CHAPTER 17

Social and economic

ILLABO TO STOCKINBINGAL ENVIRONMENTAL IMPACT STATEMENT

ARTC | INLAND RAIL
An Australian Government Initiative

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17. Social and economic

This chapter provides a summary of the social and economic impact assessments (the assessments) of the Inland Rail Illabo to Stockinbingal (I2S) project (the proposal). It describes the existing social and economic environment, assesses the potential social and economic impacts from construction and operation of the proposal, and recommends mitigation and management measures. The full assessment reports are provided as Technical Paper 11: Social (Technical Paper 11) and Technical Paper 12: Economic (Technical Paper 12).

17.1 Overview

Design development has avoided or minimised potential social and economic impacts where practicable by undertaking extensive consultation with all relevant stakeholders and designing the alignment to minimise the potential for amenity other social impacts.

Engagement with key stakeholders identified concerns regarding the potential impact of the proposal on community cohesion, severance between properties, disruption to movements across the rail corridor, and disruption to families' links to land and local communities. Landowners potentially subject to property acquisition raised concerns about impacts to their wellbeing.

During construction, the key positive (benefits) and negative impacts are:

- local social benefits would include employment (an estimated peak workforce of 425 people), training opportunities, and flow-on local and regional economic benefits
- local economic benefits would result from indirect employment, including stimulation of business along the supply chain during planning and construction for consulting services and procurement of construction materials
- the proposal may negatively impact the amenity of the local community, and the inflow of the construction workforce would cause an increased demand in services, including for accommodation (one workforce accommodation camp would be required during construction—refer to Appendix I: Workforce accommodation camp assessment)
- the proposal involves acquisition of private properties, which may cause adverse mental health impacts. There would also be amenity impacts from increased levels of noise and visual impacts and impacts to existing agricultural activities.

Proposed measures would seek to address the potential social impacts of the proposal and to maximise social benefits:

- the provision of a workforce accommodation camp to avoid impacts to the local housing market
- the establishment of a proposal-specific local industry participation plan (including Indigenous participation), workforce management plan and a community wellbeing plan
- the tracking of performance of mitigation measures through a Social Impact Management Plan
- ARTC reporting on the delivery of mitigation measures to mitigate and enhance community benefits to impacted communities.

During operation, the key positive (benefits) and negative impacts are:

- benefits on a national, state and regional level from the Inland Rail Program as a whole, including:
  - an expected boost to Australia's GDP by $18 billion over the next 50 years
  - improved national freight availability, freight time savings, operating cost savings, and improved reliability
  - improved state benefits in NSW including economic benefits engaging 587 contracts committed at a value more than $400 million
  - an increased workforce in NSW employing up to 980 full-time jobs
  - an increased gross regional product in NSW by up to $5.5 billion in the first 50 years of the rail line's operation
  - improved regional supply chain efficiencies in the Southern NSW region through reduced transport costs, greater access to suppliers and increased reliability
  - enhanced investment opportunities and supporting formation of industry hubs, including freight, logistics, operations and businesses in the Southern NSW region

- local benefits including:
  - a small number of maintenance employment positions
  - improved road safety from the realignment of Burley Griffin Way and removal of a level crossing
  - a legacy of upskilled workers from the construction phase who would be able to transfer their skills to other projects and contribute to economic development in the region
- negative impacts during the operation of the proposal would include changes to traffic movements and access, permanent change to the rural sense of place, changes to the existing visual amenity, and changes to existing levels of noise and vibration due to train activity.

Proposed measures would seek to address the potential social impacts of the proposal and to maximise social benefits as follows:

- a Community Investment Program would be implemented to explore ways with the local community to enhance aesthetic value, cultural heritage and community identity and cohesion across the social locality
- a communication and engagement plan would be implemented to build community awareness of the rail corridor's operational characteristics, including information on level crossing operations, likely daily train movements and ARTC's ongoing role after construction.

The proposed implementation of a comprehensive approach to consultation, communication and environmental management during construction and operation, together with a rigorous monitoring program, would assist in minimising the potential for social and economic impacts.

17.2 Approach

A summary of the approach to the social and economic impact assessments is provided in this section, including the legislation, guidelines and policies driving the approach and the methodology used to undertake the assessments.

17.2.1 Legislative and policy context to the assessments

The assessments were undertaken in accordance with the Secretary's Environmental Assessment Requirements (SEARs) and with reference to the requirements of relevant legislation, policies and/or assessment guidelines including:

- *Environment Protection & Assessment Act 1979* (NSW) (EP&A Act)
- *Social Impact Assessment Guideline for State Significant Projects* (2021 SIA Guideline) (DPIE, 2021d)
- *Social Impact Assessment Scoping Tool* (NSW DPE, 2017c)
- *Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development* (NSW DPE, 2017d)
- *Australian Industry Participation National Framework* (Australian Government, 2001) (AIPNF) and the associated *Assessment Framework* (Infrastructure Australia, 2021).
- *Environmental Planning and Impact Assessment Practice Note: Socio-economic assessment* (Roads and Maritime Services, 2013c).

Strategic planning documents including:

- *National Freight and Supply Chain Strategy 2019* (Department of Infrastructure, 2019a)
- *Australian Infrastructure Plan 2016* (Infrastructure Australia, 2016)
- *Future Transport Strategy 2056* (TfNSW, 2018a)
- *Regional NSW Services and Infrastructure Plan* 2056 (TfNSW, 2018b)
- *NSW Freight and Ports Plan 2018–2023* (TfNSW, 2018c)
- *Riverina Murray Regional Plan 2036* (NSW DPE, 2017a)
- *Regional Freight Transport Plan 2016* (Riverina Eastern Regional Organisation of Councils (REROC, 2016)
- *Draft Cootamundra–Gundagai Regional Council Local Strategic Planning Statement, 2020* (Cootamundra–Gundagai Regional Council, 2020)
- *Cootamundra–Gundagai Regional Council Villages Strategy* 2018 (Cootamundra–Gundagai Regional Council, 2018a)

- *Cootamundra–Gundagai Community Strategic Plan 2018–28 (*Cootamundra–Gundagai Regional Council, 2018b)
- *Cootamundra–Gundagai Delivery Program 2018/19-2020/21* (Cootamundra–Gundagai Regional Council, 2018c)
- *Cootamundra–Gundagai Economic Development Strategy 2017* (Cootamundra–Gundagai Regional Council, 2017)
- *Illabo and Bethungra Village Improvement Plans* (Junee Shire Council, 2021)
- *Junee Local Strategic Planning Statement 2040* (Junee Shire Council, 2020)
- *Community Strategic Plan 'Making Tracks' 2035* (Junee Shire Council, 2017)
- *Junee Shire Delivery Program and Operational Plan 2018–2022* (Junee Shire Council, undated)
- *Temora Shire Local Strategic Planning Statement* (Temora Shire Council, 2020)
- *Community Strategic Plan 'Temora Shire 2030'* (Temora Shire Council, 2017)
- Local environmental plans (LEPs) including Cootamundra LEP 2013, Junee LEP 2012 and Temora LEP 2010.

Data sources including:

- *ABS 2016 Census of Population and Housing* (2016 census) (ABS, 2016a)
- *ABS Regional Population Growth, 2017–18* (ABS, 2017c)
- *2019 NSW population and household projections*
- *ABS Labour Force Survey, Australia, December 2020* (ABS, 2021b)
- *Australian Government's Small Area Labour Markets publication, December 2020* (Australian Government, 2020).

A detailed description of the legislative and policy context for the assessments is in Chapter 2 of Technical Paper 11 and sections 1.3 and 2.2 of Technical Paper 12.

17.2.2 Secretary's Environmental Assessment Requirements

The SEARs relevant to social and economic, together with a reference to where they are addressed in the EIS, are provided in Appendix A.

17.3 Methodology

This section is a summary of the methodology for the assessments. Further information is in Chapter 4 of Technical Paper 11 and Chapter 2 of Technical Paper 12.

17.3.1 Study area

17.3.1.1 Social impact assessment

The social impact assessment (SIA) considers two study areas:

- **Local study area**—is where direct social impacts resulting in substantial change, such as noise and vibration, are anticipated to be experienced by residents. This is comprised of Statistical Area 1 (SA1) units that spatially align with a 1 kilometre (km) buffer of the proposal site. It includes the towns of Illabo, Stockinbingal and Bethungra.
- **Regional study area**—refers to the combination of local government areas (LGAs) that sit within 125 km of the proposal site, including the Hilltops Council, Temora Shire, Cootamundra–Gundagai Regional Council, Coolamon Shire, Junee Shire and City of Wagga Wagga. The regional study area defines where communities may share social and cultural links and form part of the broader labour force for the proposal.

In addition, the assessment refers to **service communities**—major townships within the regional study area that could service proposal related employment, workforce accommodation, leisure and wellbeing demands. These communities include Young, Temora, Cootamundra, Gundagai, Coolamon, Junee and Wagga Wagga.

Together, these study areas define the **social locality** for the proposal.

For the purposes of the SIA, the local study area is depicted in Figure 17-1 and the regional study area is depicted in Figure 17-2.

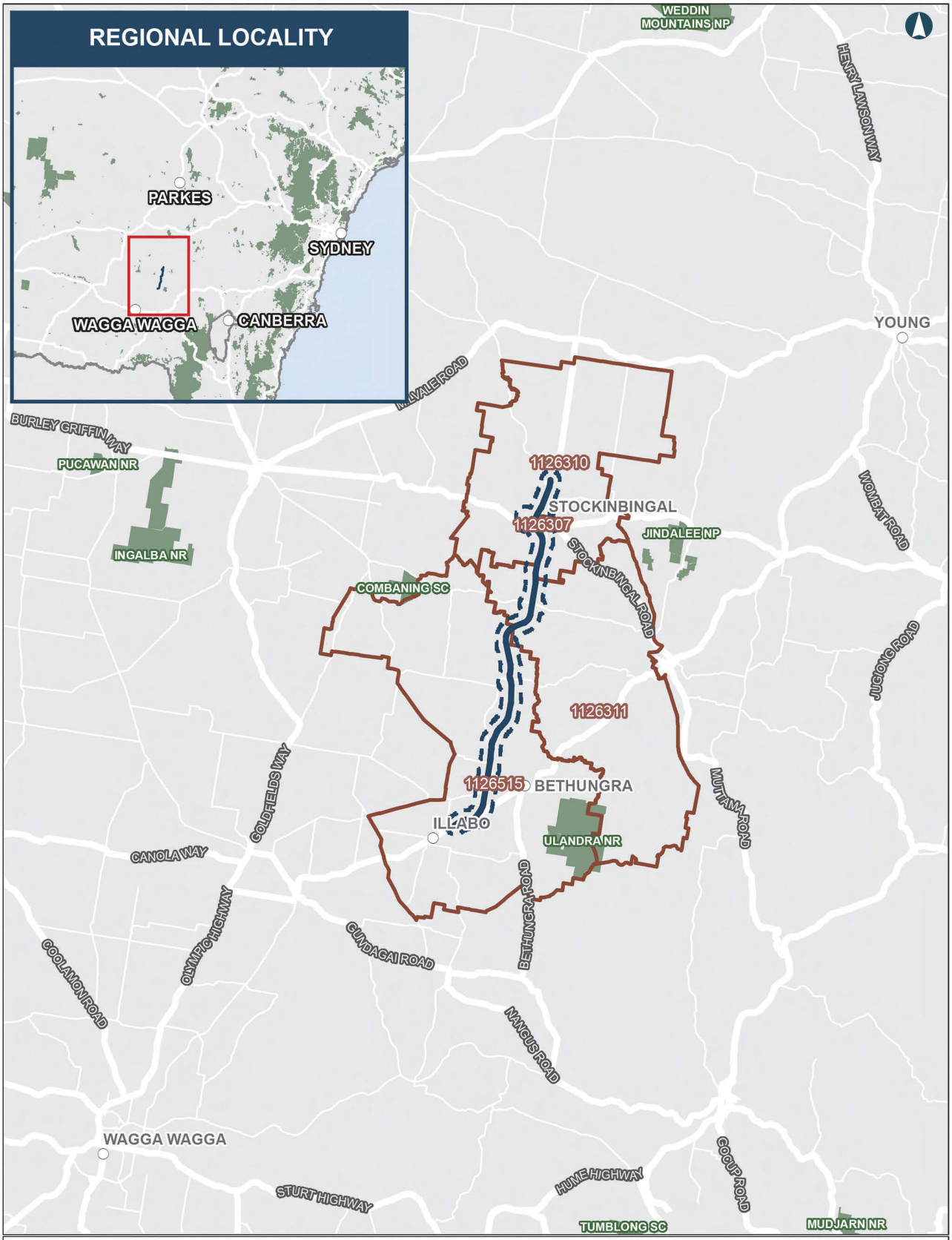
17.3.1.2 Economic impact assessment

The economic impact assessment considers two study areas:

- **Local economic catchment**—includes the Cootamundra–Gundagai, Junee and Temora LGAs. and reflects the catchment for workers and economic activity for the purposes of the local economic impact assessment.
- **Regional economic catchment**—includes the ABS Riverina Statistical Area Level 4 (SA4), which captures the integrated regional economy for the purposes of the regional impact analysis.

Together, these economic catchments define the economic impact assessment area for the proposal.

The regional economic catchments are shown in Figure 17-3.



17.1 Local study area

Coordinate System: GDA 1994 MGA Zone 55
Date: 7/30/2021 Paper size: A4 Scale: 1:600,000

Illabo to Stockinbingal Data Sources: LPI, IRDJV, ARTC

220_0115_EIS_17_1_LocalStudyArea_r1v2.mxd

17.2 Regional study area

Coordinate System: GDA 1994 MGA Zone 55
Date: 8/24/2021 Paper size: A4 Scale: 1:1,380,510

Illabo to Stockinbingal Data Sources: LPI, IRDJV, ARTC

220_0115_EIS_17_2_RegionalStudyArea_r1v2.mxd

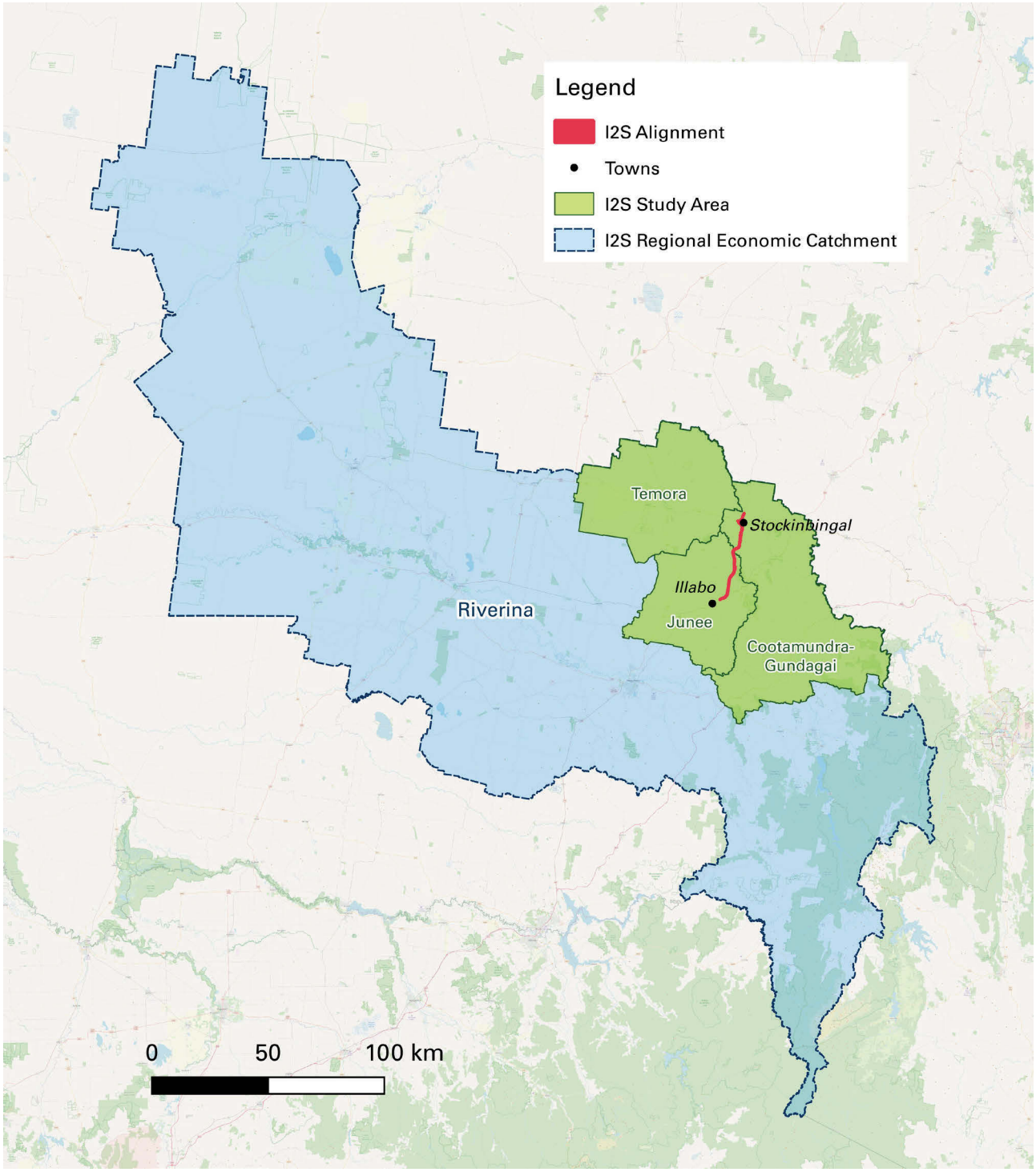


FIGURE 17-3: ECONOMIC IMPACT ASSESSMENT AREA

17.3.2 Key tasks—social impact assessment

17.3.2.1 General approach

Key steps for the SIA involved:

- reviewing relevant NSW guidance documents such as the 2021 SIA Guideline (refer to section 17.2.1)
- conducting social impact scoping methodology to identify the preliminary potential social impacts of the proposal, including a review of relevant comparable projects and literature (refer to section 17.3.2.3)
- identifying the local and regional study area to define the proposals social locality (refer to section 17.3.1)
- reviewing the outcomes of stakeholder engagement to determine key social impacts and issues that should be considered in the assessment (refer to section 17.3.4)
- developing a social baseline that describes the existing social environment of the social locality based on qualitative and quantitative data sources (refer to section 17.4)
- conducting tailored engagement through face-to-face and online surveys to understand and validate the existing environment, potential impacts and relevant management and mitigation strategies (refer to section 17.3.4)
- predicting and identifying potential social impacts from the proposal and the social implications of impacts identified in other technical assessments, and assessing the significance of potential impacts based on the likelihood and magnitude of the impact (refer to sections 17.6 and 17.7)
- assessing the cumulative social impacts (refer to Chapter 26: Cumulative and residual impacts)
- determining mitigation and management strategies that specifically relate to each impact. Management strategies are based on the hierarchy avoiding, minimising, mitigating and offsetting impacts and maximising potential benefits (refer to section 17.11).

17.3.2.2 Impact categories

The determination of social impacts has been based on the following categories as defined in the 2021 SIA Guideline:

- way of life, including how people live, how they get around, how they work, how they play, and how they interact each day
- community, including composition, cohesion, character, how the community functions and people's sense of place
- accessibility, including how people access and use infrastructure, services and facilities, whether provided by a public, private or not-for-profit organisation
- culture, both Aboriginal and non-Aboriginal, including shared beliefs, customs, values and stories, and connections to Country, land, waterways, places and buildings
- health and wellbeing, including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, and changes to public health overall
- surroundings, including ecosystem services such as shade, pollution control, and erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity
- livelihoods, including people's capacity to sustain themselves through employment or business
- decision-making systems, including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

17.3.2.3 Scoping the assessment

The scoping of social issues for the proposal was able to draw on the findings of other completed Inland Rail SIAs to inform ongoing community and stakeholder consultation and the redefinition of the social locality (refer to Section 17.3.1).

The scoping of social issues occurred through:

- completing the SIA worksheet of the Social Impact Scoping Tool (NSW DPE, 2017c) to confirm the social impacts that are considered likely to occur and the proportionate recommended level of assessment (refer to Chapter 4 of Technical Paper 11)

- reviewing comparable project SIAs and relevant literature on predicted social impacts, including a review of EIS documents prepared for other projects in the surrounding region such as Inland Rail Narromine to Narrabri, Social Assessment (Jacobs GHD, 2020)
- conducting a preliminary review of Commonwealth, state and local government legislation and planning documents and technical studies (refer to section 17.2.1)
- outcomes of preliminary consultation undertaken for the proposal by ARTC
- a review of state-based SIA guidance, namely the 2021 SIA Guideline.

17.3.3 Key tasks—economic impact assessment

The economic impact assessment involved:

- defining the study area (refer to section 17.3.1.2)
- reviewing relevant guidelines, policies and strategic plans (refer to section 17.2.1)
- preparing a profile of the existing economic environment
- conducting a local economic impact assessment to identify potential economic impacts from the proposal on local business, industry and community. This was developed from the outputs of the consultation undertaken by ARTC (refer to Chapter 4: Engagement and outcomes of the SIA (Technical Paper 11)
- conducting an economic benefits assessment to evaluate the likely benefits of the discrete Illabo to Stockinbingal proposal
- undertaking a regional impact analysis by using modelling to determine the industry, regional and economy-wide impacts of the proposal on the regional, state and national economies
- assessing potential economic impacts and benefits for the proposal on the regional, state and national economies (refer to sections 17.8 and 17.9)
- evaluating the potential cumulative impacts on local and regional economies resulting from the construction and operation of related, existing or planned projects within or adjacent to the study area, including adjacent Inland Rail links.

17.3.4 Consultation and the social impact assessment

The SIA was informed by two forms of consultation as provided below.

17.3.4.1 General consultation by ARTC

ARTC undertook extensive consultation with community and stakeholders throughout the project development process between 2015 and 2021. Chapter 4: Engagement and Appendix C provides details of the specific activities, stakeholders who were engaged, and issues raised. A summary of the issues raised during EIS consultation of relevance to the social impact assessment is provided in Table 5.1 of Technical Paper 11. Additional Aboriginal consultation has been undertaken for the proposal by GML Heritage as part of the preparation of Technical Paper 7: Aboriginal Heritage.

17.3.4.2 Consultation to inform the social impact assessment

Targeted consultation activities relating to the SIA were carried out during initial project development in June–July 2019, and again in February–April 2021 as the design of the proposal was developed. Consultation was conducted with:

- members of Community Consultative Committee (2019, 2021)
- the broader community (2019, 2021)
- community groups (2019)
- business chambers (2019, 2021)
- affected landowners (2021)
- local government (2019, 2021)
- health and community services and organisations (2019, 2021)
- short-term accommodation providers and tourism operators (2019–2021)

- real estate agents (2019–2021)
- schools and childcare providers (2019–2021)
- police and emergency services (2019–2021)
- Local Aboriginal Land Councils (LALCs).

Details on the SIA-specific consultation activities, including interview responses are in section 5.2 in Technical Paper 11.

17.3.5 Risks identified

The environmental risk assessment for the proposal (refer to Appendix G) included consideration of risks associated with potential negative social and economic impacts. Those risks with an overall assessed rating of medium or above as identified by the environmental risk assessment (pre-mitigated) related to:

During construction:

- constraints in local short- and long-term accommodation markets restricting access for other community needs
- restriction on people's ability move around their community as a result of traffic restrictions and delays at level crossings
- restricted access to community services and facilities due to increased demand from the construction workforce
- impeded access across the rail corridor for emergency services, specifically during times of high bushfire risk
- stress and anxiety resulting from potential harm to identified sites of Aboriginal cultural heritage around the proposal site
- adverse mental health impacts predominantly for directly affected landowners as a result of the land access and acquisition process of negotiations over a long period of time
- adverse mental health impacts (frustration, impatience) and cessation of engagement with ARTC due to the protracted design and planning process
- adverse changes to community cohesion and perception of safety in relation to anti-social behaviour exhibited by temporary construction workforce
- changes in rural amenity and character which may affect people's sense of place, including adverse changes to existing visual amenity for three residential sensitive receivers in the local study area
- potential health and wellbeing impacts associated with amenity impacts (noise and dust)
- loss of local and regional agricultural production felt by individual landowners and regional producers
- adverse impact on agricultural businesses from land acquisition leading to severance.

During operation:

- changes to traffic movements and access for people moving around their communities including minor delays at new public level crossings
- a permanent change to the rural sense of place and identification to the land, experienced more acutely by landowners directly affected by the proposal, but also by residents of townships in the local study area
- perceived concerns around safety of people and livestock, and disturbance to farming operations from the impact of potential flooding on accessibility and safety around underbridges
- ongoing mental health impacts from that experienced during the construction phase. This accumulated sense of frustration, impatience and occasional mistrust of the process may affect future interactions between ARTC and affected landowners
- an altered sense of enjoyment of the rural landscapes from changes to the existing visual amenity leading to potential frustration
- sleep disturbance or ongoing exposure to airborne noise for sensitive receivers along the proposal site due to train activity, leading to a change to the level of enjoyment of the rural lifestyle that is highly valued by local residents
- ongoing health and wellbeing impacts for one residential receiver due to noise impacts associated with the realignment of Burley Griffin Way

- ongoing stress and anxiety associated with the longer term effects of property impacts on individual landowners relating to the land acquisition process, as well as the ongoing impact on economic livelihoods.

The assessments considered the potential risks identified by the environmental risk assessment (refer to Appendix G) and the potential positive benefits in addition to the potential risks and impacts identified by the scoping report, the SEARS and relevant guidelines and policies (refer to section 17.2.1).

17.3.6 How potential impacts have been avoided or minimised

The options development and assessment process for the proposal is summarised in Chapter 6: Alternatives and proposal options. The shortlist of route options was subject to a detailed assessment and the proposed alignment was refined based on evaluation of key considerations, including environmental and community impacts.

Potential environmental, community and property impacts were included in the list of selection criteria used for the analysis of options. This included consideration of the social impacts on community, community response, and current and future land use, along with associated economic impacts, to achieve the following outcomes:

- reduced property impacts and severance
- reduced impact on community due to increased distances to sensitive receivers.

Potential social and economic impacts have been avoided or minimised, where practicable by:

- undertaking extensive consultation with local landholders, community stakeholders and other relevant stakeholders to assist with the route option selection and design process
- designing the alignment to minimise the potential for amenity impacts arising from traffic, noise and vibration, air quality and visual amenity
- changing the crossing loop and rail maintenance access road from west side of the alignment at request of the Royal Fire Services (RFS) and Junee Shire Council to improve emergency fire access to the Bethungra ranges.

17.4 Existing social environment

This section provides an overview of the existing social characteristics of the proposal site, including a local study area baseline and a regional study area baseline.

A general description of the proposal site and surrounds is in Chapter 2: General biophysical and cultural environment.

17.4.1 Local study area baseline

The local study area is predominately comprised of private agricultural land holdings, and rural type land uses. However, three small rural townships are located proximal to the proposal site: Stockinbingal, Illabo and Bethungra. This section summarises the key characteristics of the social environment within the local study area, and details the demographic, housing, movement and access patterns, land use and social infrastructure characteristics. Full details are in section 6.1 of Technical Paper 11.

17.4.1.1 Key characteristics of the local study area

The local study area exhibits the following characteristics:

- agricultural land uses dominate the local study area, with 97% of the proposal site and 94% of surrounding land being used for cropping or grazing activities
- the population is heavily dispersed, with 86.6% residing in semi-rural and rural areas outside of the townships of Cootamundra, Stockinbingal, Bethungra and Illabo
- the road network is subject to seasonal peaks in usage due to increased agricultural movements during harvest season and via stock movements
- the housing stock comprises almost entirely of detached dwellings, with family households with children comprising the most common household type
- differing levels of socio-economic vulnerability including:
  - residents requiring assistance with core activities in Stockinbingal, suggesting a high reliance on the road network to access health and community service providers in Cootamundra and Temora
  - residents identifying as Aboriginal people or Torres Strait Islander people in Illabo

- households earning less than $650 per week in Stockinbingal and Bethungra suggesting vulnerability to price increases and or environmental changes
- households without internet access in Bethungra, requiring non-digital forms of notification and consultation.

This information is detailed further in the sections below and in section 6.1 of Technical Paper 11.

17.4.1.2 Land use

Chapter 18: Land use and property and Technical Paper 11 identified that most of the local study area has been extensively cleared and is predominantly used for agriculture. Cropping activities are focused on annual crops, with sheep and cattle accounting for the majority of grazing activities. There is minimal residential development located within 1 km of the proposal site for most of the alignment, except for the township of Stockinbingal near the northern extent.

17.4.1.3 Transport and access

Chapter 11: Traffic, transport and access and Technical Paper 3: Traffic, transport and access (Technical Paper 3) outline the road network in the vicinity of the proposal site. The proposal intersects one highway, Burley Griffin Way (B94), towards its northern extent and also crosses several local and private roads. Traffic volumes in the local study area are generally considered low, with little congestion. There is a livestock highway (a sealed road used for the movement of travelling stock) that uses several of the same roads required to service the proposal site.

Several active rail lines traverse the local study area that carry a mixture of passenger and freight services to and through the region from the rest of NSW and Victoria. However, there are no active passenger stations located in the local study area, with Illabo, Bethungra and Stockinbingal Train Stations no longer in service.

17.4.1.4 Overview of towns in the local study area

Stockinbingal

Stockinbingal is a small township located on the Burley Griffin Way, 410km south of Sydney and adjacent to the proposal site. Established in 1886, it had a population of 202 at the 2016 census and is primarily involved in farming with associated industries and services producing wheat, canola, cereal crops, sheep, wool, fat lambs and cattle. The township is typified by low-density and semi-rural residential development primarily located to the north of Hibernia Street/Burley Griffin Way. A small cluster of both active and abandoned commercial buildings and several community facilities is located on Hibernia Street. However, there is no active or defined town centre.

Social infrastructure

Stockinbingal features a range of social infrastructure to service the needs of the town, all located within one kilometre of the proposal site. This includes a public school, two churches, a bowling club, a recreation ground, tennis courts and playground, a war memorial and meeting hall. It is considered that residents would likely travel to Cootamundra, which is 20 km south-east of the Stockinbingal or a 20-minute drive, to access secondary education, retail and community services.

Illabo

Illabo is a small rural township located on the Olympic Highway between Junee and Cootamundra. It had a population of 59 at the 2016 census. The township exhibits a very dispersed settlement pattern of semi-rural residential and agricultural service facilities such as silos, and there is no commercial centre.

Social infrastructure

The social infrastructure in Illabo is limited to a public school, a showground, tennis court, meeting hall and a motorsports park. This which corresponds with the relatively small population and proximity to Junee. There is no social infrastructure in Illabo within one kilometre of the proposal site.

Bethungra

Bethungra is also a small rural township typified by dispersed semi-rural residential development with a small cluster of houses and commercial business located along Bethungra Street/Olympic Highway. The population was 45 at the 2016 census. Retail outlets in the town are limited to a petrol station and a café in the old schoolhouse. There is no train station remaining in Bethungra.

Social infrastructure

The only social infrastructure in Bethungra is the war memorial and recreation reserve, which features a playground and rest areas. There is no social infrastructure in Bethungra within one kilometre of the proposal site.

17.4.1.5 Demographic characteristics

There were 1,321 people living across 633 dwellings in the local study area at the 2016 census, with the majority (86.8%) residing in semi-rural and rural areas outside of the three towns.

Age profile

The median age in each of the towns within the local study area is notably higher than that of NSW more broadly, most significantly in Stockinbingal where the median age is more than 10 years older than the state.

Vulnerability indicators

Social vulnerability refers to the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of external stresses (Blaikie et al., 2014). Vulnerable communities can be more susceptible to environmental and social changes. Vulnerability indicators can relate to needing assistance undertaking core activities (physical vulnerability); being an Aboriginal person or Torres Strait Islander; being unable to speak English or having limited English; having no internet connection (social vulnerability); or being part of a household earning less than $650/week (economic vulnerability).

Local study area communities exhibit differing levels of socio-economic vulnerabilities. In terms of social vulnerability, the local study area exhibits high English proficiency, a low proportion of low-income households, and high levels of internet use. The local study area does, however, exhibit a slightly higher proportion of residents who identify as Aboriginal people or Torres Strait Islander people. In terms of physical vulnerability, the local study area has a higher proportion of residents requiring assistance with core activities, either due to age and/or disability, when compared to broader NSW. All three towns have limited access to social, health and disability services.

Housing

There were 632 dwellings located in the local study area in 2016, of which 522 were occupied. Further analysis of rental and short-term accommodation markets is in section in section 17.4.2.9 and section 17.4.2.10.

Tenure

Of the 522 occupied dwellings in the local study area, 72.3% are owned, either with or without a mortgage. There are relatively few renters in the local study area.

Household composition

Family household with children is the dominant household type in the local study area, which correlates with the relatively high proportion of residents aged under 18 years old detailed in the age profile.

17.4.2 Regional study area baseline

This section provides an overview of the key characteristics of the social environment within the regional study area, including a summary of the LGA population, community values, population trends, education, employment, housing and accommodation and vulnerability characteristics. Full details are in section 6.2 of Technical Paper 11.

The regional study area includes six LGAs that will act as the employment and service catchment for the proposal. The proposal site sits within the LGAs of Junee Shire and Cootamundra–Gundagai Regional Council. The townships of Junee and Cootamundra are the administrative centres and largest townships in the two LGAs and are also the largest urban centres located proximal to the proposal site (refer to Figure 17-2).

Four other LGAs form part of the regional study area: Hilltops Council, Temora Shire, Coolamon Shire, and City of Wagga Wagga. The proposal does not directly impact the four LGAs. Still, their relative proximity and shared economic, social and cultural ties make them part of the proposals broader area of social influence.

17.4.2.1 LGA population summary

There are several community characteristics evident across the six LGAs that comprise the regional study area, such as:

- the region is very culturally homogenous, with a regional study area average of 85.1% of residents being born in Australia, compared to 65.5% for NSW
- there is a relatively high proportion of Aboriginal and/or Torres Strait Islander residents in the regional study area (4.7 %); however, Indigenous residents are more prevalent in larger townships, particularly Cootamundra, Young and Wagga Wagga

- overall, with the exception of the Wagga Wagga and Junee Shire LGAs, the regional study area has an aging population and a relatively small proportion of people in the potential labour force; however, most LGAs are also exhibiting higher incidences of residents aged 0–14, suggesting a robust regional birth rate.

17.4.2.2 Community identity

Consultation indicates that residents value the region for the strength of its community connections and support, particularly in times of hardship. Community resilience and support for each other were noted as one of the key social values. However, the area is experiencing some downturn and the loss of local population and maintaining a young population in the area is a key concern. The rural environment and agricultural industry base are the key feature of the regional study area and the economic and social lifeblood of the region. Communities value the support agriculture provides and the historical and social significance the industry has in the region.

The regional study area covers the lands of the Wiradjuri Nation; 4.7 per cent of the regional study area population identifies as Indigenous. Consultation with LALCs is provided in section 17.3.4.2

17.4.2.3 Events and activities

Events and activities are a key part of community identity and social value as they bring people together for common interests. Major events help to benefit local businesses and community organisations through additional participation and spending and can also increase visitors to an area and can generate some pressure on local accommodation and services. A complete list of community events and activities in each town and centre, including Wagga Wagga, is detailed in Appendix A of Technical Paper 11.

17.4.2.4 Values

Surveys and broader engagement results from consultation (refer to section 17.3.4) indicate a number of key and consistent community values in the regional study area, such as:

- close-knit, connected, resilient supportive and generous communities that work to help each other across ages and different social groups
- a relaxed lifestyle where people are friendly
- an attractive area for families, due to the lifestyle offered
- a general sense of safety and security within their town
- the economic contribution of older community members, particularly farmers, and the support that local people give to businesses, particularly during times of hardship such as drought.

The full list of values is provided in section 6.2.5 of Technical Paper 11.

17.4.2.5 Challenges

Key challenges and concerns, identified through the consultation process (refer to section 17.3.4), which influence community values, include:

- drought and the related impacts on farmers and local businesses
- young working-age people are leaving the region to pursue study and alternative careers
- vulnerability within the business community and the impact of people shopping at larger centres and the ability to attract medium to large retailers to the region
- inability to maintain services and facilities in the region such as roads and medical facilities
- Indigenous young people are disengaged and there should be more opportunities for involvement.

The full list of challenges is provided in section 6.2.6 of Technical Paper 11.

17.4.2.6 Population trends

Population projections for 2016–2041 for the regional study area in Technical Paper 11 show that, out of the LGAs, only Wagga Wagga LGA will experience strong population growth, of around 11.5% while Coolamon and Temora LGAs are anticipated to experience relatively stable populations in this period, and Cootamundra–Gundagai and Hilltops LGAs are expected to experience a population decline.

These population projections pre-date the COVID-19 pandemic which has seen a shift in Australian population trends, with an acceleration of regionalisation occurring. As a result, regional study area communities may be experiencing a stabilisation or increase in population that challenges these predictions. Consultation with local real-estate agents and service providers and recent property and sales data across the region indicates strong demand,

in the short-term, which will likely support a population growth scenario. However, the data remains unclear whether this recent population growth in regional areas will be sustained over the long-term.

17.4.2.7 Education

Overall, the regional study area exhibits relatively low levels of tertiary qualifications. All LGAs also exhibit higher rates of Certificate three and four attainment than the NSW average. Certificate III and IV qualifications are typically trades- and skills-focused, which correlates with likely employment demands related to the agricultural and manufacturing-based economy where technical qualifications are required.

17.4.2.8 Employment

December 2020 Small Area Labour Markets data identifies a potential local labour force of 58,260 located in the regional study area. Unemployment rates peaked due to decreased agricultural outputs during drought conditions in 2018; however, unemployment rates are improving in line with national unemployment rates. It is considered that unemployment across the regional study area would have also likely decreased due to record-breaking improved agricultural conditions, local economic development and increased regional migration.

Industry and employment

Agriculture, Forestry and Fishing and Manufacturing dominate the regional economy as the largest employer by industry and responsible for the largest economic output for nearly all six of the LGAs; however, each LGA varies in local specialisations and unique industries (refer to Table 6.14 in Technical Paper 11).

There is a high prevalence of managers, labourers and technicians and trade workers in Coolamon, Cootamundra–Gundagai, Junee, Temora and Hilltops LGAs associated with the extensive agriculture and manufacturing industries. Community and professional services occupations also feature frequently across all LGAs.

Adequately skilled workers may be difficult to find in the region (refer to section 17.6.1.1).

Indigenous labour force

The Indigenous population is under-represented in the regional labour force. Only 53% of Indigenous people aged 15 or over are either employed or looking for work. At the LGA level, Cootamundra–Gundagai, Hilltops and Wagga Wagga LGAs all have relatively large Indigenous populations and a relatively high Indigenous unemployment rates, suggesting a large proportion of Indigenous residents would benefit from local employment and training initiatives.

Youth (15–24 years) labour force

Youth unemployment rates are considered in the context of labour force participation rates, as many may be studying full-time and may have no current interest in working or looking for work. The youth unemployment rate of Cootamundra–Gundagai LGA is 9.7% compared to 13.6% in NSW (in 2016, pre-COVID-19). Full-time employment represented the highest rate of youth labour force with Cootamundra–Gundagai LGA at 48.4%, Junee LGA at 47.2% and Temora LGA at 46.5%.

17.4.2.9 Housing and accommodation

Housing and accommodation data has been analysed at LGA and Service Community level (refer to section 6.2.10 of Technical Paper 11). Service communities comprise the majority of housing stock in an LGA and are most likely to experience changes in demand as a result of the proposal.

Key findings of this analysis are:

- there were 50,265 dwellings in the regional study area at the 2016 census
- of the occupied dwellings, separate houses are the most common structure across all LGAs
- three-bedroom (44.1%) and four-bedroom (34.4%) dwellings are the most prevalent dwelling types across the study area
- there is a higher proportion of owned outright dwellings across the study area (40.4%) than the NSW average (40.4%). All LGAs, except Wagga Wagga (29.2%), exhibit higher homeownership rates than the state average
- residential vacancies across the study area are currently at record lows due to increased regional migration and improved agricultural conditions (Infrastructure Australia, 2020)
- overall, at 21 April 2021, there were 131 houses and 59 units for rent in the study area, at a median rent of $306 per week for a three-bedroom house, and $232 per week for a two-bedroom unit, with the bulk of these vacancies being located in Wagga Wagga.

Further discussion on the implications of the existing housing and accommodation situation is in section 17.6.1.3.

17.4.2.10 Short-term accommodation

The following section details the availability of short-term accommodation options in the regional study area, current demand patterns and potential vacancy levels.

Short-term accommodation capacity

The analysis in Technical Paper 11 considered five options for accommodation options: hotels, motels, apartments and bed and breakfasts, and caravan parks (cabins), and found approximately 1,354 rooms available in the regional study area, with more than half (700) of these rooms located in Wagga Wagga. Motel rooms are the most common type of short-term accommodation (717 rooms), with hotels the second most common (380 rooms). All hotel rooms are located in Wagga Wagga, accounting for the city's role as a major regional centre. Further details are in Table 6.21 of Technical Paper 11.

Tourism demand

Regional tourism is experiencing significant growth with international border closures due to the COVID-19 pandemic forcing Australians to holiday domestically. Available data is evident of a robust local tourism market and associated demand. Wagga Wagga had the highest overall visitors of the four LGAs (1,357,00 people) who stayed a total of 503,000 combined nights in hotel or motel accommodation. These numbers are expected to have increased in line with current tourism trends mentioned above.

A key consideration is how tourism demand may be affected once international borders reopen for Australians wanting to travel overseas. At the time of writing, border reopening was scheduled for November 2021; however, it is unknown to what extent international travel will be taken up during construction period for the proposal (mid 2023–late 2024).

17.4.2.11 Wellbeing

Wellbeing is influenced by several biological, psychological, social and environmental factors which interact in complex way, these include access to economic resources, sense of belonging and physical health (Everymind, 2021).

In terms of income, all regional study area LGAs exhibit a lower median weekly income than the NSW median.

Socio-economic advantage and disadvantage ratings based on the Socio-Economic Indicators for Areas (SEIFA) indices for the three LGAs identify that Cootamundra–Gundagai, Hilltops and Junee LGA all rank in the third decile and experience high social disadvantage levels with a high relative socio-economic disadvantage. Temora LGA has the highest decile scores in the study area, making it the location with the least disadvantage.

The regional study area exhibits a highly engaged and active volunteer community, with relatively high proportions of residents undertaking unpaid work for a community organisation and group when compared to the NSW average (18.9%).

In terms of health outcomes, the regional study area sits within the Murrumbidgee Local Health District, which is a NSW government health administration region. Overall, life expectancy in the Murrumbidgee Local Health District is 83.9 years for females and 79.5 years for males, which is just over one year less than the NSW average. Daily hospitalisation rates are significantly higher for the LGAs in the local study area than that of NSW, indicating a higher demand for local health services in these LGAs. The data on injury deaths (that are potentially preventable) support consultation outcomes, which noted significant concern amongst stakeholders about mental health issues across the region.

17.4.3 Regional transport networks

A comprehensive review of the existing transport network can be found in Technical Paper 3.

17.4.3.1 Existing road network

The regional study area is traversed by an extensive network of highways and state roads, providing access to the rest of NSW and Australia for passenger and freight services. Of relevance to the regional study area:

- the Olympic Highway runs through the townships of Young, Cootamundra, Junee and onward to Wagga Wagga and the small townships of Bethungra and Illabo in the local study area. The Olympic Highway commences in Cowra, NSW, and runs through to Albury at the NSW–Victoria border
- Burley Griffin Way is a state road that connects with the Olympic highway midway between Young and Cootamundra and runs through Stockinbingal in the local study area and onward to Temora. Burley Griffin Way commences at the Hume Highway in Browning, NSW, and runs through to Griffith in NSW

- Goldfields Way is a state road that connects Temora to Junee at the Olympic Highway. Goldfields Way commences at the Newell Highway in Wyalong and ends at the Olympic Highway in Junee.

Coolamon is not serviced by any major state roads or highways and relies on Ardlethan Road, Canola Way and Coolamon Road as the primary access point to the wider highway network.

The local and non-resident workers would heavily use these roads to access both the proposal site and accommodation and community services supplied in regional townships.

17.4.3.2 Existing rail facilities and operations

The existing rail network in the area includes the Main South Line, the Lake Cargelligo Line and the Stockinbingal–Parkes Line.

Illabo is located on the existing Main South Line that runs from Albury to Liverpool in Sydney. The Main South Line continues north-east from Illabo through the Bethungra Spiral to Cootamundra and continues to Sydney.

The Lake Cargelligo Line branches north-west from Cootamundra and links to Stockinbingal and continues to Lake Cargelligo. The line is now primarily used for grain haulage and freight trains to bypass Sydney.

The Stockinbingal–Parkes Line (also known as the 'Forbes' line) runs north-south joining Stockinbingal to Parkes on the Main West Line. No regular passenger services currently use the line, although the Main West Line passenger services occasionally divert over the line when track work closes the main route. This line is part of the main route for goods trains travelling between Sydney and the west of NSW as it allows freight to bypass the Blue Mountains from Cootamundra to Parkes. The Illabo and Stockinbingal stations are no longer in use as passenger stations.

17.4.3.3 Passenger services

The Cootamundra and Junee railway stations remain open to passengers travelling on the Main South Line. However, neither the Illabo nor Stockinbingal stations currently service passengers. NSW TrainLink operates two services a day in each direction between Sydney and Melbourne along the line. Daily passenger rail services operate between Junee and Cootamundra, traversing through Illabo via a rail line adjacent the Olympic Highway.

Daily passenger and school bus services operate between Junee and Wagga. These services operate along the Olympic Highway.

17.4.3.4 Active transport networks

There is no dedicated pedestrian or cycling infrastructure in the regional study area.

17.4.3.5 Journey to work

Several respondents to the SIA survey indicated they lived in a nearby town rather than the town they worked. The towns they travelled from were on average 30–60 minutes away.

As expected for a regional area, motor vehicle is the dominant mode of transport to work with over 70% of workers travelling to work by car. The high rates of motor vehicle usage across the study area, and relatively high regional mobility identified through consultation indicate that regional study area residents would be highly reliant on the regional highway and state road network to travel to work.

There is a high proportion of home-based workers in all LGAs except Wagga Wagga, which likely correlates with the strong agricultural sector in the region, and the number of home-based farm managers and workers.

17.4.4 Social infrastructure

Social infrastructure in the regional study area has been identified in the context of servicing workforce training, health and lifestyle demands. As such, the following analysis identifies hospitals and healthcare facilities and tertiary and vocational education providers.

17.4.4.1 Hospitals and healthcare facilities

Hospitals and medical facilities

The regional study area is well supplied with a range of health and medical facilities of varying sizes and capacities. All service communities feature a purpose-built health service, with inpatient and emergency consultation capabilities.

Wagga Wagga as the principal regional service centre for the Murrumbidgee Local Health District host the largest hospital at 325 beds. The Wagga Wagga Health Service is a referral hospital and absorbs critical care and complex cases from the surrounding smaller health services.

The regional study area also features a range of mental health outpatient and inpatient treatment services to service the high levels of mental health injury cases noted in section 17.6.5.

Emergency services

Emergency services provision across the regional study area is primarily concentrated in the majors service centres of Young, Cootamundra, Junee, Wagga Wagga, Coolamon and Temora. Each service centre has a police station, fire station and an ambulance station.

The State Emergency Service Murrumbidgee–Southern Zone covers most of the regional study area, with the Southern Zone Headquarters located in Wagga Wagga. Smaller local units are located in Coolamon, Cootamundra, Gundagai, Junee and Temora.

17.4.4.2 Tertiary and vocational education

There is a range of tertiary and vocational training providers in the regional study area delivering a range of training programs of relevance to the proposal.

Charles Sturt University is the only university located in the regional study area, with the principal campus located in Wagga Wagga. Charles Sturt University is a specialist regional university, with campuses spread across regional NSW. Courses provided in Wagga Wagga mainly focus on business, humanities and health sciences . It is considered that regional study area residents likely travel to Sydney, Canberra or another regional centre to undertake tertiary studies in Engineering or similar disciplines.

There are five TAFE campuses also located in the regional study area. These campuses offer a range of courses in varying disciplines including health, community services, business, project management, construction, automotive and mechanical services, fabrication, and hospitality services.

Of relevance to the proposal, the Young, Cootamundra and Wagga Wagga campuses offer Certificate III and IV level courses in construction trades, fabrication technology and worksite safety. The three campuses also deliver short courses relevant to machinery operation necessary to attain construction white cards and machinery tickets.

17.5 Existing economic environment

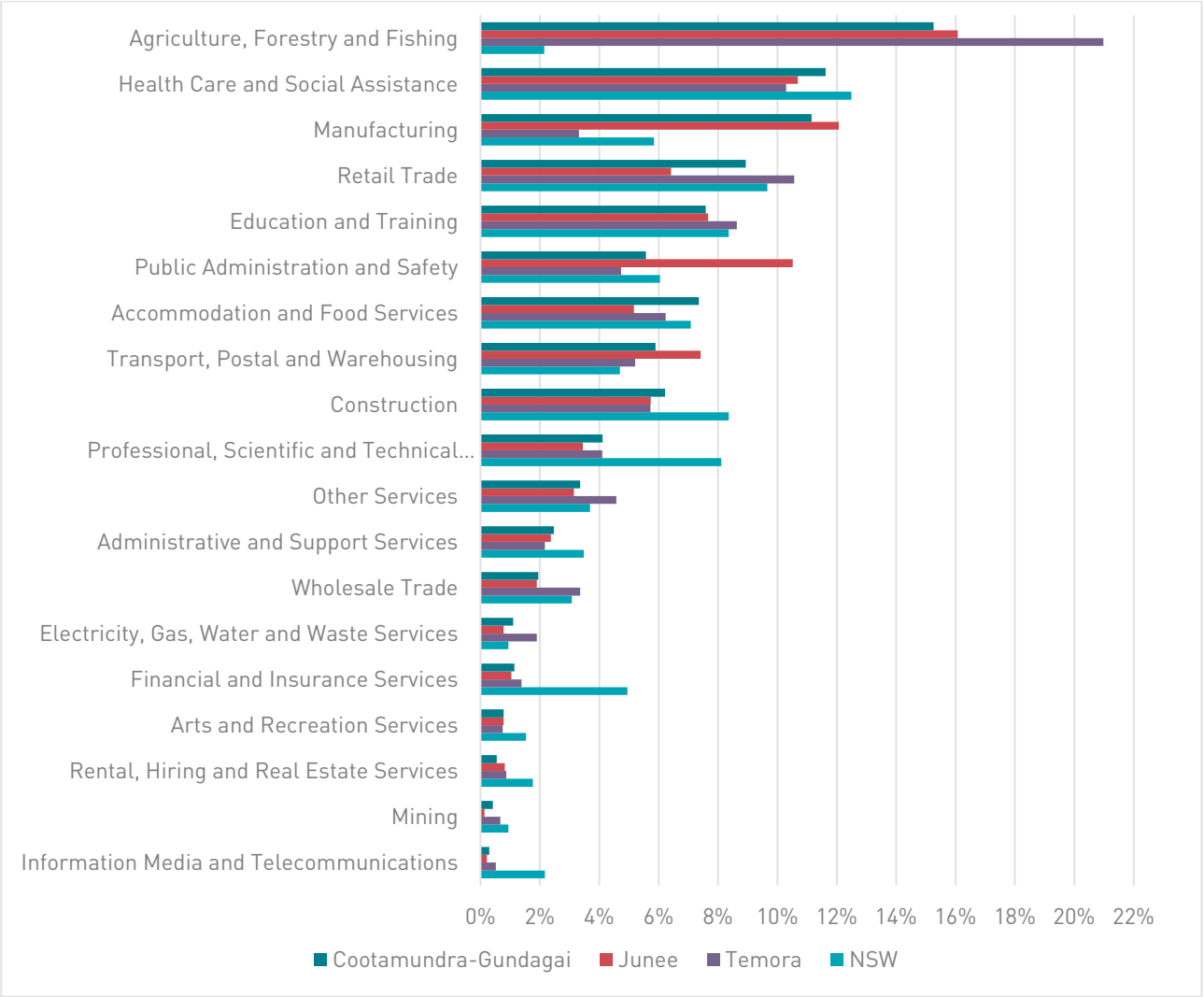
The following section describes the key demographic and economic characteristics of the local economic catchment, including the local population and the existing regional and local economic environment. Unless otherwise stated, all information contained within this section has been drawn from the 2016 Census. This information is current as at the June 2021 quarter and may not reflect recent changes in demographic and employment outcomes resulting from the economic shock associated with the COVID-19 pandemic.

17.5.1 Labour market and employment

17.5.1.1 Employment by industry

Figure 17-4 shows the sectoral distribution of employment for local residents within the local economic catchment compared to NSW state averages. The Agriculture, Forestry and Fishing industry employs the largest number of local residents (1,574 workers), representing 17.1% of the total workforce (compared to the NSW average of 2.1%). Within Agriculture, Forestry and Fishing, the primary source of employment is in Sheep, Beef Cattle and Grain Farming (1,146 workers).

As shown in Figure 17-4, following Agriculture, Forestry and Fishing, the largest industry sectors by employment include Health Care and Social Assistance (11.0%), Manufacturing (9.2%), Retail Trade (8.7%), and Education and Training (7.9%).



Source: *2016 Census of Population and Housing (ABS, 2016)*

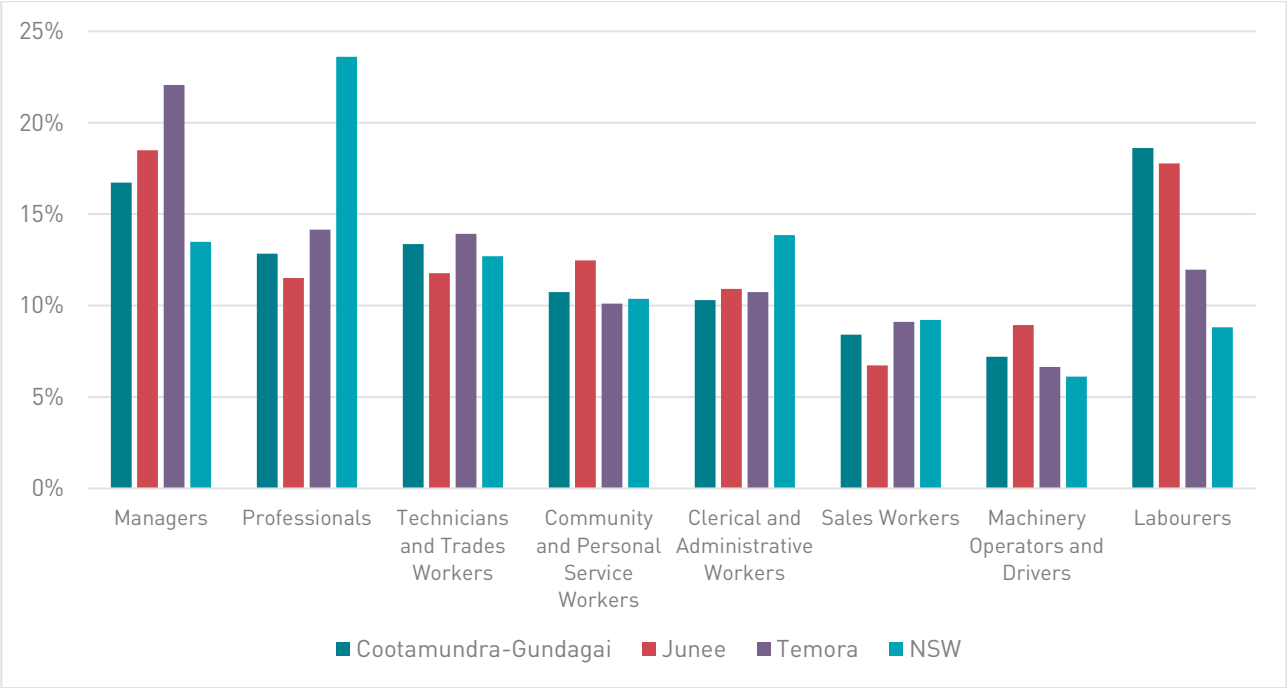
FIGURE 17-4: EMPLOYMENT BY INDUSTRY, ECONOMIC IMPACT ASSESSMENT AREA, 2016

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

17.5.1.2 Occupation

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

As shown in Figure 17-5, the local economic catchment has a higher proportion of Managers (22.1%) and Labourers (16.6%) compared to the NSW average (13.5% and 8.8% respectively). The local economic catchment has a lower proportion of Professionals (12.8%) and Clerical and Administrative Workers (10.6%) compared to the NSW average (23.6% and 13.8% respectively). The largest proportion of the local economic catchment's workforce are employed as Farmers and Farm Managers (11.4%), reflective of the local economic catchment's highly developed agricultural sector.



Source: *2016 Census of Population and Housing* (ABS, 2016)

FIGURE 17-5: LOCAL WORKERS OCCUPATION, ECONOMIC IMPACT ASSESSMENT AREA, 2016

Construction labour availability

In June 2021, construction industry reports outlined that COVID-19 has disrupted labour supply chains and is continuing to cause fluctuating labour availability and conditions, particularly due to changing government restrictions. Despite this, the reports forecast strong rail construction industry activity over the next five years, underpinned by several landmark projects, especially in capital cities. Revenue and employment are expected to peak in 2023-24 during the core stages of many of these projects. Further information is provided in section 3.2 of Technical Paper 12.

17.5.1.3 Labour force

According to the Australian Government's quarterly regional estimates of unemployment, as at December 2020 there were a total of 11,143 employed persons in the local economic catchment (46.9% located in Cootamundra–Gundagai) (National Skills Commission, 2020).

In the December 2020 quarter, the average unemployment rate in the local economic catchment was 4.9%, lower compared to NSW at 6.2% (ABS, 2020b). In the same period, the unemployment rate was 5.1% in Cootamundra–Gundagai, 4.8% in Junee and 4.8% in Temora (ABS, 2020b). Over the 24 months to December 2020, the unemployment rate has improved across the local economic catchment, which does not reflect statewide unemployment trends.

The NSW unemployment rate peaked at 7.1 per cent in July 2020, which reflects the economic impact from the COVID-19 health crisis (ABS, 2020b). The COVID-19 shock impacted the existing labour markets from March 2020, and NSW continues to experience higher levels of unemployment compared to 2019. A summary of key labour market characteristics is in Table 17-1.

TABLE 17-1: SUMMARY OF LABOUR FORCE CHARACTERISTICS, DECEMBER 2020

Area	Labour force[1]	Participation rate[1,2]	Unemployed persons[1]	Unemployment rate[1]	Unemployment rate 12-month[1]
Cootamundra–Gundagai LGA	5,234	50.7%	265	5.1%	-1.1
Junee LGA	2,905	47.0%	138	4.8%	-0.2
Temora LGA	3,004	53.5%	145	4.8%	-0.7
NSW	4,117,616	59.2%	270,280	6.2%	+2.0

1. Participation rate for working age population 15 to 64 years, June 2016 (ABS, 2016)
2. 2016 Census of Population and Housing, June (ABS, 2016)

17.5.1.4 Indigenous labour force

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

Overall, the local economic catchment has an Indigenous unemployment rate of 16.5% and an Indigenous labour force participation rate of 37.4%. Notably, within the Junee LGA (where the proportion of the population that identify as Indigenous is nearly three times the NSW average), the Indigenous unemployment rate is16.9%, more than three times the unemployment rate of the total Junee population, and the Indigenous labour market participation rate is significantly low at just 20.5%.

17.5.1.5 Youth labour force

Youth unemployment rates (persons aged 15 to 24 years) are significantly higher than the total unemployment rate across the local economic catchment (Table 17-2). In all three LGAs, the youth unemployment rate is more than double the total unemployment rate. High youth unemployment is a key factor in the continuing trend for young people to leave rural areas and relocate to larger population centres.

TABLE 17-2: YOUTH LABOUR FORCE, 2016

	Youth labour market (15–24)		Total labour market	
	Unemployment rate	Participation rate	Unemployment rate	Participation rate
Cootamundra-Gundagai LGA	10.6%	61.2%	5.1%	50.7%
Junee LGA	12.3%	47.7%	4.8%	47.0%
Temora LGA	10.3%	57.1%	4.8%	53.5%

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

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

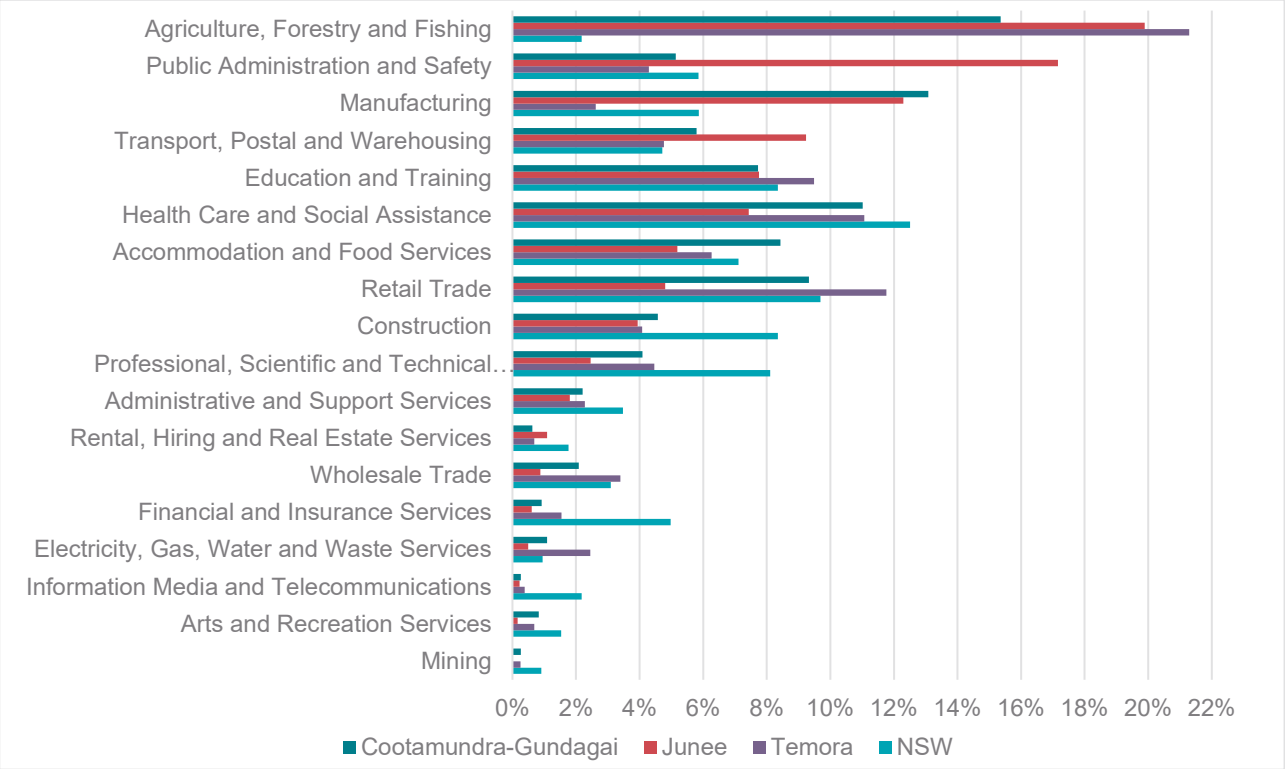
17.5.1.6 Household income

The local economic catchment has a median weekly income of $1,025, which is lower than the regional economic catchment area of $1,232 and $1,486 for NSW.

17.5.2 Business and industry

17.5.2.1 Industry by employment[1]

The local economic catchment is a place of work for approximately 8,298 persons (who live both within and outside the catchment area).[2] Industry by employment in the local economic catchment is shown in the Figure 17-6.



Source: *2016 Census of Population and Housing* (ABS, 2016)

FIGURE 17-6: INDUSTRY BY EMPLOYMENT, ECONOMIC IMPACT ASSESSMENT AREA, 2016

Agriculture, Forestry and Fishing is the largest industry of employment in the local economic catchment, accounting for 16.7% of all jobs (1,497 jobs). This industry represents 15.4% of jobs in Cootamundra–Gundagai, 19.9% in Junee and 21.3% in Temora. Within this industry, most workers are employed in the Sheep, Beef Cattle and Grain Farming sector (1,111 persons), which is reflected in the local business and industry profile below (section 17.5.3.1). The Manufacturing industry supports 10.0% of total jobs (826 jobs), predominately in meat and meat product manufacturing (567 jobs). This percentage reflects the region's economic strength in livestock slaughtering, with cattle and calves representing close to 10% of gross value of agricultural production in the Riverina region.

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

There are opportunities offered by the proposal to improve the productivity of the local industry by reducing the distance between dispersed agricultural activities to processing and markets (refer to section 17.9).

1. 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 that may be occupied by residents or workers who travel to the area for employment.
2. 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 that may be occupied by residents or workers who travel to the area for employment.

17.5.3 Local businesses and industry

17.5.3.1 Agriculture industry

The Riverina region is one of the most productive and agriculturally diverse areas in Australia, with 78% of the region's land mass comprised of arable agricultural land (44,600 km^2) (ABARES, 2019). A supply of water for irrigation is provided by the Murrumbidgee and Murray Rivers, with the Riverina region traversing the draining basins of these significant waterways. The most common land use in the area is grazing modified pastures which occupies 39 per cent (22,091 square kilometres) of the region's land mass (ABARES, 2019). As such, the agriculture industry offers significant export opportunities for the region, particularly for agricultural and livestock products.

In 2018-19, the gross value of agricultural production in the Riverina region was $2.5 billion, representing 21 per cent of the total gross value of agricultural production in NSW (ABARES, 2019). The most valuable agricultural commodities in the region are were cattle and calves ($334 million), followed by wheat ($301 million) and poultry ($272 million) (ABARES, 2019). Almonds are also a significant commodity of production, with the region producing 40.2% ($14.7 million) of the total State production (ABS, 2018).

At a local level, the value of annual agricultural production in Cootamundra–Gundagai is approximately $103 million, with 60% of this value represented by livestock products (Cootamundra–Gundagai Regional Council, 2018d). Just over 96% of land in Cootamundra–Gundagai is zoned as rural, with the majority (95%) zoned for Primary Production. Pastures for sheep and cattle comprise 50% of the land use in the area, with a further 40% used for cropping such as wheat, canola and hay (Cootamundra–Gundagai Regional Council, 2018d). In Junee, farmland is almost exclusively characterised as broad acre farming, being labour intensive and highly mechanised. Typically, land is run by large, family-owned acreages (Junee Shire Council, 2018). In Temora, approximately 93% of land is used as farmland. Some 96% of farming businesses produce crops or livestock, and together the farming sector provides half of Temora's council rates revenue.

The largest proportion of businesses in the local economic catchment are in the Agriculture, Forestry and Fishing industry. This reflects the area's land use and geographic location, with 452 businesses in Cootamundra-Gundagai (43.2%), 276 businesses in Junee (26.4%) and 318 businesses in Temora (30.4%) operating in this industry sector (ABS, 2021).

17.5.3.2 Local business

Construction materials and services

There is a small representation of construction businesses located within the local economic catchment, with a total of 125 employing businesses and a further 165 non-employing businesses across Cootamundra–Gundagai, Junee and Temora (ABS, 2021a).

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

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

Local resource interests

There are no mining, mineral exploration or petroleum exploration leases within the local economic catchment.

Transport

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

- Sutherlands Transport (Cootamundra), which services Cootamundra, Wagga Wagga, Cowra, Dubbo, Griffith, Hay, Bourke, Tamworth, Canberra, Melbourne and Sydney
- QUBE Logistics, located at the Harefield Intermodal Terminal in Harefield.

17.6 Social impact assessment—construction

This section summarises the assessment of potential social impacts that may result from construction of the proposal in accordance with the methodology outlined in section 17.3, including consideration of the key issues raised during of consultation as per section 17.3.4.

The sections below describe these potential social impacts from construction of the proposal, according to each social impact area (as defined in section 17.3.2.2).

17.6.1 Way of life

17.6.1.1 Employment and economic impacts

The proposal is expected to result in local and regional employment and economic benefits during the construction phase. This is further discussed in section 17.8. Outcomes of the SIA are in the following sections.

Construction workforce

During the construction period, the construction workforce will expand and contract depending on the type of construction activity being undertaken and the final staging strategy adopted, as detailed in Section 8.4.1 of Chapter 8: Proposal description—construction. Workforce numbers will fluctuate according to demand with a peak construction workforce of approximately 425 people expected to be active during December 2024 and January 2025.

Local resources would be used as much as possible, accounting for current labour market conditions, skills and availability.

Non-construction workforce

In addition to the construction workforce, the project would require approximately 20 additional personnel associated with management and technical specialist roles. These are not considered part of the construction workforce (and are not accounted for in Section 8.4.1) but will be present in the local area during the construction phase. Of the approximately 20 personnel, five would be considered part of the core project management team (ARTC personnel) and would stay in the local study area for a period of 18–24 months. The remaining 15 workers would be made up of ARTC-managed technical specialists who would conduct site visits along the proposal site.

Additional jobs

Outside the construction and non-construction workforce (ARTC personnel or ARTC-managed technical specialists), there would be additional jobs (direct and indirect) created during the construction phase—averaging an annual increase of 176 jobs under a slack labour market scenario, and 43 jobs under a tight labour market scenario (refer to section 17.10.2 and section 4.5.3 of Technical Paper 12).

Local direct employment

The 2016 census identified 3,603 persons who work in the construction industry in the local employment region (where their principal place of residence is located in any local government area within approximately 125 km radius of a project). However, of these, only 311 work in the heavy and civil construction sector, possessing the skills and knowledge most relevant to the construction of the proposal. Given the current conditions of the local labour market, including relatively low unemployment rates, it is considered unlikely that there would be a significant proportion of local unemployed persons who also possess the technical skills relevant to support the majority of roles necessary to deliver the proposal.

There will be opportunities for local employment and exact thresholds would be determined once the construction contractor is appointed based on skills availability. A pathway to potential employment opportunities would be available through the ARTC Skills Academy (refer to section 17.6.1.2). The opportunity for employment in the proposal's construction workforce would be highly beneficial for improving the levels of financial and social wellbeing of individuals and their families. Further detail is provided in section 7.1 of Technical Paper 11.

Local indirect employment

Stimulation of business up the supply chain will create indirect employment opportunities in occupations such as engineering and consulting (e.g. feasibility assessment) during project planning, and in the supply chain for construction materials during the proposal's construction. This is further discussed in section 17.8.

17.6.1.2 Skills development and training

The ARTC Skills Academy was launched in August 2019 with the aim of creating opportunities in education, skills development, training and employment for communities affected by the project. The Academy itself is not and Registered Training Organisation (RTO), rather it provides a pathway to potential employment opportunities and partners with Councils, State Government, RTOs, LALCs and local employment services to support people interested in working on Inland Rail.

As identified in section 17.4.2.7, there is a skills shortage in the regional study area in disciplines that may be relevant to the construction of the proposal. The skills development and training provided during construction through the ARTC Skills Academy would contribute to some workers' ability to diversify their skillset to obtain broader employment opportunities.

17.6.1.3 Housing and accommodation

A separate assessment of accommodation for the proposal details regional accommodation options and potential capacity issues relevant to the proposal. This assessment of accommodation was supported by the determination of local labour supply in the SIA, which assumed that during construction:

- approximately 64 construction workers would reside locally (representing 15% of 425 workers during the highest demand months (December 2024 to January 2025)) and the remaining 361 workers (representing 85% of 425 workers during the highest demand months would be from outside the local area and require accommodation during at peak construction of the proposal
- of the non-construction workforce, 15 would be considered short-term visitors to the proposal site (ARTC-managed technical specialists) and the remaining 5 (ARTC core project management team) would be longer-term residents in the local study area.

An analysis of options for housing and accommodation follows.

Private rental market

Current social trends such as strong regional migration and improved economic conditions resulting from increased agricultural conditions and local development have resulted in a highly competitive private rental market. If the private rental market is used to house the proposal workforce, the further demand would likely constrain supply and increase prices. It is anticipated that the private rental market would be able to service the small number of non-construction personnel requiring long-term accommodation with minimal impact.

Short-term accommodation market

The assessment of accommodation outlines there are currently 1,354 rooms in the local study area (refer to section 17.4.2.10). Further findings were:

- consultation with regional accommodation providers (outside Wagga Wagga) indicated strong demand for short-term accommodation by seasonal agricultural workers during the spring/early summer and autumn months. Many indicated occupancy rates around 80–100% during these periods
- consultation with Wagga Wagga accommodation providers indicated relatively stable occupancy rates across the year, at an estimated occupancy rate of 70%, with minor peaks around major events and holiday times.

The estimated occupancy rates and available rooms throughout the year across the regional study area as outlined in the assessment of accommodation are in section 7.1.3.2 of Technical Paper 11.

In terms of room availability forecasts, the lowest availability period is during October and November, where approximately 205 rooms would be available in the regional study area. The lowest demand period is during the winter months of June and July when approximately 672 rooms would be available.

Workforce accommodation demand would fluctuate as the construction program progresses and would be further refined as the proposal progresses. However, high-level forecasts indicate that accommodation demand for workers sourced outside the local area (approximately 361 workers (85%) of the 425 peak expected workforce) would exceed 300 beds from November 2024 through to March 2025, peaking at 361 beds in December 2024 and January 2025.

Given the room availability forecasts, there is considered to be insufficient supply in the short-term accommodation market to satisfy construction workforce demand. If ARTC absorbed all available capacity, there would be a peak gap in supply of 20 rooms in December 2024. With the application of Safe Work Australia minimum standards for workers accommodation, which would exclude the majority of hotel-based accommodation options in the local study area, based on the forecast demand there would be a peak gap in supply of 153 rooms in December 2024.

From the surveys undertaken for the proposal, there is currently strong demand for short-term accommodation in the regional study area. Further, many local providers have existing contractual arrangements with other companies to withhold stock from the market to satisfy their workforce demands.

ARTC will therefore develop a workforce accommodation camp (with a conservative total of 450 beds) to avoid housing the peak non-local construction workforce in either the private rental or short-term accommodation markets based on the risk to displacement of vulnerable or low-income groups looking for rentals, or tourists seeking accommodation (refer to Appendix I: Workforce accommodation camp assessment).

Short-term accommodation needs for the non-construction workforce may place pressure on the short-term accommodation market and affect availability for tourists or other visitors to the area. It is recommended that ARTC and the principal contractor monitor the availability of accommodation options and if constraints are identified, identify an alternative accommodation option.

17.6.1.4 How people move around their community

How people move through their community shapes their way of life and influences their health and wellbeing. As such, it is important to assess the impact the proposal would have on connectivity to go about their daily lives.

SIA consultation with communities, local government, emergency services and the affected landowners residing in the social locality identified that most travel is by private vehicle, as public transport is limited, though some public transport via coach and train is available. The consultation further highlighted that safety on local roads is highly valued. Community members showed clear interest in seeing safety improvements involving existing train level crossings. Landowners indicated concern about their ability to continue to safely move large machinery between paddocks if they had to use the local road network.

The potential for increased travel times due to temporary detours at local roads, road safety and other potential impacts to traffic and transport are considered in Chapter 11: Transport, traffic and access and Technical Paper 3. Overall, Technical Paper 3 found that the local road network would be capable of absorbing construction traffic with minimal impact.

Transportation for construction workers

Technical Paper 3 assessed a worse-case scenario where workforce trips to the site are assumed to be via private vehicles with car parking through the various construction compounds. There is still the opportunity to explore the use of buses and ride share opportunities for construction workers during further design development. This would increase local traffic levels; however, the level of service of local roads would not be adversely impacted.

The impact of transporting construction workers is expected to be minor during non-peak times and moderate at peak periods resulting in an increase in traffic and a slight rise in the potential for traffic accidents within the town centres of neighbouring Cootamundra, Junee and Temora. Further assessment of impacts associated with workforce transport to and from the workforce accommodation camp are discussed in Appendix I: Workforce accommodation camp assessment.

17.6.2 Community

The social locality is known for its strong community connection and sense of place. The construction period would have the most impact on the social locality due to temporary changes in population from the influx of workers, experienced both positively for some people and negatively for others. Anti-social behaviour has the potential to increase crime and adversely influence community perceptions of safety (McAtamney and Morgan, 2009). As noted in section 17.4.1.5, there are varying levels of socio-economic disadvantage exhibited across the social locality. It will therefore be important for the construction contractor to monitor the effect of the temporary influx of workers is having on the local communities. In addition, the rural amenity associated with a quiet rural lifestyle may be particularly impacted during the construction phase of the proposal and existing views of rural landscapes will potentially be affected.

17.6.3 Accessibility

The increase in population associated with non-resident workforces may create a small increase in demand on existing services and infrastructure, including sport and recreation facilities and health and emergency services. A key issue in parts of the social locality is attracting and maintaining medical staff and doctors. An increase in population associated with construction would likely increase pressure on medical services and facilities.

ARTC has refined the proposal following consultation with emergency services providers. The crossing loop and rail maintenance access road was relocated from the west side of the alignment to the east at the request of the RFS and Junee Shire Council to improve emergency fire access to the Bethungra ranges. This resulted in improved accessibility for emergency services.

Based on consultation outcomes with emergency services providers, it is not anticipated that emergency response times would be impacted during construction of the proposal. Emergency services would continue to be consulted during planning and construction to ensure they have safe and efficient access throughout the social locality in case of an emergency. During consultation this issue was raised as it is perceived as a risk to public safety if emergency services experienced restricted access throughout the local and regional study areas.

17.6.4 Culture

Chapter 15: Cultural heritage and Technical Paper 7: Aboriginal heritage detail the required management of any potential impacts on the cultural values of the local study area during construction. The proposal crosses an Aboriginal cultural landscape that retains archaeological and cultural evidence of Aboriginal occupation and that the southern portion of the proposal holds artefacts of Aboriginal cultural significance that may be impacted during construction of the proposal. In terms of non-Aboriginal cultural impacts, there are no identified items within the construction area and there is minimal likelihood of unidentified items.

17.6.5 Health and wellbeing

The proposal has the potential to deliver improved community wellbeing through providing access to employment opportunities, business diversification and community development due to the temporary increase in economic activity in the local study area.

Private land acquisition for major infrastructure projects has the potential to cause a significant strain on mental health of directly affected landowners. This social impact would generally be limited to those landholders whose properties are traversed by the proposal and will be subject to the acquisition process. While the formal land acquisition program has not yet commenced as of November 2021, voluntary negotiations have commenced with numerous landholders across the proposal site. For some landholders, the uncertainty of what the project will mean creates discomfort and, in some cases, causes a halt on all communications, severing their ability to contribute to decision making.

In some cases, directly affected landowners have been consulted for as long as six years leading to consultation fatigue for landowners. The scale and duration of the proposal has the potential to create stress and anxieties not only on mental health but also in relation to a loss of connection to a place, in some cases where landowners have lived for generations.

17.6.6 Surroundings

An increase in construction related activities may impact the rural amenity in the local study area and its quiet lifestyle. Amenity impacts would be temporary and more noticeable for residential receivers near construction compound sites due to the noise and visual impacts expected.

17.6.6.1 Visual amenity

Laydown areas, general earthworks, bridge construction and fencing would be the most notable change to visual amenity as they will be in place around the whole proposal site for the duration of the 14-month construction period. This will be particularly visible to the Illabo and Stockinbingal communities and passing traffic. Further information is provided in Chapter 19: Landscape and visual impacts.

17.6.6.2 Noise and vibration

Construction noise impacts are expected to be transient due to the progressive nature of the construction works. There are a small number of impacted properties outside of Stockinbingal and none are considered to be highly noise affected, the point above which there may be a strong community reaction to noise. The most affected receivers are located in Stockinbingal. These receivers could be affected by exceedance of noise management levels, be highly noise affected (one receiver), and in some cases, experience sleep disturbance. However, as works are progressive, these impacts are not expected to occur continuously. The earthworks phase would affect the greatest number of receivers. No exceedances of noise management levels are predicted for commercial, educational, noise and passive recreation receivers.

Certain construction activities would require the use of vibration intensive equipment that may affect the nearest sensitive receivers but this would be experienced for limited periods. Further information is provided in Chapter 16: Noise and vibration and Technical Paper 8: Noise and vibration (construction).

17.6.6.3 Air quality

Construction activities could generate air quality impacts for sensitive receivers due to dust generation during bulk earthworks and operation of construction plant and equipment. A total of 108 sensitive receivers were identified within 350 m of the proposal site among which 19 receivers are also located within 50 m of haulage routes up to 500 m from access points. Five receptors are located within 100 m of the proposal and are all located in the township of Stockinbingal. Further factors affecting existing air quality in the proposal site would include road traffic, agricultural activities and prevailing meteorological conditions. Further information is in Chapter 24: Air quality.

17.6.7 Livelihoods

In 2021, 4 of the 19 directly affected landowners were consulted for this SIA and discussed the impact of the overall proposal, and specifically land acquisition on their health, wellbeing and economic livelihoods (refer to section 17.3.4.2). As the property owners are predominantly involved in agribusiness, impacts are to their economic livelihood and, for some, their identity, health and wellbeing (refer to section 17.6.5)). The degree of impact varies, for example, they are temporary (mostly from construction) but also vary according to scale depending on the proportion of property affected. Details are in Chapter 18: Land use and property.

The ‘equitable distribution’ of social impacts is not guaranteed in major infrastructure delivery. The term refers to how different groups of people will experience social impacts differently. The negative social impacts expected to occur, both temporary and permanent as a result of changes to land use and acquisition, would be felt more acutely by directly affected landowners along the proposal site than for other stakeholder groups.

17.6.7.1 Land use

According to Chapter 18: Land use and property, the preliminary total land (permanent and temporary) required for construction of the proposal is 612 hectares (ha), with around 458 ha comprising the permanent land requirement and around 154 ha comprising the temporary land requirements for construction.

Some farm infrastructure such as houses, shed, and farm dams would also be lost during construction. Some smaller properties will lose a larger proportion of their agricultural area to the proposal site during temporary acquisition or leasing of properties. This land is intended to be rehabilitated and available for agricultural use once construction is complete.

17.6.7.2 Property impacts from acquisitions, fragmentation or severance on business operations

It is estimated the proposal would require acquisition of land under 26 separate private landowners (across 19 operational farms (i.e. agricultural holdings)), some with multiple ownership). As such, this acquisition primarily affects land with existing rural or agricultural uses. Acquisition of private properties and changes to land access required during construction have the potential to cause severance as described in Chapter 18: Land use and property.

Consultation with directly impacted landowners throughout the feasibility and environmental assessment raised different issues and considerations for each landowner, and different levels of distress around the proposition of partial acquisitions.

17.6.8 Decision-making systems

ARTC has provided ongoing engagement and opportunities for involvement in the proposal planning and assessment and would continue to do so during ongoing stages of the proposal development including construction and operation. Procedural fairness is paramount in forthcoming negotiations on land acquisition (as an example of one of the EIS matters being consulted on) between proponents of infrastructure projects and landowners. Likewise, ongoing community and stakeholder consultation, including access to complaint, remedy and grievance mechanisms is critical during construction and will be a key aspect of communication programs developed by the construction contractor.

17.6.8.1 Sentiment

Sentiment towards the proposal varies among landowners and has evolved over the course of the investigations and consultation. Several landowners have indicated they are opposed to the proposal and see no positive outcome for themselves or their community. Others are accepting that the proposal is set to proceed and have sought to work alongside ARTC to achieve the best possible outcome for their business.

In terms of aspirations, some landowners adjoining the rail line at Illabo and Stockinbingal, and their nearby communities, anticipate positive outcomes from the construction period, including the opportunity for temporary injection of money into their local economy from catering and accommodation. Community groups, especially sporting organisations, were hopeful that a number of the construction workers would participate in local clubs and sports. A number of people interviewed also hoped that workers having a positive experience might be inclined to settle in the area.

The extent of identified fears and aspirations of people in the social locality for the proposal depends on the level of direct impact the proposal is likely cause them. Based on SIA consultation activities, the majority of stakeholders whose homes or livelihoods are directly affected by the proposal have higher fears and low expectations that it will be beneficial to them. Stakeholders who do not have a direct interface with the proposal see considerable opportunity and benefit for their community.

17.6.9 Summary of social impacts during construction

The potential positive social impacts expected to result during construction of the proposal are:

- improved livelihoods resulting from direct and indirect employment opportunities
- improved regional economic outcomes and opportunities resulting from increased project procurement activities
- new education, skills development and training opportunities for regional residents.

The potential key negative social impacts expected to occur during construction of the proposal are summarised below:

- potential impacts to short-term accommodation market availability (during site visits by ARTC-managed technical specialists), restricting access for other community needs
-
- restriction on people's ability move around their community as a result of traffic restrictions and delays at level crossings
- decreased perceptions of safety resulting from anti-social behaviour in local townships due to temporary construction workforce
- restricted access to community services and facilities due to increased demand from the construction workforce
- impeded access across the rail corridor for emergency services, specifically during times of high bushfire risk
- stress and anxiety resulting from potential harm to identified sites of Aboriginal cultural heritage around the proposal site
- adverse mental health impacts predominantly for directly affected landowners as a result of the land access and acquisition process of negotiations over a long period of time
- adverse mental health impacts (frustration, impatience) and cessation of engagement with ARTC due to the protracted design and planning process

- changes in rural amenity and character which may affect people's sense of place, including adverse changes to existing visual amenity for three residential sensitive receivers in the local study area
- potential health and wellbeing impacts associated with amenity impacts, including:
  - adverse changes to existing levels of noise and vibration for up to 152 sensitive receivers in the local study area
  - adverse changes to existing air quality for up to 108 sensitive receivers in the local study area
- perceived loss of local and regional agricultural production felt by individual landowners and regional producers
- adverse impact on agricultural businesses from land acquisition leading to severance.

17.7 Social impact assessment—operation

This section summarises the assessment of potential social impacts that may result from operation of the proposal in accordance with the methodology outlined in section 17.3.

The sections below describe these potential social impacts from operation of the proposal, according to each social impact area (as defined in section 17.3.2.2).

17.7.1 Way of life

17.7.1.1 Employment and economic impacts

A small number of maintenance positions would be required for operation of the proposal. These will be NSW-based and comprised of drivers and track maintenance workers. The contraction of the workforce during the operational phase of the proposal may see a reduction in working-aged people and a return to pre-construction workforce participation.

Operation of the proposal would deliver a range of benefits to the state of NSW, including those outlined by Ernst & Young (2020) in Chapter 5: Strategic context and need.

Long-term indirect employment benefits may extend to a diversification of businesses in the area and potentially increase Indigenous participation and employment through procurement from Indigenous businesses and services. The principal contractor would investigate employment opportunities on other Inland Rail projects to maximise the skills acquired during construction and operation of the proposal.

17.7.1.2 Skills development and training

The skills and development training opportunities provided during the construction phase of the proposal would develop local skilled workers who could transfer to subsequent Inland Rail projects (dependent on scheduling) or other construction and infrastructure development projects in the region. This would incentivise economic development and benefit local employers, contributing to efforts to keep workers living in the local study area.

17.7.1.3 Housing and accommodation

There are unlikely to be any operational impacts to local housing and accommodation markets. Any operational workforce would be comparatively small and be able to be accommodated in the local area. This would be a negligible social impact.

17.7.1.4 Level crossings

The removal of a level crossing and conversion of Burley Griffin Way to an overpass over the proposed track alignment for the proposal would enhance the safety, speed and reliability of Burley Griffin Way.

Operation of the proposal will include the introduction of five new public level crossings on Old Sydney Road, Ironbong Road, Corbys Lane and two 'unnamed' roads. These level crossings would create delays for motorists as a result of train activity. The estimated delay of up to 131 seconds occurring once during a peak hour is considered negligible according to Technical Paper 3. There are, however, possible safety risks to motorists associated with level crossings due to potential collisions with trains, as per Chapter 11: Traffic, transport and access. Safety and operational benefits would be seen through the realignment of Burley Griffin Way and the removal of vehicle interaction at the West Street and Troy Street intersections, which the alignment would bypass.

17.7.1.5 Accessibility and connection

Access to properties will be maintained; however, the configuration will change for some streets. Some streets around Stockinbingal would have some permanent but minor changes due to the upgrade of Burley Griffin Way.

No significant impact to traffic volumes is expected from the operation of the proposal. The changes to access and manoeuvrability of stock and machinery on agricultural properties was discussed with affected landowners throughout the design process to arrive at solutions deemed workable for the alignment and the landowner.

Operation of the proposal is not expected to affect pedestrians and cyclists due the remote location of the proposal.

17.7.2 Community

Consultation outcomes, and policy direction indicate many regional study area communities are implementing plans to leverage Inland Rail, which may bring more business and industry opportunities. These include Temora, Junee and Cootamundra. While these plans may result in population growth and create some employment, it is unlikely that the existing sense of community and cohesion would change during the operation of the proposal.

Operation of the proposal could affect the quiet rural character and atmosphere valued by those who live in the landholdings directly affected or nearby to the proposal site. This includes rural landholders and those that reside in the township of Stockinbingal. Changes to rural character could impact residents' sense of place and the way they use and enjoy their homes and valued community spaces.

SIA consultation indicates that local communities likely to experience the social impacts of the proposal are considered resilient in the face of change and will therefore be able to adapt to the intrusion that operation of the proposal presents.

17.7.3 Accessibility

Access to social infrastructure and service provision in the area would not change during operations as the operational workforce is expected to be low in numbers.

During SIA consultation, RFS and NSW Police requested ongoing communication with ARTC to allow them to be abreast of all changes and potential risks, noting the potential for rail carts to cause fire in rural rail corridors, particularly in dry and hot seasons

Emergency response times are not expected to be impacted during operation of the proposal as once construction is complete emergency services would be able to incorporate permanent changes to the road network into their planning and documentation. ARTC would provide ongoing information during operations and maintenance to emergency services about temporary changes so they can plan accordingly.

During ongoing landowner consultation on hydrology and flooding, concerns and queries were raised around the impact of potential flooding on accessibility and safety around underbridges (bridges that allow traffic to pass under a road or railway). As detailed in Chapter 12: Hydrology and flooding, these impacts would be manageable.

The social effect of this is related to people's perceptions of safety and security for both themselves, their family, and livestock. There is also potential disturbance to farming operations.

17.7.4 Culture

No additional impacts to Aboriginal or non-Aboriginal cultural heritage are expected during the operational phase of the proposal (refer to Chapter 15: Cultural heritage). In terms of non-Aboriginal heritage, there were reported community aspirations that the rail itself may extend the region's affinity with a long rail history that forms part of the region's identity, particularly at Junee near the southern end of the proposal.

17.7.5 Health and wellbeing

Potential ongoing health and wellbeing impacts associated with the operation of the proposal may include ongoing stress, anxiety and health complications associated with amenity issues. The introduction of permanent, regular freight rail services may result in sleep disturbances, stress due to changed surroundings and anxiety as a result of an unwanted and unavoidable new normal. Without management, health issues that emerged during construction such as mental health conditions could potentially worsen.

17.7.6 Surroundings

During operation, potential long-term, amenity-based impacts such as noise and visual amenity are likely to occur in areas where the proposal is situated within proximity to residential areas. There is potential for ongoing long-term reduction in amenity (refer to Chapter 19: Landscape and visual impacts).

17.7.6.1 Visual amenity

Completion of the proposal would introduce a new permanent infrastructure and modify the rural character of the landscape. The proposal would generate visual impacts on rural landscape character during operation with long-range views to the proposal due to the topography. There will be a number of residences who will be permanently affected, including the residence at 84 West Street due to the alignment of Burley Griffin Way.

Additional visual impacts from permanent rail infrastructure would include those from track embankments, Burley Griffin Way road overpass, new rail bridges, signage and infrastructure at level crossings and permanent fencing along the road corridor. Further information is in Chapter 19: Landscape and visual impacts.

17.7.6.2 Noise and vibration

The train activity between Illabo and Stockinbingal may cause noise and vibration impacts to sensitive receivers along the proposal site, such as airborne noise including 'wheel squeal' and groundborne vibration from passing trains. These noise impacts may be experienced at night due to night-time movements (24-hour operation of the proposal) and from ad-hoc maintenance throughout the day and night. There is a concentration of residential sensitive receivers within the noise assessment area in Stockinbingal who are at risk of sleep disturbance. The area particularly affected would be properties within or neighbouring the corridor that are normally quiet and peaceful; operations at any time of day or night would likely impact resident wellbeing and perceptions of their area. There is one residential receiver who would be eligible for consideration of mitigation, based on operational road noise modelling. This is an individual dwelling at an isolated location. Further information is provided in Chapter 16: Noise and vibration.

17.7.6.3 Air quality

Technical Paper 15: Air quality concluded that there are six sensitive receivers within 100 m of the proposal site. All air quality impacts during operation are expected to be below the relevant air quality criteria for all assessed pollutants.

17.7.7 Livelihoods

The impacts to livelihoods identified during the construction phase would continue to be felt for some landowners through operation of the proposal.

Operation would result in a permanent change in the use of the above land, from the existing land uses to a transport (rail or road) use.

The impact of severance on farming operations is highly dependent on the circumstances of each farming business. Property severance has the potential to result in ongoing additional time and costs in moving livestock and machinery between severed parcels of land, making farm operations less efficient and practical. Additional capital investment could be required to replace current infrastructure in some locations. Further detail is provided in Chapter 18: Land use and property.

All property acquisitions and adjustments would be undertaken in consultation with landowners and, where relevant, in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) (Land Acquisition Act). In line with the Land Acquisition Act, ARTC's preference is for acquisition by agreement, where practicable.

The social effects of property impacts are multi-dimensional in nature, relating to individual economic livelihood and mental health and wellbeing associated with the ongoing uncertainty and frustration of the process.

17.7.8 Decision-making systems

The support of those most affected—landowners whose land the proposal site traverses—will be best achieved by seeking their local knowledge and requesting their review and input into management and contractor requirements to maintain biosecurity, weed abatement, and fire risk management. Support of emergency services would be ongoing through consulting them and aligning local procedures with operational requirements.

These stakeholders should be included in the systematic review of documents to ensure the evolution Inland Rail procedures continue to align with local practices. The successful implementation of the Inland Rail Communications and Engagement Strategy would ensure ARTC, the construction contractor and the community are engaged in open dialogue on matter relating to operation of the proposal.

17.7.9 Sentiment

For agribusiness, the operational fears are largely the same as those for construction. Key impacts relate to farm management with the realignment of paddocks, water access and the safe and timely movement of stock and machinery on altered routes or new underpasses. The ability for fire fighters to successfully attend to fires with changes to routes and potential hindrance caused by rail track and fences also remain a concern. The management of weeds, biosecurity and rail sparks causing fires was also of considerable concern, as is the concerns of landowners regarding the proper management of the rail fences.

Several community members have indicated the potential for long-term opportunities such as a logistics company to be based at Stockinbingal. Removal of level crossings and improvement of the Burley Griffin Way through Stockinbingal are viewed as a resounding benefit.

17.7.10 Summary of social impacts during operation

The potential positive social impacts expected to result from operation of the proposal are as follows:

- improved economic and social outcomes from supply chain efficiencies, employment and investment opportunities in the Southern NSW region (inclusive of the regional study area in this report)
- improved economic and social livelihoods from easier access to and from regional, national and global markets for agricultural producers, farmers and businesses
- direct and indirect employment opportunities in the local study area
- a legacy of upskilled workers from the skills and development training provided during the construction phase, leading to opportunities for these workers to transfer their skills to other projects and further contribute to economic development in the region
- improved road safety and traffic incidents and delays from removal of one public level crossing on Burley Griffin Way
- improved traffic movements and access for people moving around their communities where there is realignment to Burley Griffin Way.

The potential key negative social impacts expected to occur during operation of the proposal are summarised as:

- minor delays at a new public level crossings
- a permanent change to the rural sense of place and identification to the land, which will be experienced more acutely by landowners directly affected by the proposal, but also by residents of townships in the local study area
- concerns around safety of people and livestock, and disturbance to farming operations from the impact of potential flooding on accessibility and safety around underbridges
- ongoing mental health impacts from that experienced during the construction phase. This accumulated sense of frustration, impatience and occasional mistrust of the process may affect future interactions between ARTC and affected landowners
- an altered sense of enjoyment of the rural landscapes from changes to the existing visual amenity leading to potential frustration
- sleep disturbance or ongoing exposure to airborne noise for sensitive receivers along the proposal site due to train activity, leading to a change to the level of enjoyment of the rural lifestyle that is highly valued by local residents
- ongoing health and wellbeing impacts for one residential receiver due to noise impacts associated with the realignment of Burley Griffin Way
- ongoing stress and anxiety associated with the longer-term effects of property impacts on individual landowners relating to the land acquisition process, as well as the ongoing impact on economic livelihoods.

17.8 Economic impact assessment

17.8.1 Workforce impacts

Employment and economic impacts are described in section 17.6.1.1 and section 17.10.2 (for construction) and section 17.7.1.1 (for operation).

17.8.2 Business and industry impacts

Inland Rail would provide a range of economic benefits at a local, regional and national level. The following business and industry impacts have been identified through local consultation and analysis of local businesses undertaken by ARTC.

17.8.2.1 Agriculture industry

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

- loss of agricultural land
- division and fragmentation or severance of agricultural properties
- disruption to property access and infrastructure
- disruption to livestock and product movement
- biosecurity.

These impacts may change the value of agricultural production in the region, due to changes in accessibility, connectivity and/or productivity and are further described Chapter 18: Land use and property. Consultation with landholders is ongoing to determine the significance of these impacts, and to develop measures to mitigate and manage these impacts.

17.8.3 Local businesses

17.8.3.1 Construction

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

17.8.3.2 Materials

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

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

17.8.3.3 Services

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

17.8.3.4 Transport

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

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

17.8.3.5 Local resource interests

According to Chapter 19: Land use and property, there are no known operational mines or extractive resource sites in the local economic catchment. As a result, the proposal will not result in any adverse economic impacts to local mineral resources and extractive industries.

17.9 Economic benefits assessment

The approach below reflects the three-step economics benefits assessment[3] 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 the base case and project case options, and future demand drivers

2 **Identify benefits**: identification of relevant economic, social and environmental benefits associated with impact groups which can be measured for the proposal

3 **Monetise benefits**: quantification, monetisation and assessment of benefits over the project appraisal period.

Figure 17-7 outlines a typical CBA approach and its application to the assessment of the proposal.

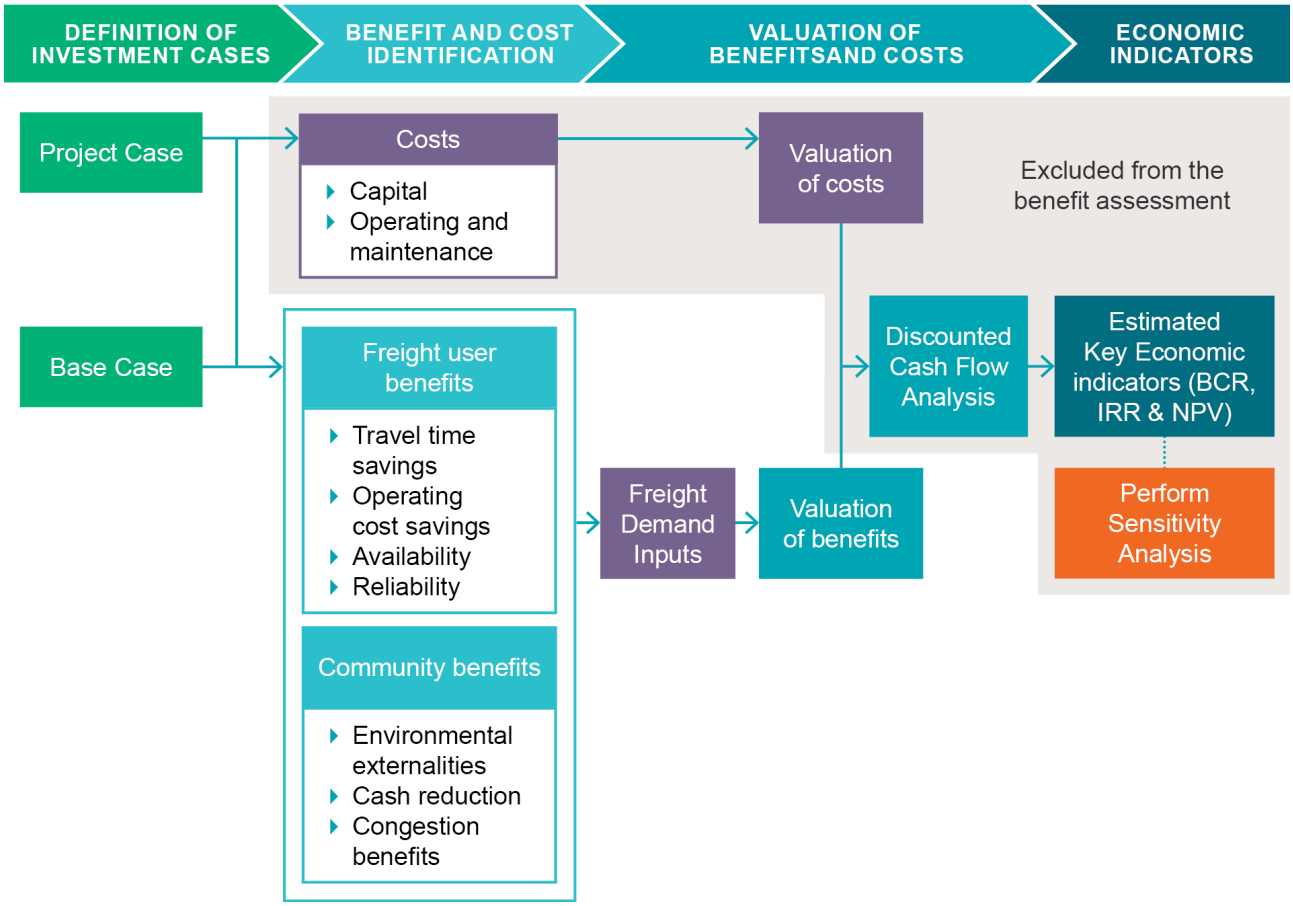


FIGURE 17-7: COST–BENEFIT ANALYSIS APPROACH AND THE ECONOMIC BENEFITS ASSESSMENT

Critically, the key difference between a 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 are the focus of the assessment.

3. The economic benefits assessment was undertaken before refinements were made to the construction program. The impact of this refinement would have a minor effect on the economic benefits identified, but explains any inconsistencies between the construction program identified in the economic analysis and those identified within the body of this report.

17.9.1 Base case and project case

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

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

17.9.2 Benefit categories

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

- **freight benefits**: the changes in cost to freight operators by switching mode from road to rail
- **community benefits**: 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.

Further details on the categories, inputs and assumptions of the economic benefits assessment are in Technical Paper 12.

17.9.3 Economic benefits assessment results

The results of the economic benefits assessment estimate that the proposal is expected to provide a total of $34.57 million ($2021) in incremental benefits to the proposal site (at a 7% discount rate). A 7% discount rate is used for the central case with sensitivity tests conducted at 4% and 10%. This is consistent with jurisdictional requirements for project evaluation and those of Infrastructure Australia.

Observing the composition of benefits, the largest share of benefits for the proposal is improved freight availability, representing ~75% of the total benefits (at a 7% discount rate). Freight benefits more broadly (including freight time travel savings, operating cost savings, as well as improved reliability) represent the remaining ~25% of the total projected benefits for the proposal. As there are no changes to the distances travelled by rail, increases to trip frequencies and/ or any road freight traversing the proposal site under the demand projections provided, there are no community benefits (i.e. crash reduction, environmental externalities and road decongestion benefits) identified in the economic benefits assessment. However, other community benefits to the local community have been identified as a result of the proposal (refer to sections 17.6 and 17.7)

The full results of the economic benefits assessment are presented in Table 17-3.

TABLE 17-3: RESULTS OF THE ECONOMIC BENEFITS ASSESSMENT, PRESENT VALUE TERMS ($2021)

	Discount rate		
Benefits	4%	7%	10%
Freight benefits	**$72.32 m**	**$34.57 m**	**$19.26 m**
Travel time savings	$1.29 m	$0.70 m	$0.44 m
Operating cost savings	$0.25 m	$0.14 m	$0.09 m
Improved availability	$55.11 m	$25.95 m	$14.20 m
Improved reliability	$15.67 m	$7.79 m	$4.53 m
Community benefits	**$0.00 m**	**$0.00 m**	**$0.00 m**
Crash reduction	$0.00 m	$0.00 m	$0.00 m
Environmental externalities	$0.00 m	$0.00 m	$0.00 m
Road decongestion benefits	$0.00 m	$0.00 m	$0.00 m
Total benefits	**$72.32 m**	**$34.57 m**	**$19.26 m**

17.9.4 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 on completion of Inland Rail. Instead, the results of the economic analysis undertaken for the *Inland Rail Programme Business Case* (ARTC, 2015b) 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 in Table 17-4 below.

TABLE 17-4: ECONOMIC APPRAISAL RESULTS FOR INLAND RAIL ($2015)

	Net present value	Cost–benefit ratio
PV at 4% discount rate	$13,928 m	2.62
PV at 7% discount rate	$116.1 m	1.02

Source: *Inland Rail Programme Business Case* (ARTC, 2015b)

Note: assumes complementary investment on the QR network (Western Line and Brisbane metropolitan network)

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

17.10 Regional economic impact analysis

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

As described by section 17.3.1.2, the regional economy is represented by the Riverina (ABS Statistical Area Level 4) region.

17.10.1 Key considerations

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

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

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

The key modelling assumptions and inputs that underpin the regional economic impact assessment are provided in Appendix A of Technical Paper 12. The analysis in this report was largely completed before the COVID-19 crisis impacted the economy. In particular, the baseline representation of the economy does not explicitly account for the COVID-19 impacts.

17.10.2 Regional economic impact analysis results

Potential impacts of the proposal on the Riverina region during the construction phase are summarised in Table 17-5.

TABLE 17-5: SUMMARY OF THE DIRECT AND INDIRECT ECONOMIC IMPACTS OF THE PROPOSAL

	Riverina SA4	
Measure	Slack labour markets	Tight labour markets
Additional real Gross Regional Product ($2019–20)	$67 m	$26 m
Average annual additional direct and indirect employment (persons)	176	43

Note: The average annual additional jobs listed in the table reflect jobs generated in the New England and North-West region, the proposal will also generate jobs in adjacent labour markets (refer Figure 17-10).

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

The importance of the labour market assumption is reflected in the employment results. In the slack labour market scenario, it is estimated that an additional 176 direct and indirect jobs are generated.[4] Note that this is the average number of jobs per annum during the construction period. With tight labour markets, the increase in jobs is significantly less at 43 jobs. Under tight labour markets, wages are bid up to attract currently employed workers to the businesses contracted to construct the proposal. That is, the labour market response is dominated by workers moving from their current job to a higher paying job. With slack labour markets, there are sufficient unemployed and under-employed workers to accommodate the increase in demand for labour without increasing real wages.

Figure 17-8 and Figure 17-9 summarise the macroeconomic results for the Riverina region in the context of the rest of the NSW and Australian economies.

Source: *KPMG*

FIGURE 17-8: MACROECONOMIC RESULTS: CONSTRUCTION PHASE, SLACK LABOUR MARKETS

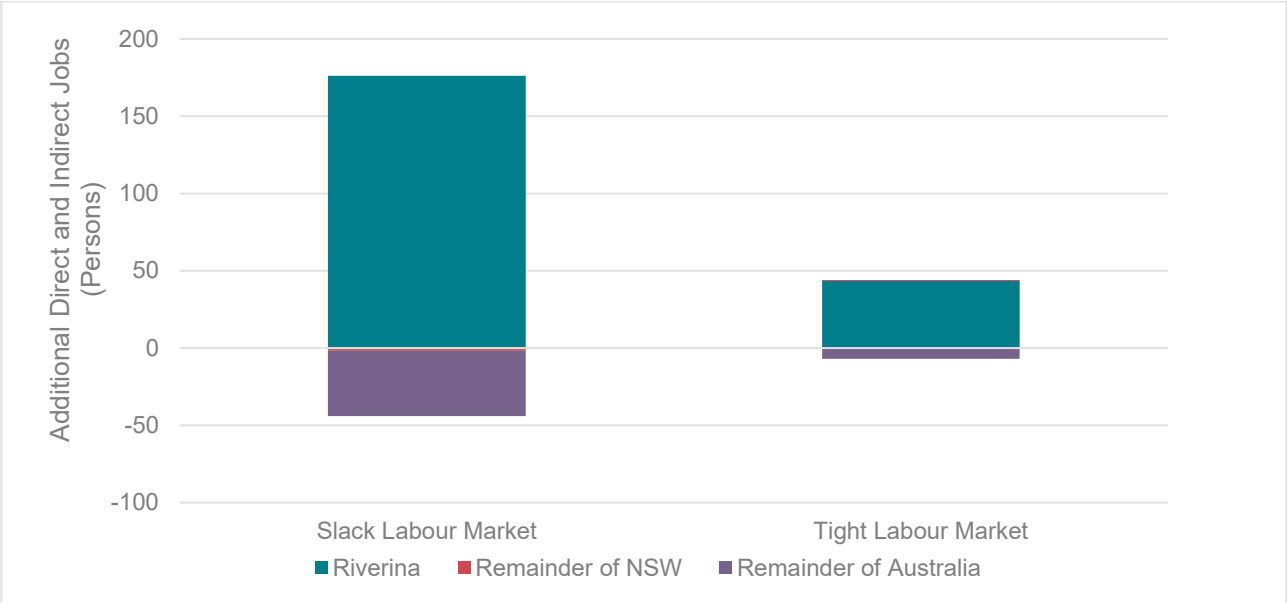
4. To put this in context, the planned workforce requirements (direct employment) of the proposal during the construction phase peak at approximately 300 personnel. Almost 90% of the proposal CAPEX (see Appendix A of Technical Paper 12 for how the CAPEX was derived) is expended in 2021 and 2022 based on the cost profile provided by ARTC. We estimate that the number of jobs in this year for Riverina is about 478 under slack labour market conditions and 118 under tight labour market conditions.

Source: *KPMG*

FIGURE 17-9: MACROECONOMIC RESULTS: CONSTRUCTION PHASE, TIGHT LABOUR MARKETS

The simulation results indicate that the economic impacts of the proposal during the construction phase are concentrated in the Riverina region. Net exports, which include inter-regional and international exports and imports, are negatively impacted. The resources required to complete the construction of the proposal are sourced locally and from interstate and overseas suppliers. At the local level, higher costs induce the cost-sensitive trade-exposed sectors to release resources to accommodate the investment demands of the proposal.[5]

The modelled direct and indirect impacts of the proposal on employment are presented in the Figure 17-10.



Source*: KPMG*

FIGURE 17-10: DIRECT AND INDIRECT EMPLOYMENT RESULTS, CONSTRUCTION PHASE

5. The proposed CAPEX program associated with the proposal constitutes a temporary expenditure shock to the economy. Some of the goods and services purchased by customers in the Riverina economy are imported from interstate and overseas. CAPEX, particularly at the regional level, is more import intensive than other types of expenditure. This means that a CAPEX shock will, other things being equal, result in net exports contracting. In addition, we have assumed that businesses do not respond to the temporary shock by increasing their productive capacity through investment in fixed capital. Instead, businesses use more labour with their existing fixed assets (e.g. plant and equipment), which increases costs and reduces competitiveness. Where it is profitable to do so, businesses switch some of their productive capacity towards accommodating the demands associated with the proposal and away from sales to other customers (e.g. to interstate and overseas customers). The results reported in Figure 17-8 and Figure 17-9 are roughly linear for small deviations in the assumed CAPEX. For example, if the proposal CAPEX was increased by 5% (from $134 million to $141 million) then net exports for Riverina would fall by a further 5%.

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

Recent labour market trends can be used to inform workforce capacity and capability within the local region. In Riverina, over the four quarters ending in the June quarter 2020, the unemployment rate averaged 5% (Australian Government, 2020), and the participation rate averaged 80.3% over the 12 months ending in June 2020 (ABS, 2021c).[6] Labour market conditions in the Riverina have deteriorated since the end of 2019 with the unemployment rate increasing from 3.4% in the September quarter 2019 to 5% in the June quarter 2020. Rising unemployment rates coupled with relatively strong participation rates, suggest that pressures in the labour market in the Riverina have eased. However, it is important to consider these statistics in a broader context, including with regard to labour market conditions at the state and national levels.

At the time of writing, the latest available regional labour market statistics in the Small Area Labour Markets publication (Australian Government, 2020) contained data to June 2020. More recent macro-economic data suggests that labour market conditions have deteriorated further with the economic shock associated with the COVID-19 pandemic adding considerable downside risks to the broader economy in the short to medium term. The National Accounts data for the September quarter 2020 (ABS, 2020a) reveals while domestic demand advanced 4.5% compared with the June quarter 2020 as states and territories began to relax their lockdown restrictions, it remained 3.5% lower than in the same period a year before. The recovery in economic conditions is anticipated to be modest and characterised by a high degree of uncertainty. In this environment national and regional labour markets are unlikely to be stretched, supporting our assessment that labour market conditions expected to prevail during the proposal's construction phase will be most consistent with the 'slack' labour market scenario. This characterisation of the labour market does not preclude pressure being placed on specific construction skills during the construction phase. This possibility is discussed in the following section.

Looking specifically at skilled labour capacity, recent Labour Force Survey (ABS, 2020b) results indicate that a relatively high proportion of unemployed workers were last employed in the Construction sector. In NSW, during the reference week in the quarter ended November 2020, some 25,100 unemployed persons (approximately 9.6%) reported that their last job was in Construction, representing a 23.8% increase from the corresponding quarter in the previous year. Nationally, over the same period, 13.2% of unemployed persons who reported losing their job last worked in the Construction industry. These indicators suggest a degree of spare capacity in the Construction sector. The industry and occupational profile of the Riverina workforce, together with evidence that labour supply for the Construction sector is not currently stretched, means that it is reasonable to assume that the regional labour market has the capacity to supply a significant portion of the workforce requirements of the proposal without major disruption.[7]

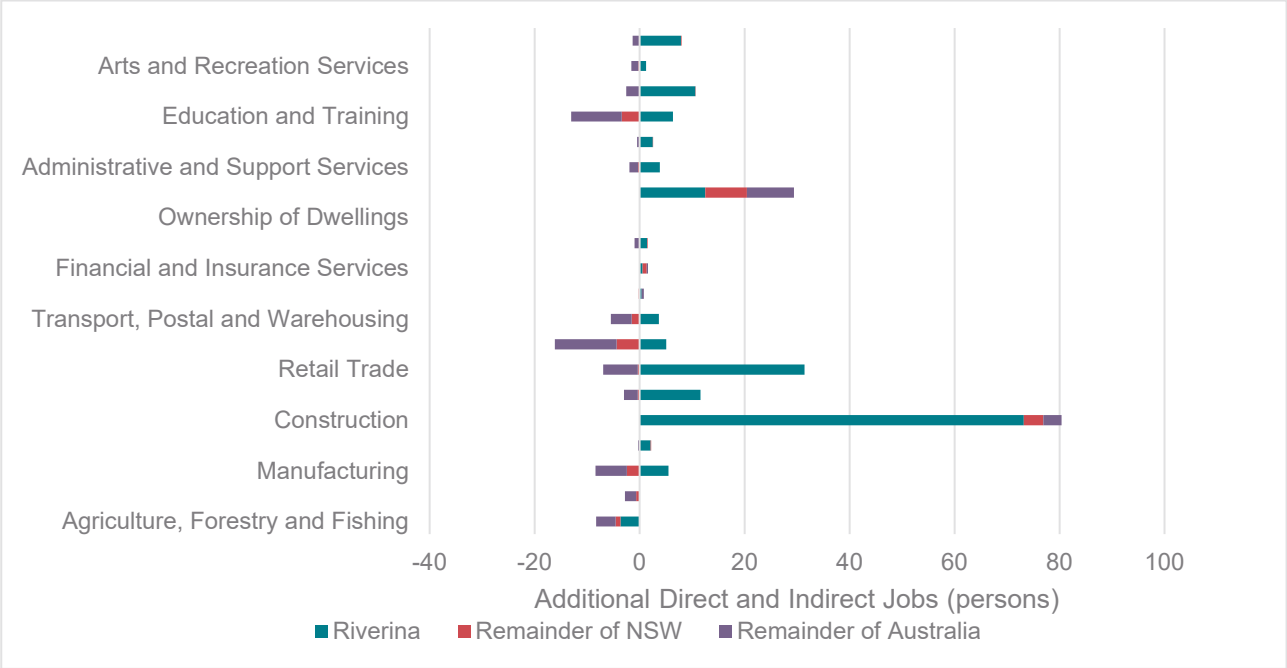
The possibility of some constraints in the labour market cannot be completely dismissed. More recently, the ABS has estimated that as at November 2020, job vacancies in the Construction sector have risen from a trough in May 2020 to be about 7.8% higher than in the same period in 2019 (ABS, 2021c). If the Australian Government's health and economic policy responses to the pandemic 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. Prior to the COVID-19 shock, the known major infrastructure projects in the adjacent and surrounding areas, including those associated with Inland Rail, had the potential to put some pressure on labour markets if inopportune scheduling resulted in cumulative and competing demand for trades and construction labour. KPMG's assessment (Technical Report 12) is that the overall labour demands of the various infrastructure projects expected to be constructed are modest and that scheduling could be optimised to minimise market impact. The prevailing trends in the Riverina and national labour markets, as well as the ability of workers to mobilise to project locations, suggest that the risks of labour market disruption are limited. This risk has now been further reduced by the uncertainty posed by the COVID-19 shock.

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

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

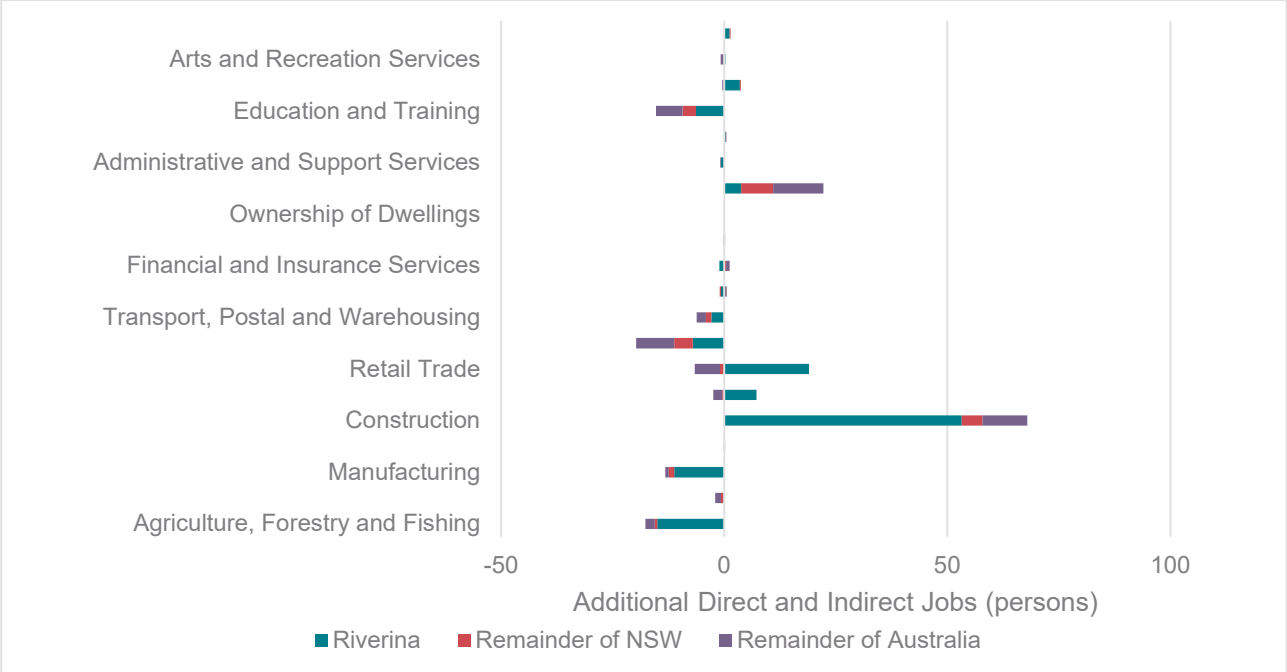
6. Participation rate of working-age population 15–64 years.
7. Workers with specialist skills may be sourced from outside of the local region.

Employment results at the industry level (movement of workers between industries and regions) are in Figure 17-11 and Figure 17-12. Although the patterns are the same under the two labour market scenarios, it is evident that, under the tight labour market assumption, there is greater displacement of workers.



Source: *KPMG analysis*

FIGURE 17-11: INDUSTRY EMPLOYMENT RESULTS: CONSTRUCTION PHASE, SLACK LABOUR MARKETS



Source: *KPMG analysis*

FIGURE 17-12: INDUSTRY EMPLOYMENT RESULTS: CONSTRUCTION PHASE, TIGHT LABOUR MARKETS

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

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

17.11 Mitigation and management

17.11.1 Approach to mitigation and management

17.11.1.1 Approach to managing the key potential impacts identified

The approach to managing the key potential impacts identified in this chapter is described in Appendix D of Technical Paper 11, including mitigation and enhancement measures for pre-construction, construction and operation. These measures are presented under five categories that align to the ARTC Inland Rail Programme—Social Impact Management Programme Framework (the framework) and aim to minimise negative social impacts and maximise positive social impacts for communities within the local and regional study areas. The five topic categories are:

- workforce management
- industry participation
- housing and accommodation
- community health and wellbeing
- community and stakeholder engagement.

A key approach is the comprehensive and appropriate communication and consultation with the community and other key stakeholders in managing the potential for social and economic impacts during construction and operation. Effective communication and engagement are fundamental to reducing risk and minimising potential impacts. Identifying, engaging and effectively communicating with stakeholders is critical to the successful delivery of the proposal.

ARTC would continue to engage with stakeholders and the community in the lead up to, and during, construction under a project-specific communication management plan in accordance with the Inland Rail Communications and Engagement Strategy. The communication management plan would outline consultation opportunities during construction planning, tools and activities to be used during the construction phase, and complaints management. During the early years of operation, ARTC would prepare an operations communication and engagement plan to guide engagement activities.

Other key mitigation measures include a proposal-specific workforce management plan and industry participation plan. The workforce management plan would be developed and implemented during construction to manage the potential impacts of the non-resident workforce, local business and employment opportunities and workforce health and wellbeing requirements. The industry participation plan would be developed and implemented to manage the potential employment and regional economic benefits of the proposal. For further information refer to Technical paper 11.

17.11.1.2 Approach to managing other potential impacts

Further mitigation measures and management strategies are provided in Chapter 10 of Technical Paper 11 to manage other potential impacts. These include a local and Indigenous participation plan to encourage economic development and the need to investigate support mechanisms and pathways for landowners, residents and other stakeholders who may experience mental health issues resulting from the proposal.

17.11.2 Expected effectiveness

ARTC has experience in managing potential impacts on local and regional communities and businesses from the delivery of other rail projects, including the Inland Rail projects adjoining the proposal. The measures provided in Appendix D of the SIA are based on ARTC's experience with other projects, and local community requirements. ARTC recognises its responsibility to deliver and operate Inland Rail with the least social and economic impacts possible, while enhancing the benefits Inland Rail will deliver to the people of Australia at both a local, regional and national scale.

ARTC has established procedures to guide the implementation of the measures by preparing a detailed social impact management plan (SIMP) (refer to Appendix D (section D.6) of Technical Paper 11) to manage the implementation of the proposed mitigation measures, and the specific management actions and targets that would be developed in response to these measures. The SIMP defines specific actions, roles and responsibilities, and a monitoring and reporting framework.

It is expected that managing the implementation of the proposed mitigation measures in accordance with the ARTC's established procedures for Inland Rail, guided by the SIMP, would ensure their effectiveness. Community and stakeholder consultation and involvement has been, and would continue to be, tailored to each stage of the proposal. This would enable appropriate consideration and balancing of community and stakeholder issues to achieve the best project outcomes. The proposed implementation of a comprehensive approach to consultation, communication and environmental management during construction, together with a rigorous monitoring program, would assist in minimising the potential for social and economic impacts.

17.11.3 Interactions between mitigation measures

Mitigation measures to minimise potential social and economic impacts would also be implemented as part of those identified in Chapter 11: Traffic, transport and access, Chapter 16: Noise and vibration, Chapter 18: Land use and property and Chapter 19: Landscape and visual impacts.

17.11.4 Recommended mitigation measures

To manage and mitigate the potential for social and economic impacts, and enhance the benefits of the proposal, the mitigation measures in Table 17-6 would be implemented.

TABLE 17-6: MITIGATION MEASURES

Ref	Impact	Mitigation measure	Timing
SE-1	Avoiding and minimising social and economic impacts	ARTC and the construction contractor would collaborate on the implementation of the SIMP for the proposal during the detailed design/pre-construction phase. The SIMP would be developed using the recommendations provided in the SIA for the proposal and address, but not be limited to, workforce management, industry participation, housing and accommodation, community health and wellbeing, and appropriate community and stakeholder engagement.	Detailed design/ pre-construction
SE-2	Management of social and economic impacts	ARTC and the construction contractor would collaborate on the implementation of the SIMP for the proposal during the construction phase. The SIMP would be developed using the recommendations provided in the SIA for the proposal and address, but not be limited to, workforce management, industry participation, housing and accommodation, community health and wellbeing, and appropriate community and stakeholder engagement.	Construction
SE-3	Ongoing management of social and economic impacts	ARTC and the construction contractor would collaborate on the implementation of the SIMP for the proposal during the operation phase. The SIMP would be developed using the recommendations provided in the SIA for the proposal and address, but not be limited to, workforce management, industry participation, housing and accommodation, community health and wellbeing, and appropriate community and stakeholder engagement.	Operation

17.11.5 Managing residual impacts

Residual impacts are impacts of the proposal that may remain after implementation of:

- design and construction planning measures to avoid and minimise impacts (refer to section 17.3.6 and Chapter 8: Proposal description—construction)
- specific measures to mitigate and manage identified potential impacts (refer to section 17.11.4).

The key potential social and economic issues and impacts originally identified by the environmental risk assessment (refer to Appendix G) are listed in Table 17-7. The (pre-mitigation) risks associated with these impacts, which were identified by the environmental risk assessment, are provided. Further information on the approach to the environmental risk assessment, including descriptions of criteria and risk ratings, is provided in Appendix G.

The potential issues and negative impacts identified by the environmental risk assessment were considered as part of the social and economic impact assessment, summarised in sections 17.6, 17.7, 17.8 and 17.10. The mitigation measures (listed in Table 17-6) that would be applied to manage these impacts are also identified. The significance of potential residual impacts (after application of these mitigation measures) is rated using the same approach as the original environmental risk assessment. The approach to managing significant residual impacts (considered to be those rated medium or above) is also described.

TABLE 17-7: RESIDUAL IMPACT ASSESSMENT—SOCIAL AND ECONOMIC

		Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
Phase	Potential impacts	Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
Construction	Potential impacts to short-term accommodation market availability (during site visits by ARTC-managed technical specialists), restricting access for other community needs	Possible	Moderate	Medium	SE-1 and SE-2	Unlikely	Minor	Low	A Workforce Housing and Accommodation Plan to manage the impacts of non-resident workforces on local housing and accommodation markets would be prepared by the construction contractor. Proposed mitigation and management measures related to potential housing and accommodation impacts are also described in Appendix I: Workforce accommodation camp assessment.
	Restriction on people's ability move around their community as a result of traffic restrictions and delays at level crossings	Likely	Minor	Medium	SE-2, T-4	Unlikely	Minor	Low	The construction contractor would provide hard copy notification of upcoming road closures to affected landholders and nearby communities providing ample time to prepare for upcoming changes. The construction contractor would ensure emergency services are regularly updated of the program and status of upcoming road closures or traffic management measures to ensure sufficient time for network planning.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Adverse changes to community cohesion and perception of safety in relation to anti-social behaviour exhibited by temporary construction workforce	Possible	Moderate	Medium	SE-1 and SE-2	Possible	Minor	Low	The construction contractor would prepare a workforce management plan that includes measures to manage potential impacts of the non-resident construction workforce on local and regional communities. The construction contractor would develop a workforce and community safety and wellbeing plan, including community involvement and relationship building measures and considerations to improve worker and resident attraction and retention. This would include specific and culturally appropriate recommendations to maximise the integration of Indigenous non-resident workforces within the broader workforce and within the local community.
	Restricted access to community services and facilities due to increased demand from the construction workforce	Likely	Minor	Medium	SE-2	Unlikely	Minor	Low	ARTC and the construction contractor would engage with Junee Shire Council, Cootamundra–Gundagai Council, Temora Shire Council, Wagga Wagga Health Service and the Department of Education to develop a plan and processes to mitigate the social implications of an unserviceable increase in demand for social infrastructure and services during construction.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Impeded access across the rail corridor for emergency services, specifically during times of high bushfire risk	Possible	Major	High	SE-2	Unlikely	Major	Medium	The project-specific communication management plan would include measures to ensure ongoing consultation with local emergency services providers to inform providers about the locations of level crossings and changes to access routes and road conditions. ARTC and the construction contractor would engage with Emergency Services, as well as the Regional Emergency Management Committee and the Local Emergency Management Committees to investigate potential issues associated with the design that may hamper service provision.
	Stress and anxiety resulting from potential harm to identified sites of Aboriginal cultural heritage around the proposal site	Unlikely	Extreme	Medium	SE-1, SE-2	Unlikely	Major	Medium	The construction contractor would work with the Wagga Wagga and Young LALCs and Indigenous community service providers to develop strategies to manage upcoming impacts on cultural heritage sites. ARTC and the construction contractor would work with the Wagga Wagga and Young LALCs and local Indigenous community to investigate opportunities to incorporate Indigenous design principles. ARTC and the construction contractor would provide permanent appropriate signage in prominent locations for both Indigenous and non-Indigenous people to gain familiarity with the history of the area.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Adverse mental health impacts predominantly for directly affected landowners as a result of the land access and acquisition process of negotiations over a long period of time	Possible	Major	High	SE-1 and SE-2	Possible	Moderate	Medium	The principal contractor would investigate support mechanisms and pathways for landowners, residents and other stakeholders who may experience mental health issues resulting from the proposal. Where there is evidence of adverse mental health effects being experienced by community members and especially directly affected landowners, partnership with the Murrumbidgee Primary Health Network (MPHN) via the 1800 number service would be sought to ensure continued funding for support services is maintained. The construction contractor would facilitate a dedicated land access liaison officer to be allocated to each landowner as the consistent and trusted single point of contact throughout pre-construction and construction of the proposal.
	Adverse mental health impacts (frustration, impatience) and cessation of engagement with ARTC due to the protracted design and planning process	Possible	Major	High	SE-2	Possible	Moderate	Medium	The construction contractor would facilitate a dedicated land access liaison officer to be allocated to each landowner as the consistent and trusted single point of contact throughout pre-construction and construction of the proposal.
	Changes in rural amenity and character which may affect people's sense of place, including adverse changes to existing visual amenity for three residential sensitive receivers in the local study area	Likely	Moderate	High	SE-2, LV-1 to LV-7	Possible	Moderate	Medium	The construction contractor would develop a strategy to engage with landowners located in the local study area to build understanding and preparedness for potential amenity impacts. ARTC and the construction contractor would investigation the provision of vegetation planting and screening of the construction compounds.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Potential health and wellbeing impacts associated with amenity impacts in the local study area (noise and dust)	Likely	Moderate	High	SE-2, NV-1, AQ-1, AQ-2 to AQ-4	Possible	Moderate	Medium	Ongoing engagement with affected sensitive receivers as detailed in the Communications Management Plan and Complaints Register, including resolution timeframes.
	Loss of local and regional agricultural production felt by individual landowners and regional producers	Likely	Moderate	High	SE-2, LP-1	Possible	Moderate	Medium	Mitigated to the extent practicable through application of mitigation measure LP-1 through the pre-construction phase.
	Adverse impact on agricultural businesses from land acquisition leading to severance	Likely	Moderate	High	SE-2, LP-2 to LP-5	Possible	Moderate	Medium	Mitigated to the extent practicable through application of mitigation measure LP-2 to LP-5 through the pre-construction phase.
Operation	Changes to traffic movements and access for people moving around their communities including minor delays at new public level crossings	Likely	Minor	Medium	SE-3	Likely	Not Significant	Low	ARTC would develop an operations communication and engagement plan that builds community awareness of the rail line's operational characteristics, including information on level crossing operations, likely daily train movements and ARTC's ongoing role after construction.
	Permanent change to the rural sense of place and identification to the land, experienced more acutely by landowners directly affected by the proposal, but also by residents of townships in the local study area	Almost certain	Minor	Medium	SE-3	Unlikely	Minor	Low	ARTC would identify and engage with households identified as eligible for noise mitigation treatments in Operational Noise and Vibration Impact Assessment (Non-Rail) and support owners/tenants through the delivery process.
	Concerns around safety of people and livestock, and disturbance to farming operations from the impact of potential flooding on accessibility and safety around underbridges	Possible	Major	High	SE-3, HF-1	Unlikely	Moderate	Low	Communicate regularly with the affected landowners as per the communications management plan.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Ongoing mental health impacts from that experienced during the construction phase. This accumulated sense of frustration, impatience and occasional mistrust of the process may affect future interactions between ARTC and affected landowners	Possible	Moderate	Medium	SE-3	Possible	Moderate	Medium	Ongoing engagement with affected landowners will be conducted as detailed in the operations communication and engagement management plan.
	An altered sense of enjoyment of the rural landscapes from changes to the existing visual amenity leading to potential frustration	Likely	Moderate	High	SE-3, NV-12 and NV-13	Unlikely	Minor	Low	Ongoing engagement with affected landowners will be conducted as detailed in the operations communication and engagement management plan.
	Sleep disturbance or ongoing exposure to air-borne noise for sensitive receivers along the proposal site due to train activity, leading to a change to the level of enjoyment of the rural lifestyle that is highly valued by local residents	Likely	Moderate	High	SE-3, NV-12 and NV-13	Possible	Minor	Low	Ongoing engagement with affected sensitive receivers would be as detailed in the operations communication and engagement management plan and complaints register.
	Ongoing health and wellbeing impacts for one residential receiver due to noise impacts associated with the realignment of Burley Griffin Way	Possible	Major	High	SE-3, NV-12 and NV-13	Possible	Minor	Low	Ongoing engagement with affected sensitive receivers would be as detailed in the operations communication and engagement management plan and complaints register.

Phase	Potential impacts	Pre-mitigated risk			Mitigation measures (refer to Table 17-6)	Residual risk			How residual impacts would be managed (social and economic aspects only)
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating	
	Ongoing stress and anxiety associated with the longer term effects of property impacts on individual landowners relating to the land acquisition process, as well as the ongoing impact on economic livelihoods.	Possible	Major	High	SE-3	Possible	Moderate	Medium	Ongoing engagement with affected landowners will be conducted as detailed in the operations communication and engagement management plan.