employment (persons)	344	78

Source: KPMG
Note: The average annual additional jobs listed in the table reflect jobs generated in the Darling Downs - Maranoa area, the Project will also generate jobs in adjacent labour markets (refer Figure 9).

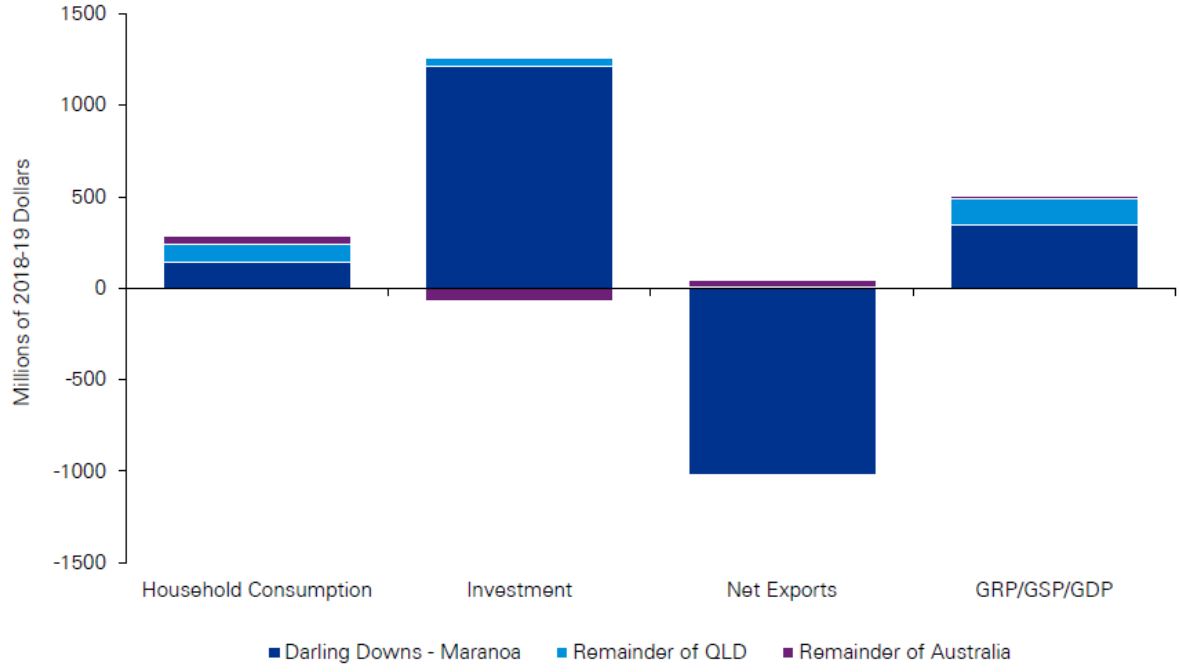
During the construction phase, real Gross Regional Product (GRP) for the Darling Downs – Maranoa region is projected to be $344 million higher than the baseline level under the assumption of slack labour markets. This increase is more than halved if labour markets are assumed to be tight ($149 million).

The importance of the labour market assumption is reflected in the employment results. In the slack labour market scenario it is estimated that an additional 344 direct and indirect jobs are generated.[46] 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 78 jobs. Under tight labour markets, wages are bid up to attract currently employed workers to the construction businesses contracted to construct the Project. 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.

Figures 7 and 8 summarise the macroeconomic results for the Darling Downs – Maranoa region in the context of the rest of the Queensland and Australian economies. Employment results are presented in Figure 9.

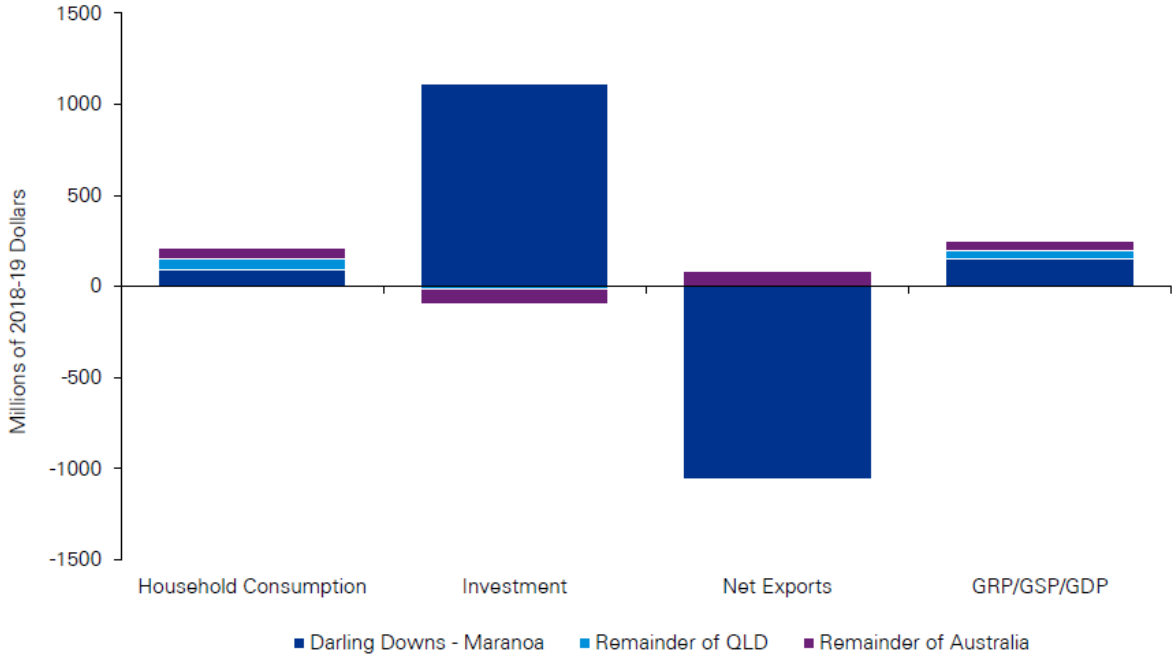
[46] To put this in context the planned direct workforce requirements of the Project during the construction phase peak at approximately 950 FTE. About 70 percent of the Project CAPEX is incurred in 2022 and 2023. KPMG estimate that the average annual number of jobs in those two years for Darling Downs – Maranoa is about 950 in slack labour market conditions and 150 in tight labour market conditions.

Figure 7: Macroeconomic results: construction phase, slack labour markets



Source: KPMG

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

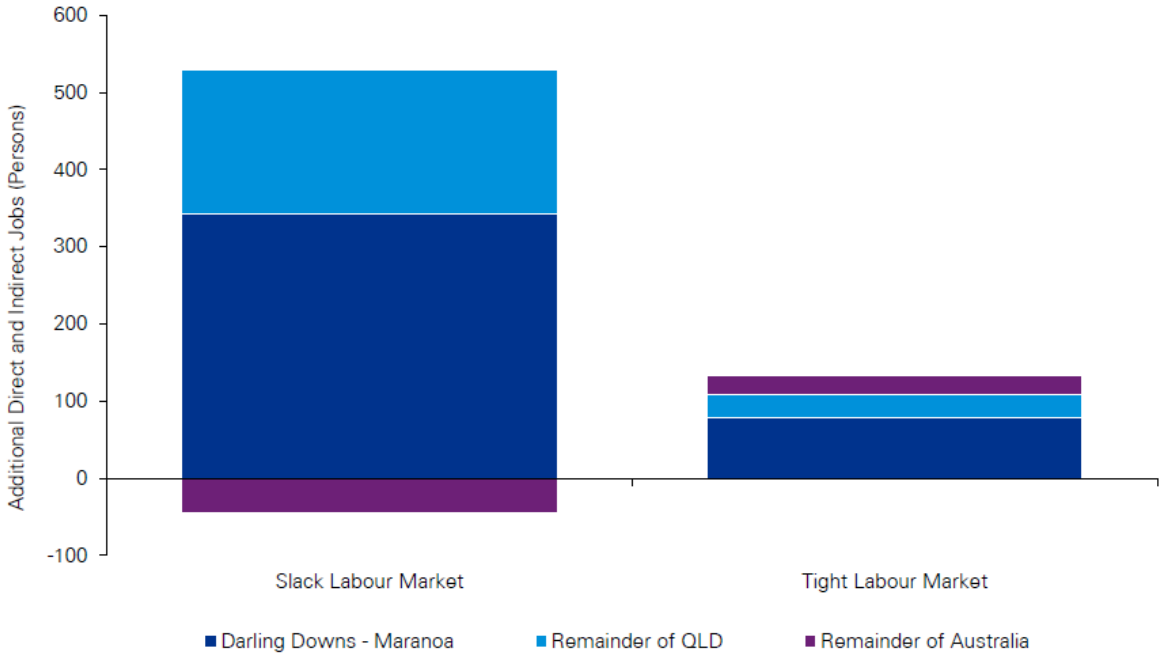


Source: KPMG

The simulation results indicate that the economic impacts of the Project during the construction phase are concentrated in the Darling Downs – Maranoa region. Net exports, which include inter-regional and international exports and imports, are negatively impacted. The resources required to complete the construction of the Project 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 Project. [47]

Figure 9: Direct and indirect employment results: construction phase



Source: KPMG

The labour market conditions that are likely to prevail during the construction phase of the Project will be most consistent with the "slack" labour market scenario.

Recent labour market trends can be used to inform workforce capacity and capability within the local region. In Darling Downs – Maranoa, over the four quarters ending in the December quarter 2019, the unemployment rate averaged 5.1 percent[48], and the participation rate averaged 77.6 percent over the 12 months ending December 2019.[49] In addition, labour market conditions in Darling Downs – Maranoa appear to have deteriorated marginally with the average annual unemployment rate increasing from 5 percent in the December quarter of 2018 to 5.1 percent in the December quarter of 2019. Similarly, the 12-month average participation rate has been on the decline since its peak in April 2019. 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 with regard to labour market conditions at the state and national levels.

At the time of writing the latest available regional labour market statistics in the Small Area Labour Markets (SALM) publication contained data to December 2019. More recent macro-economic data suggest that labour market conditions may have deteriorated further and the economic shock associated with the 2020 quarter 2 market conditions has added considerable downside risks to the broader economy in the short to medium term. The National Accounts data for Quarter 4, 2019 show domestic demand has remained soft, even before recent

[47] The CAPEX program associated with the Project constitutes a temporary expenditure shock to the economy. Some of the goods and services purchased by customers in the Darling Downs – Maranoa economy are imported from interstate and overseas. CAPEX, particularly at the regional level, is more import intensive than other types of expenditure. This means that a CAPEX shock will, other things equal, result in net exports contracting. In addition, KPMG have assumed that businesses do not respond to the temporary shock by increasing their productive capacity through investment in fixed capital. Instead, businesses use more labour with their existing fixed assets (e.g. plant and equipment), which increases costs and reduces competitiveness. Where it is profitable to do so, businesses switch some of their productive capacity towards accommodating the demands associated with the Project and away from sales to other customers (e.g. to interstate and overseas customers). The macroeconomic results reported are roughly linear for small deviations in the assumed CAPEX. For example, if the Project CAPEX was increased by 5 percent (from $1,115 million to $1,170 million) then net exports for Darling Downs – Maranoa would fall by a further 5 percent.

[48] Based on Australian Government's Small Area Labour Markets (SALM) publication

[49] Based on population of working age: 15 – 64 years; ABS, *Labour Force Survey 2019*, cat. no. 6291.0. Released 27 February 2020.

natural disaster events (i.e., bushfires and floods) and the global coronavirus outbreak. Economic conditions are anticipated to deteriorate markedly in the short to medium run, increasing the likelihood that the national and regional labour markets will be consistent with the "slack" labour market scenario during the construction phase.

Looking specifically at skilled labour capacity, recent Labour Force Survey results indicate that a relatively high proportion of unemployed workers were last employed in the Construction sector.[50] In Queensland, during the reference week in the quarter ended November 2019, 12,900 unemployed persons (approximately 8.5 percent) reported that their last job was in Construction, representing a 45.5 percent increase from the corresponding quarter in the previous year. Nationally, over the same period, 15.1 percent of unemployed persons who reported losing their job last worked in the Construction industry. The ABS estimates that job vacancies in the Construction sector have fallen sharply as at November 2019 (around 14.0 percent) from their peak in the quarter ended February 2019.[51] These indicators suggest a degree of softness in the Construction sector. The industry and occupational profile of the Darling Downs – Maranoa workforce, together with evidence that the Construction sector is not currently stretched means that it is reasonable to assume that the regional labour market has the capacity to supply a significant portion of the workforce requirements of the Project without major disruption.

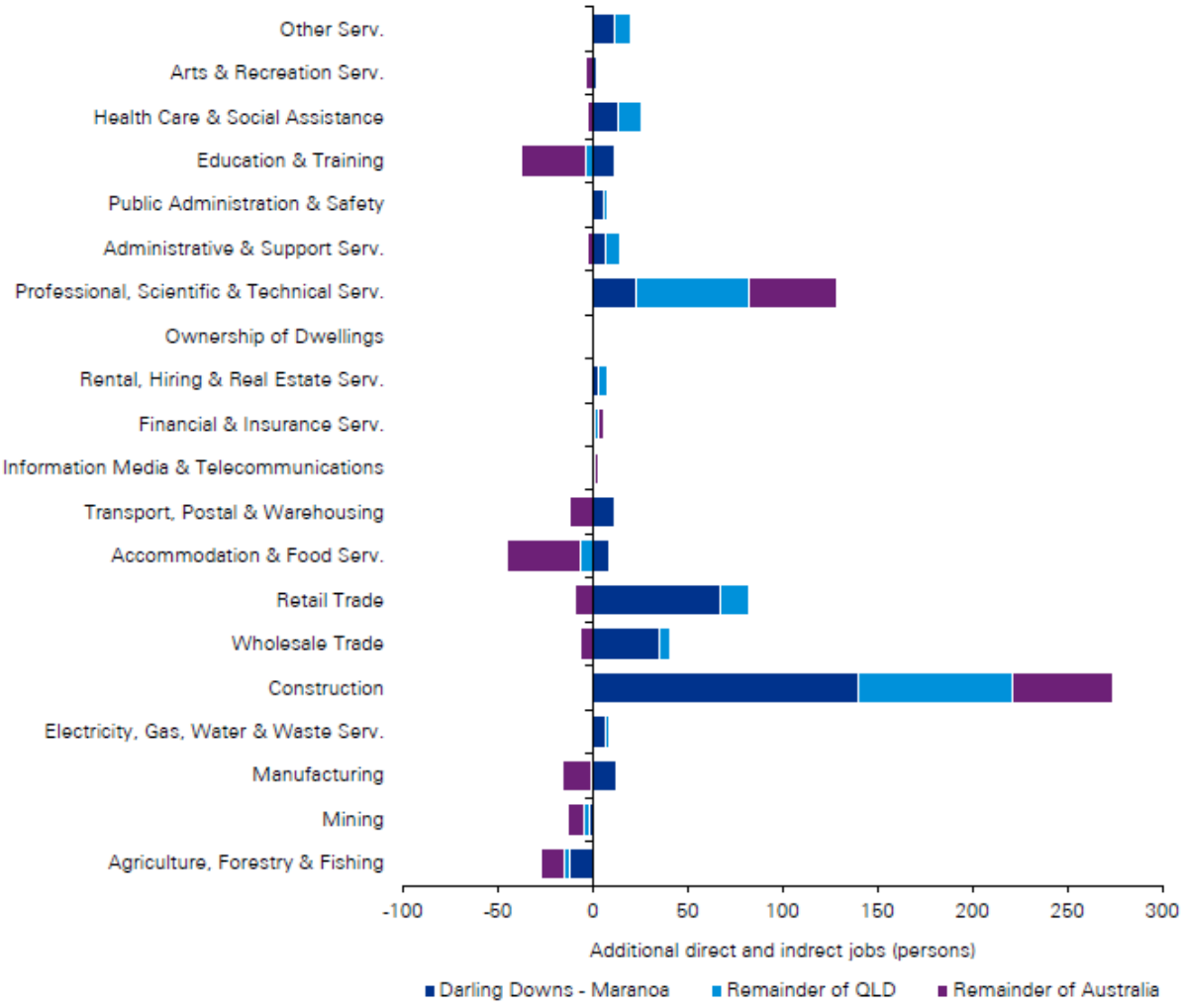
The possibility of some tightness in the labour market cannot be completely dismissed. If the government's health and economic policy responses to the 2020 quarter 2 market conditions are highly effective, the economy may grow much faster than expected resulting in significantly more activity in the construction sector than anticipated. For example, the government may seek to bring forward projects to stimulate the economy. If this transpires then labour market conditions may tend towards somewhere between the "slack" and "tight" scenarios.

Employment results at the industry level (movement of workers between industries and regions) are presented in the figures below. 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.

[50] Based on ABS, Labour Force Survey, Quarterly, November 2019, cat no. 6291.0.55.003. Released 23 December 2019.

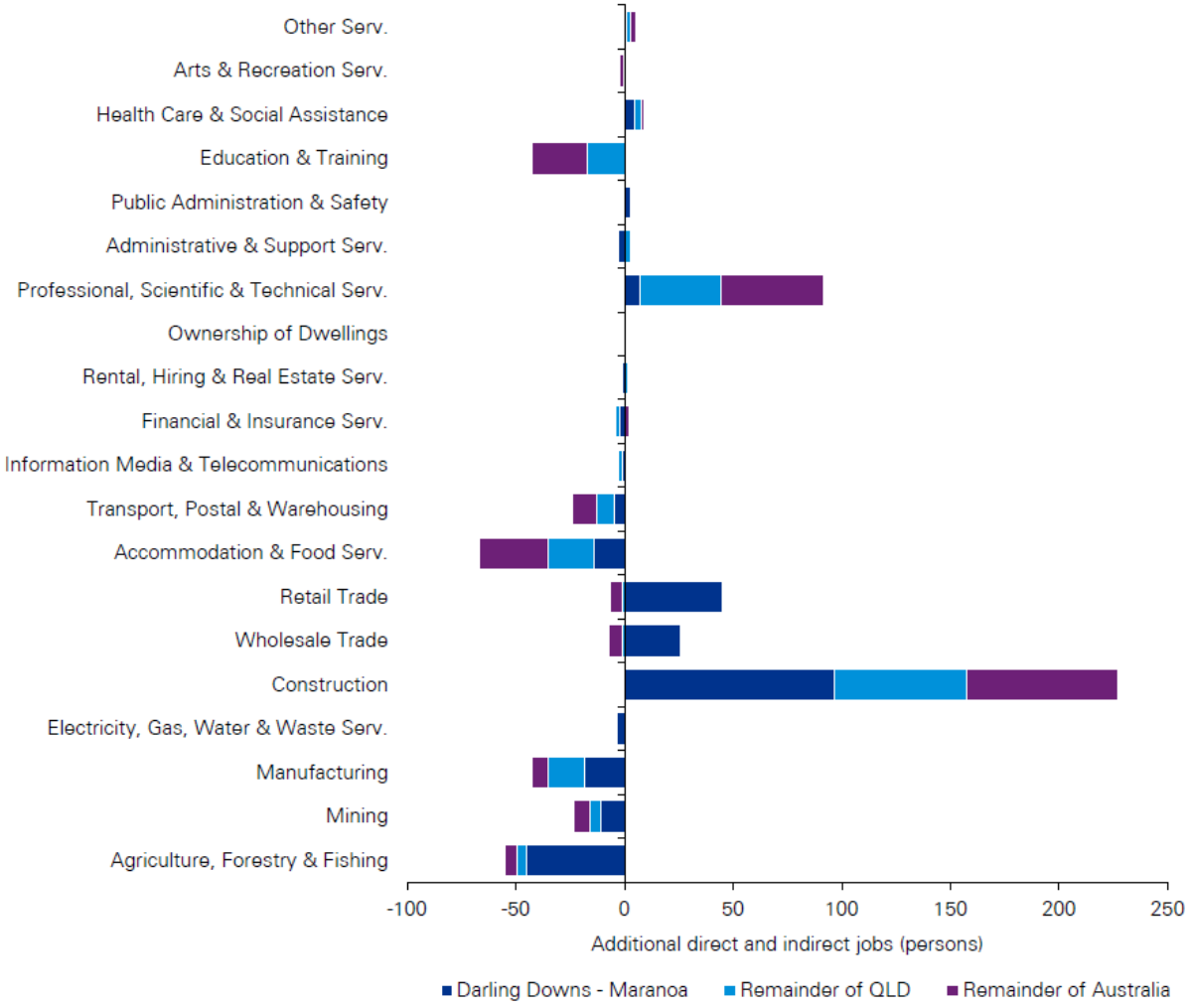
[51] Based on ABS Job Vacancies, November 2019, cat no. 6354.0. Released 8 January 2020.

Figure 10: Industry employment results: construction phase, slack labour markets



Source: KPMG

Figure 11: Industry employment results: construction phase, tight labour markets



Source: KPMG

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 that are already employed, the benefits from increased labour demand are primarily in the form of higher real wages resulting in the displacement of workers.

The Construction sector, which benefits directly from the Project, is anticipated to expand employment 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 industry's supply chain. The increase in demand for resources to complete the construction of the Project 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.

6.5 Business and industry impacts

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

6.5.1 Agriculture industry

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

- Loss of agricultural land;
- Acquisition of land used for intensive livestock operations;
- Disruption to access and infrastructure;
- Disruption to stock and product movement;
- Improvements in supply chain efficiency; and
- Flood inundation.

These impacts may change the value of agricultural production in the region, due to changes in accessibility, connectivity and / or productivity. Consultation with landholders is ongoing to further determine potential impacts. Details on consultation undertaken for the Project is included within Appendix C: Stakeholder Engagement Report.

Loss of agricultural land

As detailed in EIS Chapter 7: Land Use and Tenure, the Project will result in the sterilisation of productive agricultural land within the permanent disturbance footprint. Productive land that is mapped within the existing South Western System and Millmerran Branch Line rail corridors has been previously sterilised, and has therefore been excluded from the information below. The Agricultural Land Class approach classifies a particular agricultural area based on land and soil information and is used for land audit purposes. The approach comprises a four tier hierarchy ranging from Class A (arable land) through to Class D (land that is unsuitable for agriculture). Class A land is suitable for a wide range of current and potential crops with little limitations to production. Class B land is suitable for a narrow range of current and potential crops but is highly suitable for pastures. Important Agricultural Land is a separate category used in agricultural land auditing and is defined as land that is strategically significant to the region or the state.[52]

The scale of the total loss (within the permanent disturbance footprint) of productive agricultural land is anticipated to be low. At a local government level, within Goondiwindi the permanent disturbance footprint traverses approximately 388 ha of Class A (less than 0.1 percent of land of this type within Goondiwindi), 6 ha of Class B (less than 0.1 percent), and 250 ha of Important Agricultural Area (IAA) land (less than 0.1 percent). Within Toowoomba, the permanent disturbance footprint traverses approximately 1,434 ha of Class A (0.2 percent), 74 ha of Class B (0.2 percent) and 1,452 ha of IAA land (0.2 percent). Of these areas, land is primarily used for grazing and cropping, as well as some irrigated cropping and irrigated perennial horticulture uses.

Overall, the permanent disturbance footprint will traverse 0.22 percent of the impact assessment area's productive agricultural land. This proportion can be used to estimate, at a high level, the potential loss of agricultural production resulting from the Project. In 2017-18, the gross value of agricultural production in

[52] Department of Agriculture and Fisheries, Agricultural Land Classes, 2010-2019

Goondiwindi and Toowoomba LGAs was $1.28 billion.[53] Accordingly, it is estimated that the Project could result in a loss of $2.85 million (value foregone) in gross agricultural production per year.[54]

Land acquisition

Land acquisition will be required for the Project including the acquisition (partial and full) of 542 properties. Land uses across these properties includes (but is not limited to) cropping, grazing, and intensive animal production. The Project's land requirements are detailed in Appendix F: Impacted Properties. The extent of these impacts will be confirmed during detail design.

The Project footprint will be limited where possible while providing the necessary land to safely construct, operate and maintain the rail corridor. The alignment of the Project will be further refined during detail design to ensure the permanent footprint traverses along, or as close as possible, to property boundaries to reduce potential fragmentation and sterilisation of agricultural land. Impacts such as severance or loss of land which may have the potential to impact the operations of agricultural businesses will be considered by the Constructing Authority in the terms of the acquisition agreements.

Disruption to access and infrastructure

The Project may result in impacts to agricultural land outside of the permanent disturbance footprint. Where the Project alignment does not utilise existing rail corridors, the Project may sever or isolate parcels of agricultural land, limiting internal movements and reducing access to agricultural land. As detailed in EIS Chapter 7: Land Use and Tenure, potential land severance may cause a disruption in farm operations through impacts to essential farming infrastructure, services or access routes.

The specific impact on the economic viability of farming operations as a result of this potential disruption to access and infrastructure is not quantified in this assessment, and the extent of these impacts will be confirmed during detail design. ARTC will work with individual land owners to develop suitable solutions based on individual farm management practices.

Water access and infrastructure

The development of the Project may impede essential access to water, through impacts to drainage lines, diversions, and dams. The Project crosses a 12.5 km section of the Condamine River floodplain, which is heavily regulated in terms of water access, especially where the floodplain connects to the Murray-Darling Basin.

Landholders in this area have developed a land management system that maximises productivity through harvesting floodwaters to support the seasonal growth of crops. The Project has been designed to limit the disturbance to water access and infrastructure during both construction and operation.

Any disruption to water access has the potential to impact on the viability of farming operations. During detail design a survey will be undertaken to identify all water assets in and in proximity to the Project footprint. In addition, consultation will be undertaken with relevant stakeholders (including landowners/ occupants) prior to construction in support of appropriate approvals and agreements for the extraction of water.

Further details are provided in EIS Chapter 12: Surface Water and Hydrology.

Transport access and infrastructure

During construction, broader accessibility impacts due to changes in the surrounding road network may also affect local agricultural businesses. Roadworks, re-alignments and changes to travel distances may affect farming businesses through increases in travel times, resulting in increased operating costs. Level crossings and road diversions have been proposed based on a number of factors to ensure accessibility to surrounding road

[53] Queensland Government, 2019, *Queensland Spatial Catalogue: Gross Value of Agricultural Production (GVAP) per Local Government Area in Queensland.*

[54] This value is an indicative estimate only - it does not consider the value of individual commodities produced per lot or the value-add activities which contribute to the gross value of agricultural production in the region. An assessment of the composition of agricultural production by lot and commodity may be undertaken following detail design.

networks will been maintained. Where roads are permanently closed or re-routed, these impacts may continue once the Project is operational.

During the construction phase of the Project, a number of crossings and bridges will be constructed, posing potential constraints to road access and connectivity between properties. Stock and equipment movements will also be effected during this time, however the impact will be temporary in nature.

Disruptions to access during construction will be addressed through temporary diversions and onsite traffic management in consultation with the local community. Roads will only be closed permanently where the impact of diversions or consolidations is considered acceptable, or where the existing location is not considered safe and cannot reasonably be made safe. Consultation with landowners will be undertaken to ensure an appropriate level of access is maintained for agricultural businesses across and between properties affected by the Project. During construction regular Project updates will be provided which forecast road works, road realignments and closures, and explain alternative routes to enable agricultural and other business operators to plan their travel with minimal disruptions.

Further details are provided in EIS Chapter 18: Traffic, Transport and Access.

Acquisition of land used for livestock operations

The Project traverses a number of large feedlots and piggeries. According to EIS Chapter 7: Land Use and Tenure, this Project will result in the partial or full acquisitions of these properties. ARTC has worked, and will continue to work, with landowners to ensure there is minimal disruption to the ongoing operation of intensive animal husbandry.

Where acquisition is required, impacts such as severance of the land parcel and potential fragmentation of infrastructure and services may affect the operations of these businesses, potentially resulting in the loss of employment for farmworkers and reduced economic activity. The extent of these impacts will be confirmed during detail design.

ARTC will work with directly affected property owners to mitigate potential impacts on farm and business operations, and develop cooperative strategies which will reduce impacts on productivity and connectivity, including the design of level crossings on private roads and in consultation with GRC and DNRME temporary and permanent access for use of stock routes. Complete and where relevant to pre-construction, implement property-specific measures, to address potential impacts on land use, property, access, water infrastructure or access.

Disruption to stock and product movement

The Project footprint crosses twelve stock routes, at Yelarbon-Kurumbul Road, Yelarbon, Lovells Crossing Road, Millmerran-Inglewood Road at Inglewood and at Canning Creek, Koorongara-Andersons Road, Millmerran Inglewood Road near Heckendorfs Road, and Millmerran-Kooroongarra Road near Commodore Mine.

The Land Use and Tenure Assessment (EIS Chapter 7) identifies that there may be informal stock routes used to transfer stock to various grazing paddocks and holding yards. Consultation is ongoing with landholders to identify impacts, if any, to informal stock routes.

ARTC has worked with Goondiwindi Regional Council and the Department of Natural Resources Mines and Energy to ensure planning of the proposed the Project alignment maintains the connectivity of stock routes.

Hydrology and Periodic Inundation

The Project crosses 16 major waterways and 66 minor waterways, with key waterways being the Macintyre River, Macintyre Brook, Condamine River and Gowrie Creek. Other major creek crossings include Pariagara Creek, Cattle Creek, Native Dog Creek, Bringalily Creek, Nicol Creek, Back Creek and Westbrook Creek. The Macintyre Brook and Condamine River floodplains, and to a lesser extent the Gowrie Creek and Westbrook Creek floodplains. These floodplains contain productive agricultural land, including irrigated land in places.

The Inland Rail feasibility design includes cross drainage structures in the form of bridges and culverts to maintain existing surface water flow paths and flood flow distributions. The Project's design criteria objectives include avoidance of unacceptable increases in peak water levels, velocities and time of submergence. The Project does not increase the existing extent (i.e. footprint) of flood inundation.

The Project may necessitate localised modification of land management practices, including cropping regime, in response to confined afflux and time of inundation impacts. The extent of these impacts will be confirmed during detail design. ARTC will work with landholders to develop suitable property specific solutions based on land management practices.

Improvements in supply chain efficiency

Efficient supply chains support the regional and national capacity to enhance economic opportunities within local communities. The Project is a critical link in the broader Inland Rail Program, combining greenfield with brownfield development to create a more direct rail freight corridor, offering a more efficient solution for intra and interstate freight operators who will be able to avoid inland and coastal road and rail networks. Specifically, the Project:

- Offers opportunities to improve the productivity of local export industries (such as agriculture);
- Improves freight transportation infrastructure between the eastern and western side of the Great Dividing Range; and
- Has the potential to unlock the construction of ancillary and complementary infrastructure, which will improve market access and expand local agricultural businesses and industry (see *Transport Industry - Freight and Logistics below*).

6.5.2 Tourism industry

The Project has the potential to change local amenity and service capacity within the impact assessment area, during both construction (temporary) and operation (permanent).

During construction, there is potential for road works, the visual impact of laydown areas, and the accommodation of non-residential workers to affect tourists' experience and travel times. This impact is anticipated to be small and will be temporary whilst construction activities are undertaken in particular areas.

As required, the non-resident workforce accommodation (located near Millmerran, Inglewood and Yelarbon) will service the non-residential workforce for the duration of the Project's construction. Accordingly, the construction workforce will not impact on the availability of local tourism accommodation in the rural areas surrounding these accommodation areas. For the larger communities along the alignment (and at the Project extents), the construction workforce is likely to be sourced locally (within driving distance) however some employees may be required to relocate to the region. This may reduce the available supply of short term accommodation for tourists, however based on the scale of the region's tourism industry, the total impact is not anticipated to be material.

Following construction, the buildings and infrastructure established for the non-resident workforce accommodation may be left for community use. This may enhance access to local facilities, with the potential to support tourism, such as in Millmerran. During consultation undertaken by ARTC, the Toowoomba Regional Council identified the location of a non-resident workforce accommodation near Millmerran as having the potential to provide legacy benefits to support regional tourism. ARTC plans further consultation with Toowoomba Regional Council as potential accommodation non-resident workforce accommodation sites are identified.

During operation, there is potential for reduced scenic amenity due to the Project's location within the rural and regional landscape. It is likely that some visitors will see the proposal as diminishing rural character while others will find interest in the proposal structure. According to the Social Impact Assessment (EIS Appendix U), this is not expected to have a significant impact on tourism visitation.

6.5.3 Mineral resource interests

According to EIS Chapter 7: Land Use and Tenure, reference design has been based on consultation with resource interest holders and location of the Project alignment has been determined to minimise the potential sterilisation of mineral and petroleum resources, and to minimise the restriction of access to mineral resources or disruption to existing worked mines. The extent of the impact of the Project on current mineral resource permits, licences and leases will be confirmed during detail design.

ARTC will undertake consultation with resource interest holders during detail design. Where the Project may impact on likely significant deposits within the area, appropriate mitigation will be agreed with the resource interest holders during detail design.

6.5.4 Local businesses

Construction materials

The Project will have significant construction materials and services requirements which may provide local businesses with the opportunity to supply the Project.

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

The impact of the Project on local businesses is likely to vary depending on the location along the Project alignment. Due to their scale and experience, businesses in Toowoomba are more likely to have the capacity and capability to support the construction of the Project compared to rural businesses along the Project alignment. Within Toowoomba, the recent completion of the Toowoomba Second Range Crossing may present an opportunity for skills transfer to meet the needs of the Project. Where required, it is likely that small businesses will need to develop their current capacity to ensure that they can competitively participate in the Project's supply chain.

ARTC have confirmed that pre-cast concrete may be sourced from Toowoomba, ballast material will be sourced from local quarries and borrow pits, and other components such as rehabilitation supplies and fencing may also be sourced within the impact assessment area. Concrete sleepers are likely to be sourced from outside the impact assessment area.

The Inland Rail Program is subject to the *Australian Jobs Act 2013* requirement to develop an Australian Industry Participation (AIP) Plan. This plan identifies how ARTC and its supply chain will provide Australian entities with full, fair and reasonable opportunity to bid for the supply of key goods or services. Further, ARTC has developed the Inland Rail Sustainable Procurement Policy which will ensure that local, regional and Indigenous businesses will have opportunities to supply the Project.

The Project's SIMP (see Social Impact Assessment – EIS Appendix U) further specifies that construction contractors are required to liaise with Regional Skills Initiative Strategy officers in Goondiwindi and Toowoomba to identify potential cooperation or partnerships for the development of employment and business capacity in the region.

Transportation

The Project may provide opportunities for transport or logistics businesses in Goondiwindi and Toowoomba during construction, to transport materials to laydown areas and remove waste materials and recyclables from construction compounds and non-resident workforce accommodation.

Following construction, these opportunities for transport or logistics businesses have the potential to expand over the long term, particularly if a regional rail distribution point, rail-based warehousing or associated freight precincts are established on the Project alignment.

During operation, the anticipated mode shift from road freight to rail freight is likely to reduce the number of heavy vehicles travelling on the road network, with the potential to impact on levels of trade for local transportation businesses. These impacts may be partially offset by the aforementioned opportunities for investment and increased activity in freight / logistics operations adjacent to Inland Rail.

Freight and Logistics

As part of the Inland Rail Program, the Project has the potential to stimulate business and industry development at the Toowoomba Enterprise Hub in Wellcamp. By providing efficient transport access to intrastate and interstate markets, the Project may act as a catalyst for further private sector investment in this area, particularly for freight and logistics operations. The further development of the Toowoomba Enterprise Hub has the potential

to unlock greater economic activity in the region, such as through promoting greater international export opportunities via Wellcamp Airport.

Local service and supply businesses

The Project is likely to offer opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses in close proximity to the construction footprint and anon-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 may lead to increased trading levels for small businesses, such as food and beverage businesses in the impact assessment area.

Retail businesses in Millmerran, Inglewood and Goondiwindi have the potential to benefit from opportunities to supply materials and services to the Project'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 Social Impact Assessment (EIS Appendix U), it is likely that some small businesses will need to scale up their current capacity to participate in the Project, particularly for businesses in rural areas along the alignment.

Following Project approval, ARTC will liaise with Regional Skills Initiative Strategy officers in Goondiwindi and Toowoomba to identify potential cooperation or partnerships for the development of employment and business capacity in the impact assessment area (see SIMP, EIS Appendix U).

Telecommunications

The Inland Rail Program is planning telecommunications systems as part of construction requirements and ongoing safe rail operations. ARTC is working with telecommunications carrier network operators to provide services for construction site offices, non-resident workforce accommodation and the railway corridor. While the focus will mainly be for the provision of voice and high speed data services around the rail track vicinity, it is envisaged that the extended wireless telecommunications network coverage and optical fibre systems will add benefit to the local communities (such as businesses) in those areas where previously such services did not exist.

6.6 Cumulative impacts

The cumulative economic impact assessment refers to the potential impact of cumulative stimulus to the economy resulting from a set of existing or planned projects within or adjacent to the study area.[55] Cumulative impacts may result from the spatial and / or temporal interaction between these projects.

For the purposes of this report, the cumulative impact assessment has two components:

- **Inland Rail Program in Queensland (Section 6.6.1)**

  A quantitative assessment of the cumulative macroeconomic impact of the Inland Rail Program on the economy, resulting from the construction of the Queensland sections of the Inland Rail Program.

  There are five sections of the Inland Rail Program which fall in Queensland, including the Project, G2H, Helidon to Calvert (H2C), Calvert to Kagaru (C2K) and Kagaru to Acacia Ridge and Bromelton (K2ARB).

- **Broader cumulative assessment (Section 0)**

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

A qualitative assessment of cumulative impact of state significant projects (that have been identified by ARTC as having a relationship to the Project - refer Appendix A) on local and regional labour markets, the supply chain and local businesses.

6.6.1 Inland Rail Program in Queensland

The construction phases of the Queensland sections of the Inland Rail Program have been jointly simulated to analyse the cumulative economic impacts of these projects. Table 19 and Table 20 summarise the cumulative macroeconomic impacts of the Queensland sections of the Inland Rail Program. Under the assumption of slack labour markets the incremental economic impacts of the Queensland sections include an increase in real GSP of $1.75 billion (measured in 2019 dollars) and an increase in the average number of jobs over the period 2020 to 2025 of 2,059 jobs per year. If labour markets are tight then the incremental benefits are smaller with real GSP increasing by $0.83 billion and the average number of jobs increasing by 485 per year.

The Project is the only section of the Inland Rail Program that is located within the Darling Downs – Maranoa region. Construction activities related to this section will directly impact the Darling Downs – Maranoa economy. The remaining Queensland sections of the Inland Rail Program, which are located in the Greater Brisbane and Toowoomba regions, will impact Darling Downs – Maranoa indirectly.

The regional impact analysis reported the results of simulations when the Project was considered in isolation. In that context the direct and indirect increment to jobs in the Darling Downs – Maranoa economy was estimated to be 344 jobs per year under the assumption of slack labour markets and 78 jobs per year under the assumption of tight labour markets. When all the Queensland projects are considered jointly, the analogous increment to jobs (direct and indirect) in Darling Downs – Maranoa decreases to 290 jobs per year assuming slack labour markets and 69 jobs per year assuming tight labour markets. The increment to jobs in Darling Downs – Maranoa peaks in 2022 at 722 and 175 jobs under slack and tight labour market conditions respectively. As discussed in the regional impact analysis. The labour market conditions expected to prevail in the Darling Downs – Maranoa economy over the period 2020 to 2025 will be most consistent with those assumed in the "slack" labour market scenarios which have been simulated. Further, the assessment indicates that the labour market conditions in other regional economies in Queensland, over the Inland Rail construction phase period, will generally be much closer to the "slack" than to the "tight" characterisation.

Table 19: Summary of Queensland – wide economic impacts – slack labour markets

	GRP/GDP ($m 2019)	Jobs (persons)		
		Average (annual)	Peak	Year of Peak
Greater Brisbane	$595	703	1,610	2022
Darling Downs - Maranoa	$314	290	722	2022
Toowoomba	$821	1,071	2,106	2022
Remainder of Queensland	$24	-5	16	2022
Queensland	***$1,754***	***2,059***	***4,455***	***2022***
Remainder of Australia	$23	-335	-39	2020
Australia	$1,777	1,724	3,835	2022

Source: KPMG

Table 20: Summary of Queensland – wide economic impacts – tight labour markets

	GRP/GDP ($m 2019)	Jobs (persons)		
		Average (annual)	Peak	Year of Peak
Greater Brisbane	$285	153	370	2022
Darling Downs - Maranoa	$147	69	175	2022
Toowoomba	$370	258	523	2022
Remainder of Queensland	$31	5	23	2022
Queensland	***$832***	***485***	***1,090***	***2022***
Remainder of Australia	$277	86	249	2022
Australia	$1,109	572	1,339	2022

Source: KPMG

6.6.2 Broader cumulative assessment

Interacting projects

There are a range of projects, within or adjacent to the study area, that may contribute to local and regional economic impacts. These projects are detailed in Table 21, with the potential cumulative impacts on the local and regional labour market, local businesses and supply chain detailed below the table.

The details provided in Table 21 reflect known information as at the time of drafting this report. Further details on the cumulative impacts of the Project can be found in EIS Chapter 21: Cumulative Impacts.

Table 21: Cumulative projects and nature of potential impacts

Project and Status	Nature of impact
North Star to Border -Inland Rail (Draft EIS being prepared)	• Potential labour draw from the regional economic catchment (peak. 300 FTE during construction period) • Potential draw on construction materials from the regional economic catchment • Businesses within the catchment area (e.g. in Goondiwindi and Yelarbon) are likely to benefit from the Project as a result of increased local expenditure from construction personnel of the combined Inland Rail projects. • Potential impact on rental housing availability and affordability in Goondiwindi
Gowrie to Helidon - Inland Rail (Draft EIS being prepared)	• Potential labour draw from the regional economic catchment (peak 596 FTE during construction period) • Potential draw on construction materials from the regional economic catchment • Businesses within the catchment area (e.g. in Gowrie Junction area) are likely to benefit from the Project as a result of increased local expenditure from construction personnel of the combined Inland Rail projects. • Employment opportunities and regional development, in relation to the Toowoomba Enterprise Hub
Helidon to Calvert - Inland Rail (Draft EIS being prepared)	• Potential labour draw from the regional economic catchment (peak. 410 FTE during construction period) • Potential draw on construction materials from the regional economic catchment
Calvert to Kagaru - Inland Rail (Draft EIS being prepared)	• Potential labour draw in SEQ, may reduce labour availability for more specialised roles.(peak 660 FTE during construction period] • Potential regional development opportunities across SEQ's south-west industrial corridor and in the Western Gateway regional economic cluster.
Kagaru to Acacia Ridge - Inland Rail (Feasibility design)	• Potential labour draw in SEQ, may reduce labour availability for more specialised roles
Cross River Rail (Construction commenced)	• Potential labour draw in SEQ, may reduce labour availability for more specialised roles (1,500 direct and indirect FTE each year during construction)
Goondiwindi Abattoir (Approved with Conditions)	• Potential labour draw from the regional economic catchment

Project and Status	Nature of impact
New Acland (Approved with Conditions)	• Potential labour draw from the regional economic catchment
Wellcamp Business Park (Operational – subject to continuing construction and expansion)	• Requirement for civil construction labour, resulting in cumulative demand for skilled trades and civil construction labour, however development likely to be incremental over a longer period with relatively modest labour draw • Potential regional development opportunities across SEQ's south-west industrial corridor and in the Western Gateway regional economic cluster.
Witmack Industry Park & Charlton Logistics Park (Operational – subject to continuing construction and expansion)	• Requirement for civil construction labour, resulting in cumulative demand for skilled trades and civil construction labour, however development likely to be incremental over a longer period with relatively modest labour draw • Potential regional development opportunities across SEQ's south-west industrial corridor and in the Western Gateway regional economic cluster.
Commodore Mine and Millmerran Power Station	• Potential impact on rental housing availability and affordability in Millmerran and Pittsworth.
Asterion Medicinal Cannabis Facility	• Where construction schedules overlap, potential labour draw from the regional economic catchment

Source: ARTC

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 across Queensland, New South Wales, 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 Project, without major disruption. However, these conditions may change in the context of cumulative labour market demand. Prior to the change in 2020 quarter 2 market conditions , the 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. However, the overall labour demands of the various infrastructure projects expected to be constructed were modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Toowoomba and Greater Brisbane labour market, and the ability of workers to mobilise to project locations, suggested that the risks of labour market disruption were limited. In the current environment, this risk has now been further reduced.

There may be benefits from having additional infrastructure projects in the adjacent and surrounding areas around the same time as the Project. 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 Project's construction phase.

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, child care, and education. Further, spending on consumer orientated products by the construction workforce has the potential to benefit local businesses by increasing their trading levels. Importantly, some businesses may need to scale up their current capacity to support cumulative demand, while

also understanding the temporary nature of the construction period for the relevant projects and adjust capacity accordingly.

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 supply of fuels, equipment, borrow 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 Project may increase (due to increased prices of materials) driving up the total construction cost, negatively impacting on the economic return of the Project.

7 Impact management

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

A SIMP has been developed which outlines the objectives, outcomes and performance measures required to manage the social and socio-economic impacts of the Project, and enhance Project benefits and opportunities.

There are two sub-plans which are directly relevant to the economic impacts identified and assessed in this EIA – Workforce Management and Local Business and Industry Participation. A summary of the impacts and benefits identified in this EIA and the relevant ARTC commitments within the SIMP sub-plans is provided in the table below. Further details of these plans can be found in the Social Impact Assessment (EIS Appendix U).

Table 22: Social Impact Management Sub-Plans

Impact / Benefit	ARTC Commitment

Project Employment
 	
The Project has the potential to be a significant opportunity to support local employment, including Indigenous and youth employment opportunities.
	Workforce management measures:
	• Development of a workforce management plan that includes a comprehensive employee induction program addressing amongst other matters a code of conduct for employees and contractors regarding behaviour, alcohol and drug use, cultural awareness and safety.
	• The Project's recruitment strategy would provide equitable access to employment opportunities and prioritise recruitment from Goondiwindi and Toowoomba Regional Councils.
	• The Project will not consist of 100% fly-in-fly workforce.
	• Access and evacuation maps for Emergency Services will be provided to the temporary non-resident workforce accommodation and construction compounds.
	• An annual review of the emergency response procedures will be undertaken during construction and the first three years of operation.
	• Minimum local employment targets will be negotiated and agreed between ARTC and the Principal Contractor.
	• Contractors will seek to encourage employment, training and skills development opportunities by:
	  • identifying the skills required for the building, construction, equipment and services fabrication and supply, maintenance, operation and support to the Inland Rail Program;
	  • arranging timely training, and qualification arrangements to meet the needs of skills development to support all phases of the Project;
	  • ensuring that training and qualification systems meet the requirements of the National Standards Framework.
	• Work with key partners to link training and development programs with other projects and local industries to provide the greatest regional benefit.

Impact / Benefit	ARTC Commitment

Local Business and Industry Participation
 	
The Project will have significant construction materials and services requirements which may provide local businesses with the opportunity to supply the Project.
	Local business and industry participation measures:
	
	• Disturbance/loss of agricultural activities, limited, or disrupted access to important infrastructure (e.g. groundwater bores or irrigation infrastructure), and options to access areas within properties are to be investigated in consultation with impacted landowners during detail design.
	• Prior to construction occurring alternative measures for stock access to watering points are to be finalised with the landowner and implemented.
	• Promote the business registration process on the ARTC website.
	• Development and implementation of an AIP Plan focusing on opportunities for involvement by local business in construction and operation of the Project that involves:
	  • Identifying businesses within 125 km of the Project with potential capacity to supply the construction phase.
	  • Engagement with local business to identify opportunities to develop and promote local business participation.
	• Engagement with DESBT and DSDTI to develop business capacity building strategies.
	• Continue to engage with TSBE, chambers of commerce and local business groups/ associations.
	• Consider providing the Local Content Report to the Australian Industry and Skills Committee when developed.
	• Implementation of ARTC's Sustainable Procurement Policy.
	• Indigenous participation and local participation are included as key elements of construction tender assessments.
	• ARTC will work with government stakeholders and local and Indigenous businesses to:
	  • Build businesses' capacity to participate in the Project's supply chain through business development, mentoring and pre-qualification projects
	  • Support Indigenous businesses to ensure they are prepared for and provided with opportunities to participate
	  • Link training and development programs with other projects and local industries to provide the greatest regional benefit.

Source: EIS Appendix U - Social Impact Assessment

There are a number of economic impacts identified within this EIA that relate to the agricultural properties and businesses. Where these impacts cannot be avoided, a range of measures have been proposed by ARTC to carefully manage and mitigate these impacts. The measures summarised in the table below are not captured within the SIMP, but represent commitments by ARTC. Further details are provided in EIS Chapter 7: Land Use and Tenure.

Table 23: Summary of proposed management and mitigation measures for agricultural impacts

Impact	Proposed Mitigation / Management Measures
Impacts on agricultural properties including loss of productive land, impacts on property infrastructure, and interruptions to stock and product movements.	ARTC will continue to consult with farmers, graziers and owners of agricultural businesses which are directly affected or adjacent to the Project footprint during the detail design phase to develop measures to mitigate impacts including: • Direct impacts on properties e.g. severance and loss of productive land • Impacts on property accesses and connectivity, including the location of level crossings on private roads • Impacts on the movement of stock, water, produce and equipment.
Sterilisation or disruption of access for mineral resources or disruption to existing worked mines.	• Consultation with resource interest holders will be undertaken during detail design. Where the Project may impact on likely significant deposits within the area, appropriate mitigation will be agreed with the resource interest holders.

Source: EIS Chapter 7: Land Use and Tenure

8 Conclusions

A detailed EIA has been undertaken for the Project link of the Inland Rail Program, in accordance with the requirements under Section 5.1 and 11.141 of the ToR.

Inland Rail Program impacts

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

- Lower prices for consumers as a result of lower inter-capital 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 Inland Rail 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 Gross Domestic Product ($2015) over its 10 year construction period and 50 years of 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 during operation.
- 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

The economic benefits assessment estimate that the Project is expected to provide a total ($2019 present value terms) of $674.36 million in incremental benefits (at a 7 percent discount rate). These benefits result from improvements in freight productivity, reliability and availability, and benefits to the community from crash reductions, reduced environmental externalities and road decongestion benefits.

Regional economic impact analysis

The Project will promote regional economic growth across the Darling Downs – Maranoa region. Using recent labour market trends and projected construction sector activity to inform workforce capacity and capability within the local region, it has been concluded that it is likely that the labour market conditions that will prevail during the construction phase of the Project will most likely be closer to those characterised by the "slack" labour market scenario. Under this scenario, over the construction phase, real Gross Regional Product is projected to be $344 million higher than the baseline level.

Under a "slack" labour market scenario, the Project is also expected to deliver an additional 344 jobs (direct and indirect) per year over the construction period.

The possibility of some tightness in the labour market cannot be completely dismissed. If the government's health and economic policy responses to the 2020 quarter 2 market conditions are highly effective, the economy may grow much faster than expected resulting in significantly more activity in the construction sector than anticipated. If this transpires then labour market conditions may tend towards somewhere between the "slack" and "tight" scenarios.

Cumulative regional impact analysis

Under the assumption of slack labour markets the incremental economic impacts of the Queensland sections include an increase in real GSP of $1.75 billion (measured in 2019 dollars) and an increase in the average number of jobs over the period 2020 to 2025 of 2,059 jobs per year. If labour markets are tight then the incremental benefits are smaller with real GSP increasing by $0.83 billion and the average number of jobs increasing by 485 per year.

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 Project, without major disruption. However, these conditions may change in the context of cumulative labour market demand. Prior to the change in 2020 quarter 2 market conditions, the 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. However, the overall labour demands of the various infrastructure projects expected to be constructed were modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Toowoomba and Greater Brisbane labour market, and the ability of workers to mobilise to project locations, suggested that the risks of labour market disruption were limited. In the current environment, this risk has now been further reduced.

The expansion in construction activity and regional employment is also likely to increase demand for a range of local infrastructure and services, including in the construction supply chain and for local retail and hospitality businesses.

Local and regional employment, business and industry impacts

At a local level, the Project will support regional economic development through opportunities for local and regional employment, businesses and industries:

- The Project offers opportunities to encourage, develop and grow Indigenous, local, and regional businesses through the supply of resources and materials for the construction and operation of the Project (e.g. borrow and ballast materials, fencing, electrical installation (excluding rail systems) and instrumentation, rehabilitation and landscaping, cleaning and maintenance of construction and accommodation facilities);
- The Project offers opportunities in secondary service and supply industries (such as retail, hospitality and other support services) for businesses in close proximity to the construction footprint (including opportunities to supply the three proposed non-resident workforce accommodation in at Millmerran, Inglewood and Yelarbon. 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; and
- As part of the Inland Rail Program, the Project has the potential to stimulate business and industry development at the Toowoomba Enterprise Hub in Wellcamp. By providing efficient transport access to intrastate and interstate markets, the Project may act as a catalyst for further private sector investment in this area, particularly for freight and logistics operations. The further development of the Toowoomba Enterprise Hub has the potential to unlock greater economic activity in the region, such as through promoting greater international export opportunities via Wellcamp Airport.

The Project alignment has been designed to minimise impacts to local business and industry, however the Project may result in the disruption of the agriculture and tourism industries through:

- The loss of agricultural land (through disturbance, acquisition, or sterilisation by the permanent disturbance footprint), disruption to farm management, or changes in accessibility or connectivity to market. This may negatively impact on the productive capacity and total economic value add from the local agricultural

industry. Based on the proportion of productive agricultural land lost, it is estimated that the Project could result in a loss of $2.85 million (value foregone) in gross agricultural production per year.[56] ARTC will work with individual land owners to develop suitable management solutions based on individual farm management practices to mitigate and manage these impacts; and

- Changes to the amenity of, or connectivity to, local landscape attractions. The Social Impact Assessment (EIS Appendix U) assessment concludes that a significant decrease in visitation as a result of this impact is unlikely. ARTC will work with tourism associations to ensure that generalised impacts on tourism values are reduced wherever possible.

Impact management

ARTC are committed to enhancing the economic benefits of the proposal while avoiding, mitigating or managing any adverse economic impacts. Accordingly, there are a range of actions that ARTC will undertake and / or require its contractor to undertake to manage the social and socio-economic impacts of the Project, and enhance proposal benefits and opportunities.

[56] This value is an indicative estimate only - it does not consider the value of individual commodities produced per lot or the value-add activities which contribute to the gross value of agricultural production in the region. An assessment of the composition of agricultural production by lot and commodity may be undertaken following detail design.

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Economic Impact Assessment

Appendix A Interacting Projects

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

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Appendix A: Interacting projects

The projects deemed to have a relationship to the Project were selected according to the following conditions - the Project:

a) is currently being assessed under Part 1 of the Chapter 3 of the *Environmental Protection Act 1994 (Queensland)* (EP Act) and, as a minimum, have an initial advice statement (IAS) available on the Queensland Department of Environment and Heritage Protection's (EHP) website;

b) has been declared a 'coordinated project' by the Coordinator-General under the SDPWO Act and an EIS is currently being prepared or is complete, or an IAS is available on the Queensland Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) website;

c) may use resources located within the region (including materials, groundwater, road networks or workforces) that are the same as those to be used by the Project;

d) could potentially compound residual impacts that the Project may have on environmental or social values; and / or

e) development approved by Councils under the Goondiwindi Regional Council or Toowoomba Regional Council planning schemes.

In addition, ARTC reviewed the following documents, plans and investment programs to identify inter-related projects:

- State government planning databases for State Development Areas and Priority Development Areas
- Queensland Transport and Roads Investment Program;
- State Infrastructure Plan;
- Private Infrastructure Facilities in accordance with the State Development and Public Works Organisation Act 1971;
- Infrastructure Australia Infrastructure Priority List;
- Goondiwindi Regional Council Local Government Infrastructure Plan;
- Toowoomba Regional Council Local Government Infrastructure Plan;
- Queensland "Building our Regions" funded projects; and
- Community Infrastructure Designations under the repealed Sustainable Planning Act 2009.

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Appendix B Regional Economic Assessment

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

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Appendix B: Regional economic assessment

Assumptions

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

The economic impacts of the construction phase of the Project are directly related to the stimulus that is provided to the economy through the boost to expenditure required to construct the Project. Analysis of the construction phase of the Project is best done in the context of a short run economic environment to recognise the temporary nature of the stimulus that this phase of the Project 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 Darling Downs – Maranoa Rail Transport sector is imposed to reflect the Project 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; and

vii. consumer preferences and technical change parameters are held fixed at their baseline values.

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

In this report the sensitivity of the labour market assumption is calculated by simulating the construction phase of the Project 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 the Project on the economy. KPMG-SD then estimates the flow-on effects of these shocks on the economy.

The table below reports the projected CAPEX for the Project. Over the construction phase[57] total CAPEX is projected to be $1,115 million ($2019), with the majority of this expenditure occurring in the four years (i.e. 2021 – 2024).

Modelling inputs - Construction Phase

Year	$2015 [a, c]	$2019 [b, c]
2020	$17,124,481	$18,315,887
2021	$159,179,954	$170,254,627
2022	$463,161,351	$495,385,007
2023	$268,221,776	$286,882,846
2024	$112,002,310	$119,794,678
2025	$22,555,536	$24,124,799
Total	**$1,042,245,408**	**$1,114,757,844**

Notes:
a) The CAPEX figures outlined are incurred over the construction phase which have been derived from the capital cost plan and construction programming provided to KPMG by ARTC. Pre-construction costs are not included because these are incurred outside of the indicative construction period (prior to 2020).
b) Conversion to 2019 dollars based on the Producer Price Index growth from Dec 2015 to Mar 2019. The Producer Price Index used relates to output of the Heavy and Civil Engineering Construction industry specifically.
c) These figures reflect capital costs and do not include other provisions (insurances, construction camps, ATMS, utilities and property & site remediation).

[57] The assessment assumes a capital expenditure profile consistent with the Inland Rail Program Business Case (2015), using parameters and inputs based on the state of the economy projected for those years. Pre-construction costs prior to 2020 are not included because they are spent outside of the indicative construction period. Total spending in the construction phase (including pre-construction costs) is $1,084,574,651 ($2015) and $1,160,032,071 ($2019).

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Appendix C CAPEX for the Queensland Inland Rail Projects

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Appendix C: CAPEX for the Queensland Inland Rail Projects

This appendix has been included to outline the CAPEX figures across the Queensland Inland Rail Projects. The CAPEX for the five Queensland Inland Rail Projects are outlined in the bale below.

Total CAPEX for Queensland Inland Rail Projects

Inland Rail Project	$2015 [a, c]	$2019 [b, c]
NSW/Qld Border to Gowrie	$1,042,245,408	$1,114,757,844
Gowrie to Helidon	$1,016,149,084	$1,086,845,913
Helidon to Calvert	$528,227,194	$564,977,695
Calvert to Kagaru	$ 606,030,854	$ 648,194,410
Kagaru to Acacia Ridge and Bromelton	$47,751,792	$51,074,041
Total	**$3,240,404,332**	**$648,194,410**

a) The CAPEX figures outlined are incurred over the construction phase which have been derived from the capital cost plan and construction programming provided to KPMG by ARTC. Pre-construction costs are not included because these are incurred outside of the indicative construction period (prior to 2020).
b) Conversion to 2019 dollars based on the Producer Price Index growth from Dec 2015 to Mar 2019. The Producer Price Index used relates to output of the Heavy and Civil Engineering Construction industry specifically.
c) These figures reflect capital costs and do not include other provisions (insurances, construction camps, ATMS, utilities and property & site remediation).

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Appendix D Treatment of Coal

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

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Appendix D: Treatment of Coal

Note regarding the 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 benefit 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"** (refer table below, extracted from the Inland Rail Program Business Case (2015) Chapter 9. Economic Analysis), where coal benefits are equal to zero (0).

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

BENEFICIARY (PV $ MILLIONS)	INCLUDING WESTERN LINE UPGRADE*		NO WESTERN LINE UPGRADE	
	PV AT 4% DISCOUNT RATE ($M)	PV AT 7% DISCOUNT RATE ($M)	PV AT 4% DISCOUNT RATE ($M)	PV AT 7% DISCOUNT RATE ($M)
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 (ARTC, 2015)

On this basis, it is the understanding of KPMG that in the absence of the Western Line upgrade to the existing Queensland Rail network[58], 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. For example, as a stand-alone project, the Project is not expected to generate net benefits to coal freight.

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

On this basis, KPMG has ensured consistency with the assumptions contained within the ARTC Inland Rail Program Business Case (2015) 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 Project would require additional validation of the demand assessment undertaken as part of the business case.

[58] 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 1,010 metres"