INLAND RAIL

# + Summary of findings

## Helidon to Calvert

Draft Environmental Impact Statement

ARTC

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

## ACKNOWLEDGEMENT OF COUNTRY

Inland Rail acknowledges the Traditional Custodians of the land on which we work and pay our respect to their Elders past, present and emerging.



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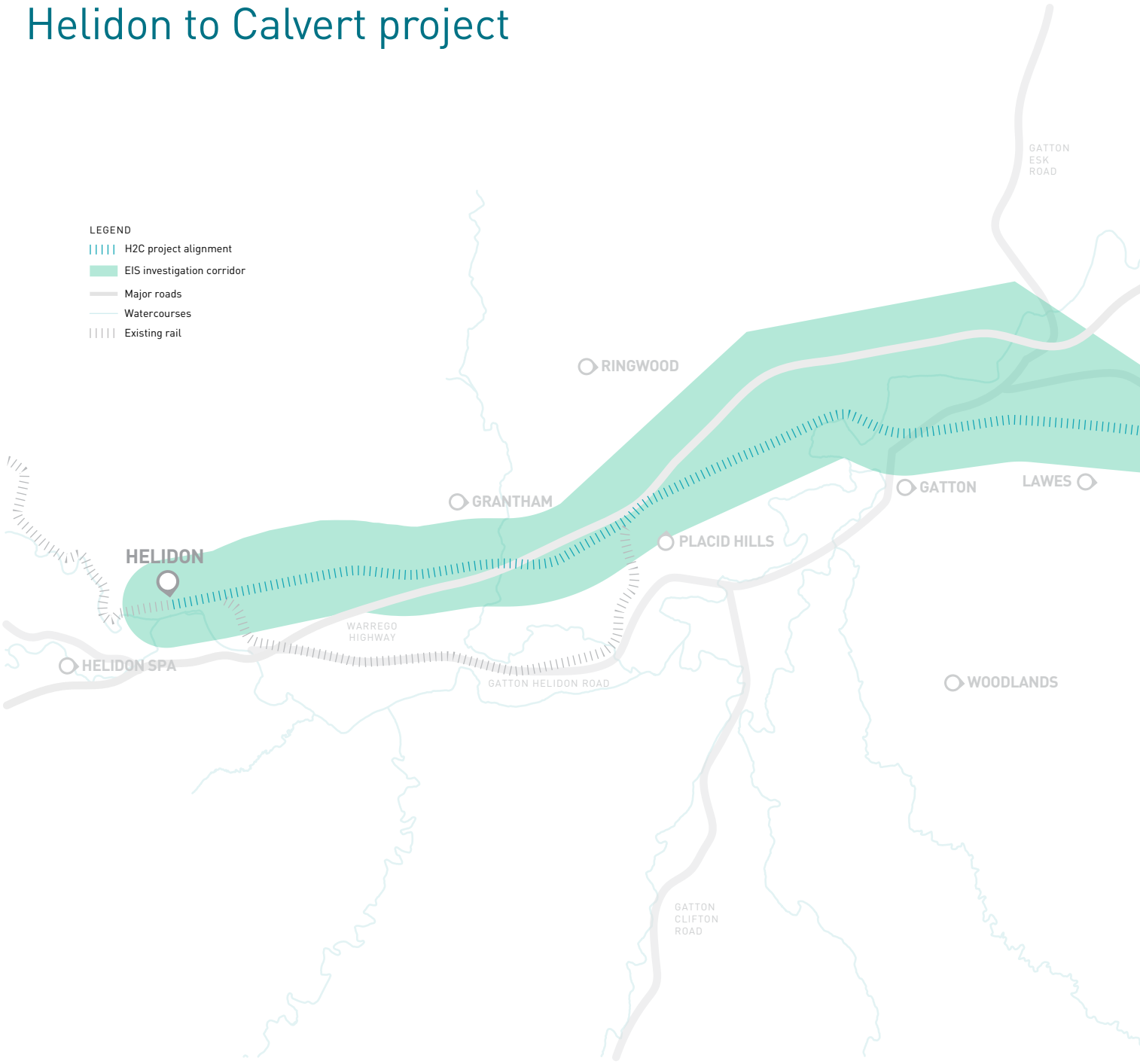
*Front and back cover image: Laidley North, Lockyer Valley Region, Queensland*

# Helidon to Calvert project




## Helidon to Calvert key elements

approximately **47km of single-track**, dual gauge rail line

a **850m long tunnel** through the Little Liverpool Range

**31 bridges**
Details are in the project description section

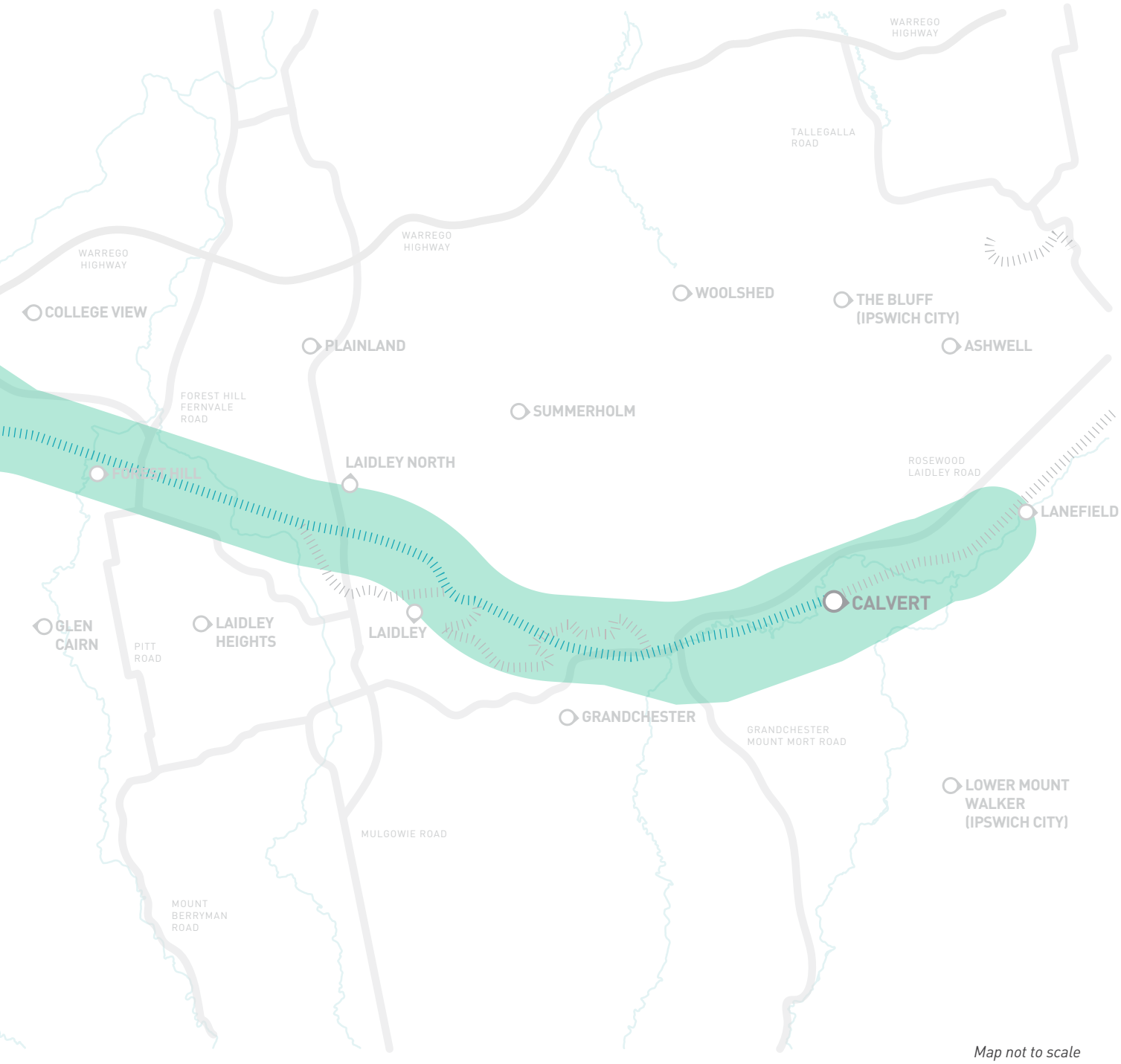
**7 level crossings** with active treatments

**four crossing loops**
Details are in the project description section

maintenance sidings and **signalling infrastructure**

initially accommodate **1,800m long double-stack freight trains**

project footprint future-proofed for **3,600m long double-stack freight trains**




*Map not to scale*

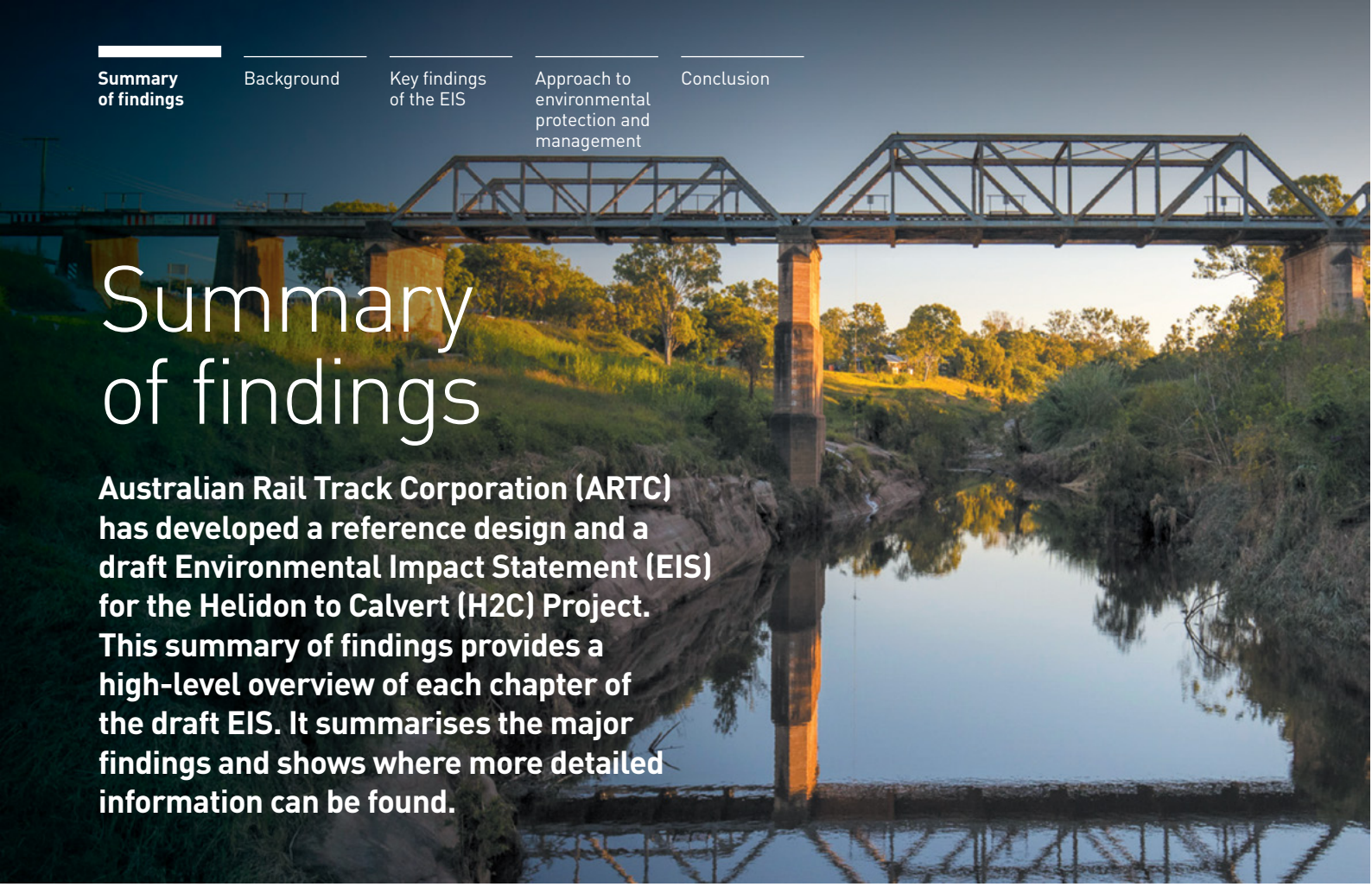
## Helidon to Calvert key elements

**3 fauna crossings**
locations have been identified, in greenfield areas

**ancillary works**
including road and public utility crossings and realignments, signage and fencing and services

**H2C links**
H2C links with Gowrie to Helidon (G2H) in the west, and the Calvert to Kagaru (C2K) to the east.

**drainage**
86 culverts



# Summary of findings

**Australian Rail Track Corporation (ARTC) has developed a reference design and a draft Environmental Impact Statement (EIS) for the Helidon to Calvert (H2C) Project. This summary of findings provides a high-level overview of each chapter of the draft EIS. It summarises the major findings and shows where more detailed information can be found.**

ARTC is proposing Inland Rail – spanning 1,700 kilometres from Melbourne to Brisbane. By connecting interstate rail lines, Inland Rail will enable trains to travel between Melbourne and Brisbane in 24 hours or less.

**Want to know more?**

See the following:

- **Appendix A: Terms of Reference (Binder 4)**
- **Appendix B: Terms of Reference Compliance Table (Binder 4)**

## The Project

The 47 kilometre H2C section involves the construction of a new dual gauge rail line connecting Helidon (east of Toowoomba) with Calvert (west of Ipswich), in Queensland, predominantly within the existing rail corridor and the Department of Transport and Main Roads' Gowrie to Grandchester future State transport corridor.

## Purpose of this 'Summary of findings'

A draft EIS has been prepared for the Project. The draft EIS describes the Project, considers potential environmental, social and economic impacts of the Project, and identifies measures to minimise and avoid these impacts.

The draft EIS provides an analysis of technical issues and has been based on sound environmental principles and practices.

This summary of findings is a high-level overview of the draft EIS.

It summarises the major findings and shows where further information can be found.

This summary of findings also explains how you can make a submission to the Office of the Coordinator-General about the draft EIS.

## About the EIS

The draft EIS has followed the process established by the *State Development and Public Works Organisation Act (1971)* (QLD) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Both levels of government will be involved in the EIS assessment process and will consider feedback from the community and other stakeholders during the public notification period before making a decision.

The draft EIS responds to the Terms of Reference for the Project issued by the Coordinator-General in October 2017.

The draft EIS describes:

- the current environment in the Project study area
- potential environmental impacts of the Project
- proposals to avoid, minimise, mitigate and/or offset those potential impacts.

The draft EIS comprises three volumes:

- **Volume A** – chapters describing the draft EIS process, the Project, identified environmental, social or economic aspects, environmental values, potential impacts as well as mitigation and management measures
- **Volume B** – appendices supporting the chapters, including the Terms of Reference and specialist technical reports on identified environmental, social and economic aspects
- **Volume C** – drawings, based on the current reference design.

## The draft EIS is now available for public comment

The draft EIS is currently in a public consultation review period. This period is from **31 March 2021** to **23 June 2021**, during which time the Office of the Coordinator-General for the Queensland Government invites comment on the Project.

Written, emailed and online submissions can be received by the Office of the Coordinator-General, up to  and including the last day of public notification.

## Where to view a copy of the EIS

The draft EIS can be viewed and downloaded from the Office of the Coordinator-General website at: **statedevelopment.qld.gov.au/inlandrail-h2c**

The draft EIS can be viewed at the following locations:

- **Gatton Library, Lockyer Valley Cultural Centre,** 34 Apex Drive, Gatton
- **Laidley Library**, 9 Spicer Street, Laidley
- **Rosewood Library**, 15 Railway Street, Rosewood
- **Ipswich Central Library**, Nicholas Street Precinct, Ipswich
- **State Library of Queensland, Cultural Centre**, Stanley Place, South Bank, Brisbane
- **National Library of the Australia**, Parkes Place, Canberra
- **ARTC Inland Rail Gatton Office**, Suite 5, 47 North Street, Gatton
- **ARTC Inland Rail Toowoomba Office**, 143–145 Margaret Street, Toowoomba.

## A properly made submission

Submissions can only be made to the Office of the Coordinator-General.

Each submission must:

- be made in writing
- be received on or before the last day of the submission period
- be signed by each person making the submission
- state the name and address of each person
- state the grounds of the submission, as well as the facts and circumstances relied on in support of those grounds.

A person wishing to make a submission about the EIS should also:

- clearly state the matters of concern or interest and list points to help with clarity
- reference the relevant sections of the EIS
- ensure the submission is legible.

## What happens after public notification

At the end of the public notification period, the Coordinator-General will consider all properly made submissions to determine if additional information is required to address issues raised.

For further information on the EIS process and the making of submissions, please call the Office of the Coordinator-General on **13 QGOV (13 74 68)**.

## How to have your say

### Online

Online submissions via the Office of the Coordinator-General website are preferred. To make a submission online, please visit: **haveyoursay.dsd.qld.gov.au/coordinatorgeneral/inlandrailh2c-dEIS**

### By post

Attention: The Coordinator-General
c/ Project Manager,
Inland Rail – Helidon to Calvert project
Project Evaluation and Facilitation
Office of the Coordinator-General
PO Box 15517
City East Qld 4002 Australia

### By email

**inlandrailh2c@coordinatorgeneral.qld.gov.au**

# Introduction

**The Australian Government has committed to delivering Inland Rail, a significant piece of national transport infrastructure that will enhance our countries existing rail network and serve the interstate freight market.**

## The Project

The 47 kilometre Helidon to Calvert Project is just one of the 13 distinct projects that, combined, make up the Inland Rail Program.

The Project reference design responds to key environmental features and has been developed in line with engineering performance specifications. The rail reference design is based on minimising impacts and disturbance to existing infrastructure, while meeting minimum design standards.

Due to the requirements for significant infrastructure elements including bridge structures, earthworks and a tunnel, the Project is expected to represent an investment of up to $1 billion–including all construction costs, design services and land requirements.

The Project will be delivered as part of the Gowrie to Kagaru Public Private Partnership (PPP).

## The location

The Project connects Helidon (east of Toowoomba) with Calvert (west of Ipswich) in South East Queensland (SEQ) and is located in the two local government areas of Lockyer Valley Regional Council (36.8km of alignment) and Ipswich City Council (10.7km of alignment). The Project traverses Placid Hills, Gatton, Forest Hill, Laidley and Grandchester.

The Project starts at Helidon, deviating from the existing Queensland Rail West Moreton System rail corridor along Airforce Road and continues south-east, crossing the Warrego Highway then continuing east between the highway and the existing rail corridor until it runs immediately parallel with the existing rail line slightly north of Placid Hills.

The alignment runs parallel with the existing rail line at the following locations:

- Western end from Gowrie to Helidon Inland Rail project connection at Airforce Road
- Central portion through Gatton and Forest Hill
- Eastern end at Grandchester to the Calvert to Kagaru Inland Rail project connection at Calvert.

The new track continues parallel to the north of the existing rail corridor, through Gatton and the northern side of the existing Gatton rail station, through Forest Hill and then deviates from the existing rail corridor in a south-east direction just north of the Laidley township across Laidley-Plainland Road to the new tunnel section through the Little Liverpool Range.

After exiting the eastern tunnel portal at the Little Liverpool Range, the Project corridor crosses under the West Moreton System rail corridor and over Rosewood-Laidley Road, bypassing the existing Grandchester Station to the south, running parallel to the existing rail corridor, and then connecting into the West Moreton System rail corridor East of Grandchester and West of Calvert.

## Project dependencies

The project is both greenfield and brownfield and is one of the 'missing links' across Inland Rail. It connects with the two other Inland Rail projects:

- Gowrie to Helidon project to the north-west
- Calvert to Kagaru project in the south-east.

### Want to know more?

See the following:

- **Chapter 1: Introduction (Binder 1)**
- **Chapter 2: Project rationale (Binder 1)**

# The Inland Rail route


The ARTC network moves commodities including general freight, coal, iron ore, other bulk minerals and agricultural products – supporting industries and businesses that are vital to Australia's economy.

## The Proponent

The ARTC is the proponent for the Project. ARTC was created after the Australian Government and state governments agreed in 1997 to form a 'one-stop-shop' for all operators seeking to access the national interstate rail network. Since its formation, ARTC has focused on infrastructure investment and modernising the interstate rail network. This work has extended to building and upgrading existing track to allow for the capacity that the market requires.

ARTC plays a critical role in the transport supply chain and in the overall economic development of Australia, managing and maintaining over 8,500 kilometres of rail network across five states, investing in building, extending and upgrading the rail network to move more freight onto rail and reduce the load on roads. The ARTC network supports industries and businesses that are vital to the nation's economy by facilitating the movement of a range of commodities including general freight, coal, iron ore, other bulk minerals and agricultural products.

As the operator and manager of Australia's national rail freight network, ARTC has successfully delivered more than $5 billion in capital upgrades to the national freight network. Having emerged from this period of significant investment and network upgrades, ARTC has now been tasked with delivering Inland Rail under the guidance of the Department of Infrastructure, Transport, Regional Development and Communications.

## Project timeline

The Project will be operational when all 13 sections of the Inland Rail Program are complete.

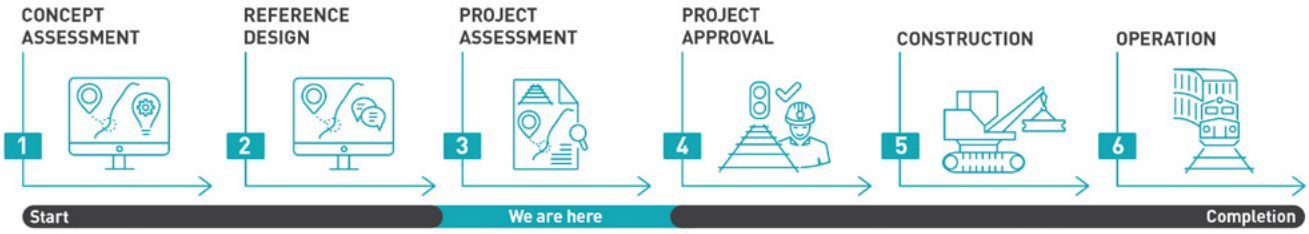
The anticipated timing of phases for the Project are shown in the table on the next page. Early works are scheduled for commencement in late 2021, following detailed design and subject to required post-EIS activities. Early works (pre-construction activities) include detailed design, land acquisition, surveys and geotechnical investigations, and some utility and service relocations.

With commencement in 2021, completion is targeted for 2026.

A number of factors could potentially impact the Project anticipated timing, such as successful procurement of a contractor. The construction completion date is also influenced by a number of variables, including outcomes of ongoing engagement and stakeholder consultation, and ongoing design and development work.

Commissioning will be completed prior to the Project becoming operational.

> The Project will maximise economic growth opportunities for the region.




*Timelines are indicative only and subject to change

Construction planned to start

**2021 - 2022**

Pre-construction and early works – 2021

**2026**

Construction completed and operational with an average of **33 services*** per day

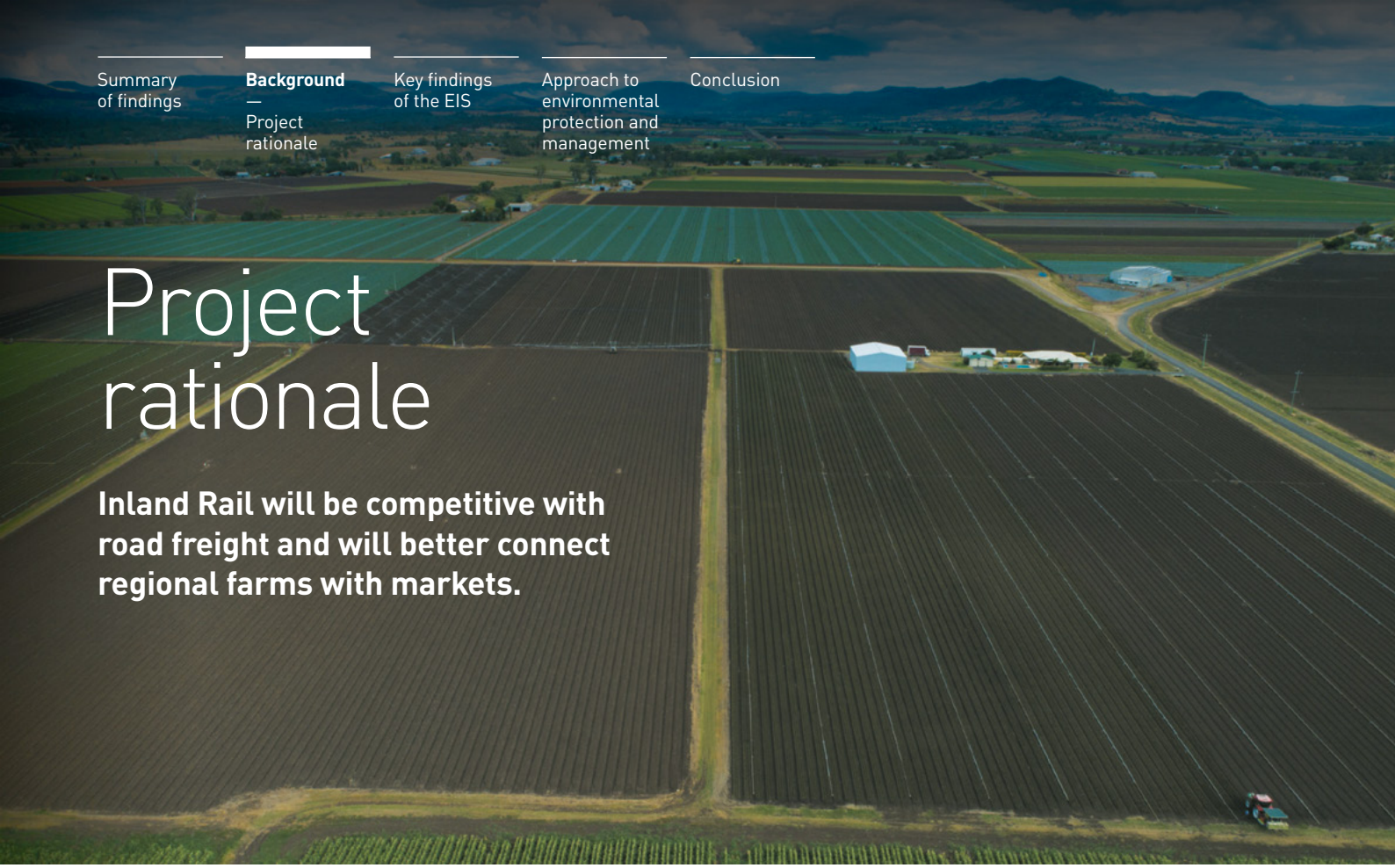
**2040**

Operations with an average of **47 services*** per day

*the actual number of trains using the rail line will vary to meet market requirements*

## Anticipated timing of Project phases

| Project phase | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | | 2025 | | | | 2026 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Detailed design | | | | | | | | | | | | | | | | | | | | | | | | |
| Pre-construction and early works | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction | | | | | | | | | | | | | | | | | | | | | | | | |
| Commissioning | | | | | | | | | | | | | | | | | | | | | | | | |
| Operation | | | | | | | | | | | | | | | | | | | | | | | | |



# Project rationale

**Inland Rail will be competitive with road freight and will better connect regional farms with markets.**

Chapter 2 describes the rationale for the Helidon to Calvert Project as part of the broader Inland Rail Program.


## Connecting Australia

The Melbourne to Brisbane corridor is one of the most important general freight routes in Australia, supporting key population and employment precincts along the east coast and inland New South Wales (NSW). With the population of the eastern states forecast to increase by 60 percent over the next 40 years, the need for efficient and effective freight transport will continue to increase.

Inland Rail will provide a rail link between Melbourne and Brisbane that is interoperable with train operations to Perth, Adelaide, and other locations on the standard gauge rail network, to:

- serve future rail freight demand
- stimulate growth for inter-capital and regional/bulk rail freight
- provide an increase in productivity that will benefit consumers through lower freight transport costs
- provide a step-change improvement in rail service quality in the Melbourne to Brisbane corridor and deliver a freight rail service that is competitive with road
- improve road safety, ease congestion, and reduce environmental impacts by moving freight from road to rail
- bypass bottlenecks within the existing metropolitan rail networks, and free up train paths for other services along the coastal route
- act as an enabler for regional economic development along the Inland Rail corridor.

Inland Rail will connect regional Australia to markets more efficiently, drive substantial cost savings for producers and consumers and deliver significant economic benefits. The majority of freight transported via Inland Rail will be for domestic markets.

### Want to know more?

See the following:

- **Chapter 2: Project rationale (Binder 1)**
- **Chapter 7: Sustainability**
- **Chapter 17: Economics (Binder 3)**
- **Chapter 22: Cumulative impacts (Binder 3)**

The Australian Government has committed to delivering a significant piece of national transport infrastructure by constructing a high-performance and direct interstate freight rail corridor between Melbourne and Brisbane, via central-west NSW and Toowoomba in Queensland.

Inland Rail is a nationally significant transport initiative. Inland Rail will better connect cities, farms, and mines via ports to domestic and international markets.

The Project forms part of Inland Rail and enhances Australia's existing rail network and serves the interstate freight market by delivering a road-competitive service that will enable freight to be delivered from Melbourne to Brisbane in less than 24 hours with reliability, pricing and availability that is equal to, or better, than road.

## Justification for Inland Rail

Currently, there is no continuous Inland Rail link between Melbourne and Brisbane. Existing road and rail networks do not have the capacity to meet the demand for future freight movements, which will have a negative impact on freight productivity, transport costs and existing passenger services that also use the network.

Trains running on Inland Rail will be double-stacked freight trains initially up to 1,800 metres long – as long as 18 football fields. This means fewer B-double trucks on already busy road networks and less congestion for road and rail users.

## Consequences of not proceeding with Inland Rail

Not progressing with Inland Rail would potentially hinder the national economy. The continuing growth in freight demand requires urgent attention. Without making a step-change in rail efficiency and performance, pressure on the road networks will increase, freight costs will rise, consumers will pay more for products, and productivity in important sectors could decline.

Without Inland Rail, road would increasingly become the dominant mode.  A continued over-reliance on road transport to meet the future east coast freight task will reduce safety, increase costs and a loss of economic growth opportunities for the region.

## Benefits of proceeding with Inland Rail

Potential benefits include:

- improved access to and from regional markets
- reduced costs for the market
- improved reliability and certainty of transit time
- increased capacity of the transport network
- reduced distances travelled
- improved transport network safety.

## What Inland Rail will offer

Inland Rail presents a unique opportunity to establish a competitive freight system by providing rail infrastructure that supports a network of intermodal terminals and local sidings to distribute goods at a national, regional and local level.

The service that ARTC is offering is central to the delivery and competitiveness of Inland Rail. The service offering reflects the priorities of freight customers and responds to both current and expected market conditions.

Key characteristics of the Inland Rail service offering include:

### Transit time


24 hours or less from Melbourne to Brisbane

### Reliability

98 per cent of goods will be delivered on time by connecting road freight, or available to be picked up at the rail terminal or port when promised

### Price

cheaper relative to road transport, as a combined cost of access to the rail network, rail haulage and pick-up and delivery

### Availability

services available with departure and arrival times that are convenient for customers

## Project objectives

The objectives of the Project are to:

- provide rail infrastructure that meets the Inland Rail Program specifications, to enable trains using the Inland Rail corridor to travel between Helidon and Calvert, connecting with other sections of Inland Rail to the north and south
- minimise the potential for adverse environmental and community impacts
- maximise benefits at a national, State, regional and local level.

> Inland Rail provides a significant opportunity to change the fundamentals of the freight logistics supply chain in Australia.

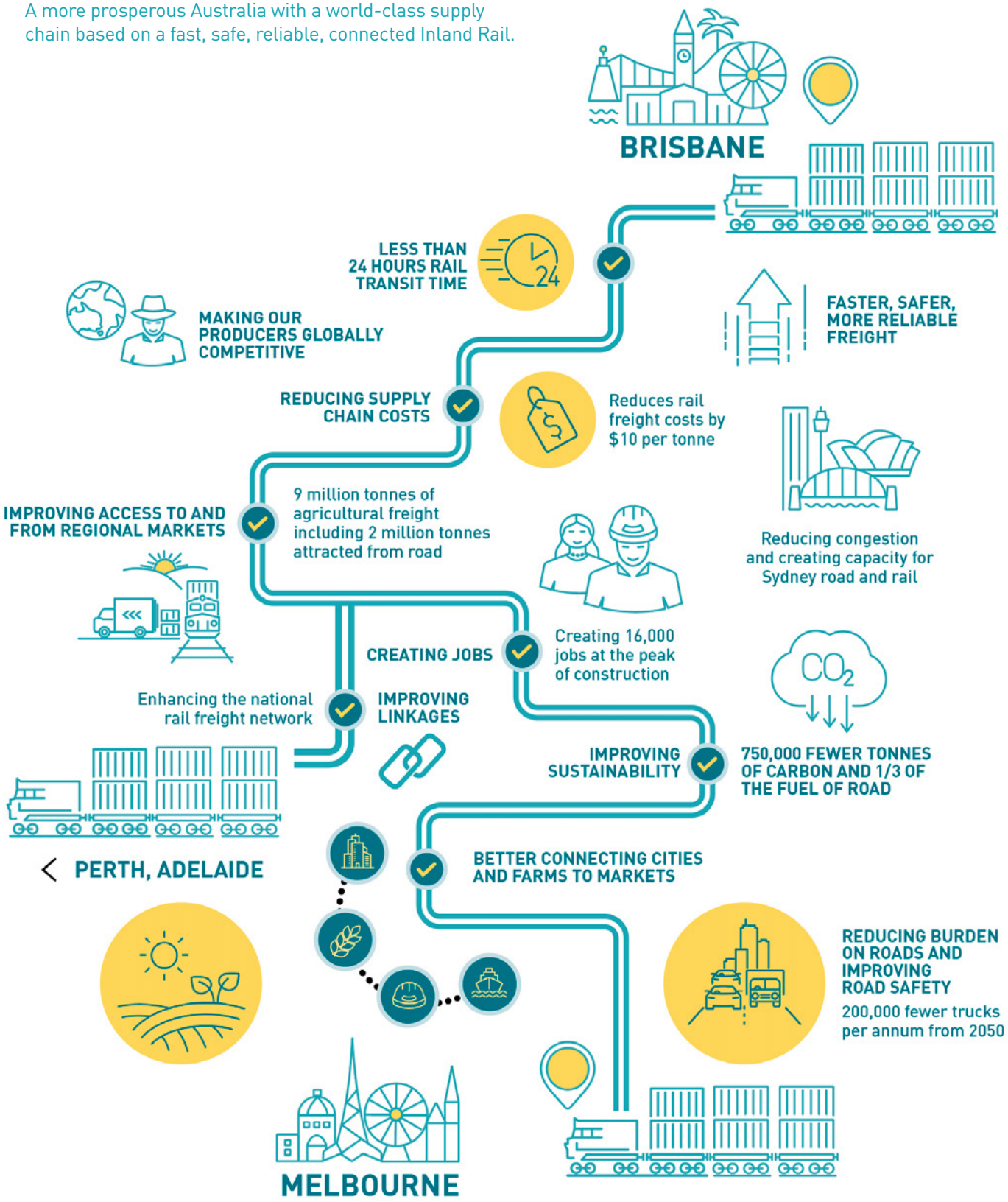
## Project benefits

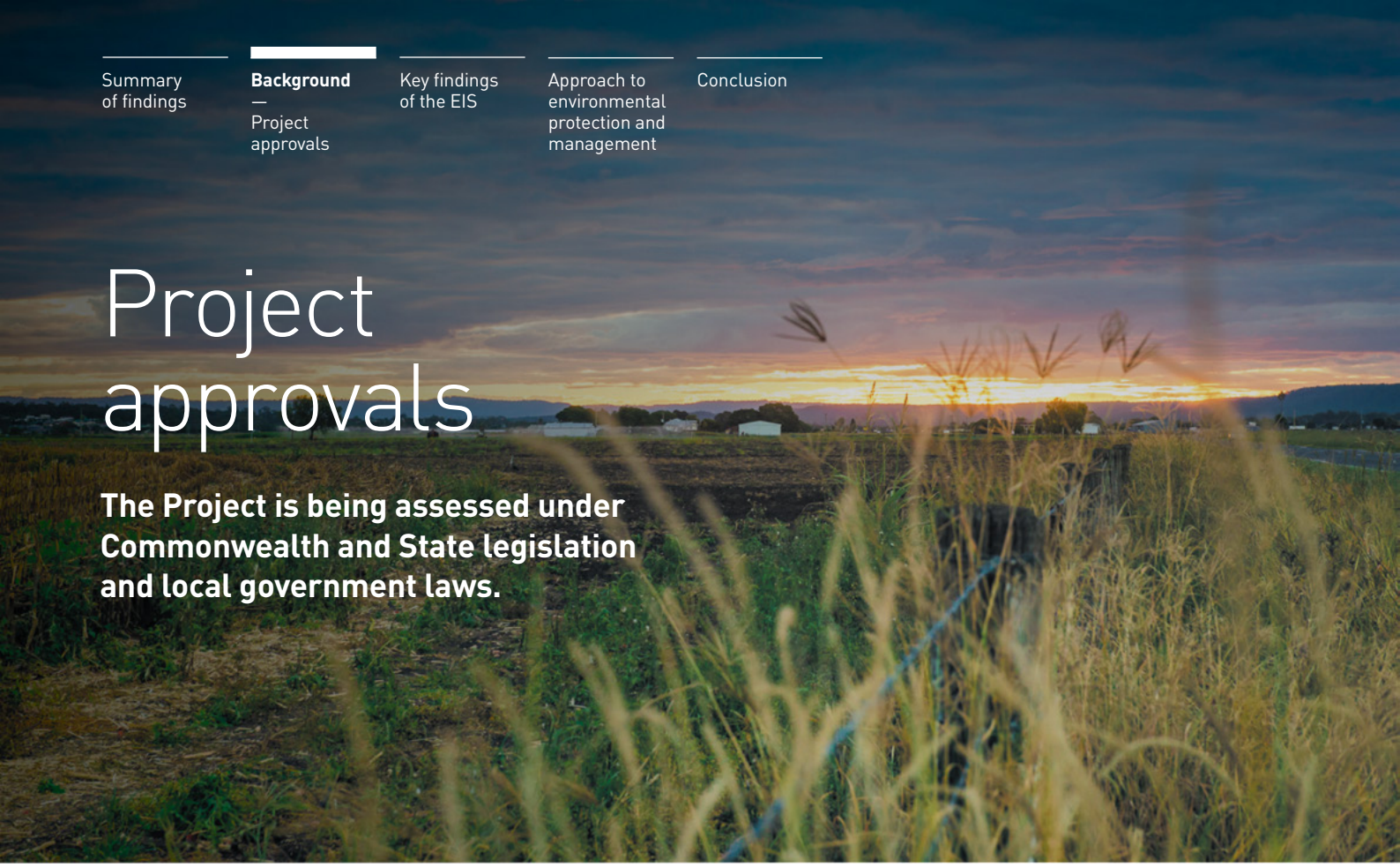
As a component of Inland Rail, the potential benefits of the Project will be fully realised when considered with the benefits of the full Melbourne to Brisbane alignment. Key Project-specific benefits include:

- employment for up to 410 full-time equivalents at the peak of construction (an expected average workforce of 190 people on site over the construction period), including people living in the vicinity of the Project and in nearby local government areas, with indirect employment also likely to be stimulated
- training opportunities provided by ARTC and the development of career pathways for young people, Indigenous people and unemployed people, who are disadvantaged in the labour market
- opportunities for local, regional and Indigenous businesses to participate in the Project's construction supply chain
- development of labour force and business capacity will enable future employment and business growth opportunities for businesses in the region
- acting as a catalyst for improved employment and opportunities by stimulating the establishment of businesses and industry
- opportunities in secondary service and supply industries, such as retail, hospitality and other support services, for businesses in proximity to the Project.

# The benefits of Inland Rail

A more prosperous Australia with a world-class supply chain based on a fast, safe, reliable, connected Inland Rail.





# Project approvals

**The Project is being assessed under Commonwealth and State legislation and local government laws.**

Chapter 3 of the draft EIS summarises the relevant legislation and identifies the approvals, permits, licences and authorities necessary for the planning, construction, and operational phases of the Project.

## A comprehensive approvals process

The development of infrastructure has potential to trigger the need for approval under Commonwealth and State legislation and local government laws, plans and policies. Various approval pathways exist, and the appropriate pathway can depend on the significance of the impacts, the type of development, the land it will be constructed on and the proponent of the application.

The Terms of Reference (ToR) requires the EIS to describe and list all legislation, policies and plans that are relevant to the Project, and identify approvals, licences, permits and other authorisations necessary for the planning, construction and operational phases of the Project.

### Want to know more?

See the following:

- **Chapter 3: Project approvals (Binder 1)**
- **Appendix B: Terms of Reference Compliance Table (Binder 4)**

A number of Project approvals required prior to construction commencing will be the responsibility of the appointed Contractor – these will largely be dependent upon their construction methodology and requirements.

Approvals for third-party works of councils and utility providers have not been assessed within the draft EIS. Any third-party works may rely on the provisions and powers of the relevant third party, and/or may require separate environmental assessment and associated approvals.

## Queensland approval process

On 16 March 2017, the Project was declared to be a 'coordinated project for which an EIS is required' by the Coordinator-General under the *State Development and Public Works Organisation Act 1971* (QLD).

The draft EIS was prepared to address the ToR issued by the Coordinator-General.

Following submission and public notification of the draft EIS, and when the Coordinator-General accepts the EIS as the final EIS, they evaluate the draft EIS, any submissions made on the EIS, any other relevant information, and prepare an Evaluation Report.

The Evaluation Report may state conditions, or make recommendations, for subsequent approvals required for the Project to proceed and may also impose conditions to manage potential impacts.

## Commonwealth approval process

The Project is being assessed under the Bilateral Agreement between the Commonwealth and Queensland Governments.

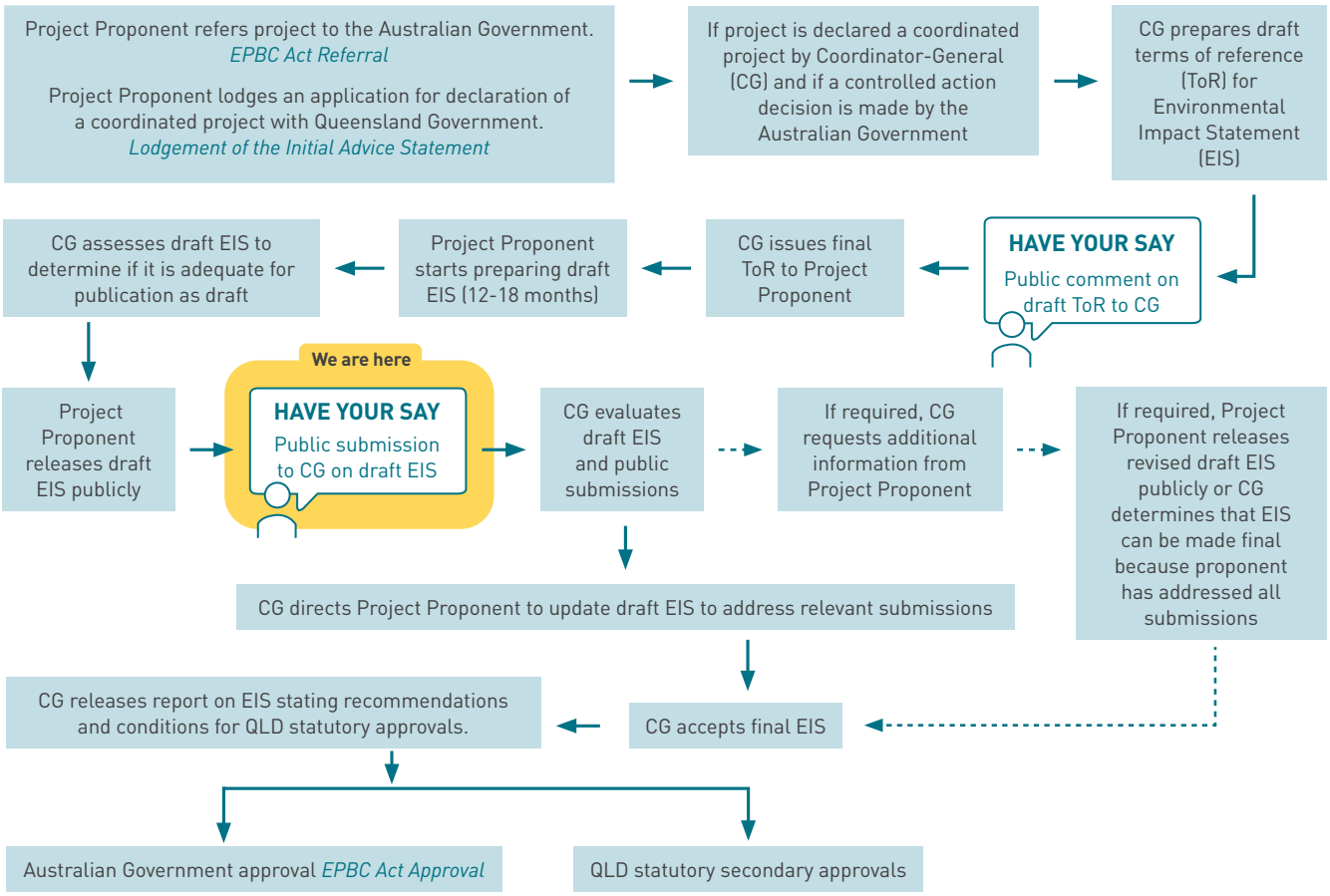
The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) provides a legal framework to protect and manage matters of national environmental significance, which include flora, fauna, ecological communities and heritage places.

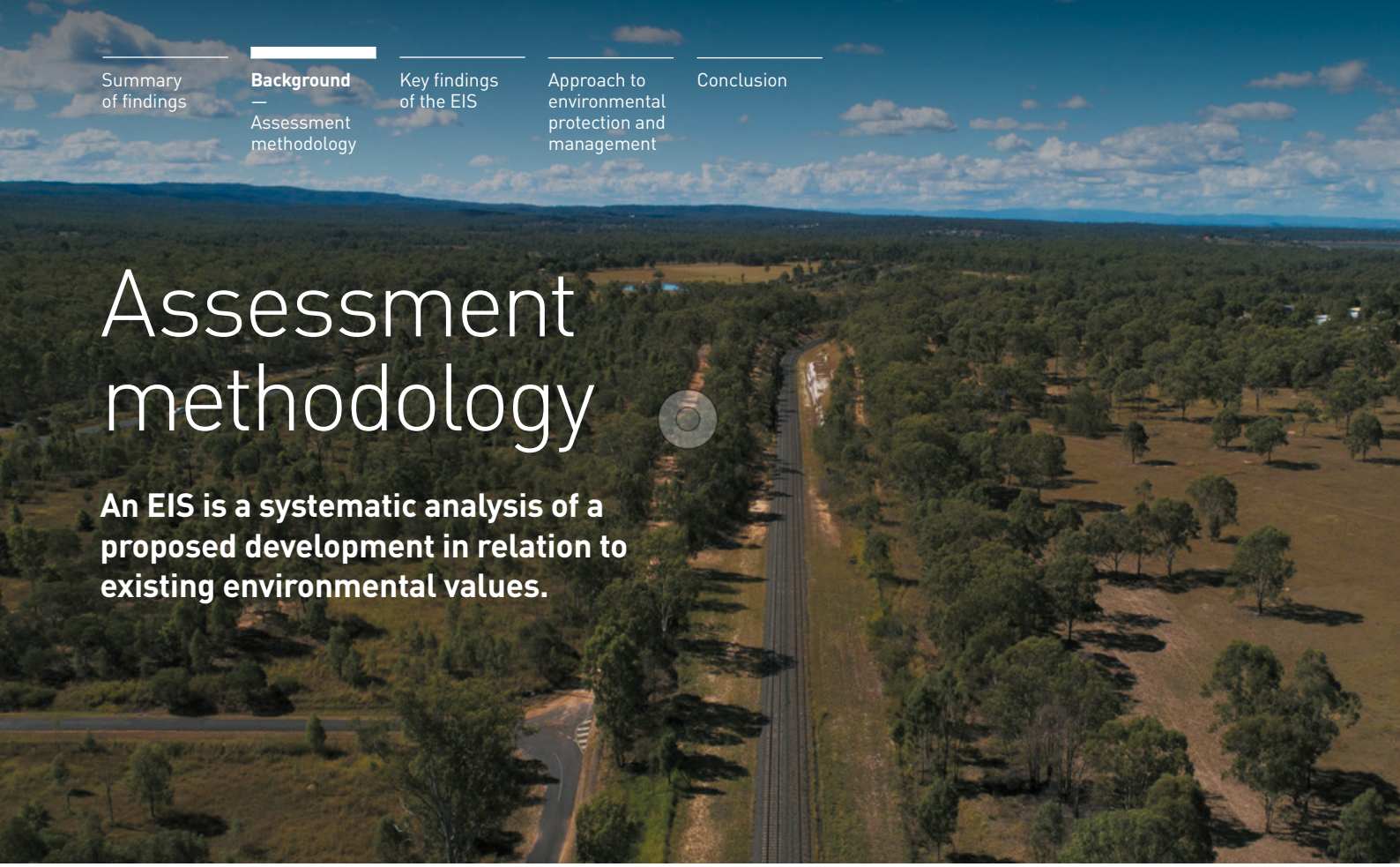
The ToR also sets out the requirements for the assessment of Commonwealth controlling provision, mitigation measures and any offsets for residual impacts.

On 17 March 2017, the Project was determined a 'controlled action' under the EPBC Act and determined the controlling provision to be listed threatened species and communities. The draft EIS has been prepared to identify all potential impacts as a matter of national environmental significance.

The Australian Government Minister for the Environment will receive a copy of the Coordinator-General's Evaluation Report to use when deciding whether to approve the Project, with or without conditions, under the EPBC Act.

## Approvals process for Queensland major projects





# Assessment methodology

**An EIS is a systematic analysis of a proposed development in relation to existing environmental values.**

Chapter 4 describes the methodology used to assess potential impacts and opportunities as a result of the Project in accordance with the ToR.

## Assessing potential impacts

The draft EIS has been prepared to address the ToR and provides analysis and assessment of potential environmental and socio-economic impacts from the Project.

The draft EIS has taken a conservative approach to identifying the potential incremental and cumulative impacts.

Where potential impacts have been identified, efforts have been made to avoid or minimise those impacts through design development. Where these attempts have a limited effect, further proposed mitigation and management measures have been recommended - these will be implemented during future Project phases.

The need to provide environmental offsets to address potential residual impacts has been outlined.

Opportunities to maximise the economic and social benefits of the Project have been identified and include local employment, local industry participation, and opportunities for complementary investment with continued community benefits. These opportunities are further detailed in the Social Impact Management Plan, and associated action plans.

### Want to know more?

See the following draft EIS chapters:

- **Chapter 4: Project rationale (Binder 1)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

> The objective of an EIS is to ensure that all potential environmental, social and economic impacts of the Project are identified and assessed and demonstrate that the Project is based on sound environmental principles and practices.

Key terms used in the assessments include:

- **EIS investigation corridor:** An approximate 2km wide study area, 1km either side of the proposed rail alignment.

Disturbance footprint:

- **Permanent disturbance footprint:** The rail corridor includes the rail tracks and associated infrastructure as well as other permanent works (e.g. where changes to the road network are required)
- **Temporary disturbance footprint:** The permanent disturbance footprint and any temporary storage and laydown areas to be used during the construction phase
- **Technical study areas:** Some technical assessments used a different study area depending on the requirements of the environmental aspect being assessed.

## Approach

Three methods were used to assess potential impacts and opportunities:

- compliance assessment (quantitative)
- risk assessment (qualitative)
- significance assessment (qualitative).

For each environmental value, the appropriate impact assessment method was selected. In some cases, the assessment method was adapted to meet the needs of a particular environmental value. For example, flora and fauna and land resources were assessed using both compliance and significance assessment methods.

## Significance classifications

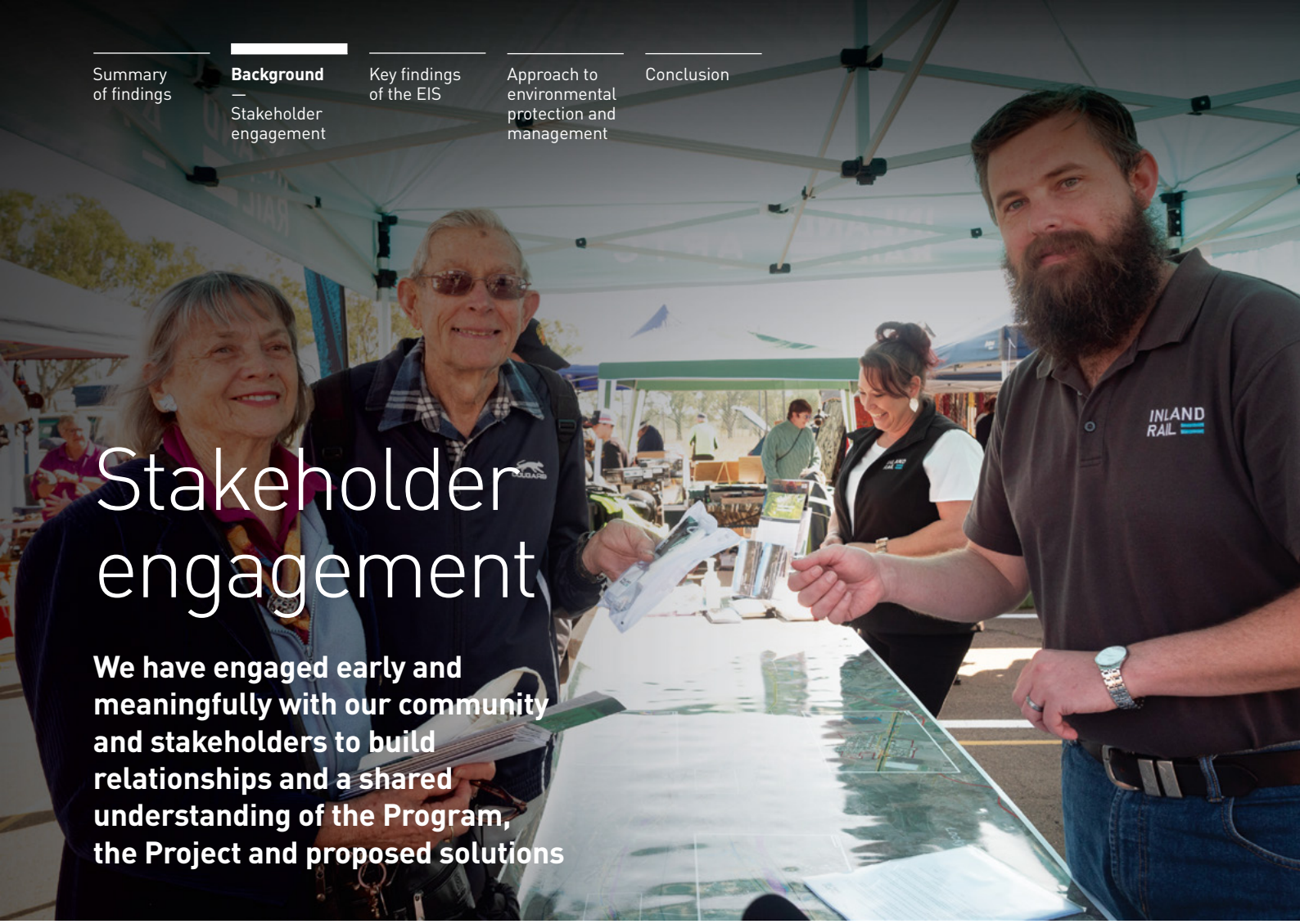
**MAJOR:** Arises when an impact will potentially cause irreversible or widespread harm to an environmental value that is irreplaceable because of its uniqueness or rarity. Avoidance through appropriate design responses is the only effective mitigation.

**HIGH:** Occurs when the proposed activities are likely to exacerbate threatening processes affecting the intrinsic characteristics and structural elements of the environmental value. While replacement of unavoidable losses is possible, avoidance through appropriate design responses is preferred to preserve its intactness or conservation status.

**MODERATE:** Results in degradation of the environmental value due to the scale of the impact or its susceptibility to further change even though it may be reasonably resilient to change. The abundance of the environmental value ensures it is adequately represented in the region, and that replacement, if required, is achievable.

**LOW:** Occurs where an environmental value is of local importance and temporary or transient changes will not adversely affect its viability provided standard environmental management controls are implemented.

**NEGLIGIBLE:** Does not result in any noticeable change and hence the proposed activities will have negligible effect on environmental values. This typically occurs where the activities are located in already disturbed areas.




# Stakeholder engagement

**We have engaged early and meaningfully with our community and stakeholders to build relationships and a shared understanding of the Program, the Project and proposed solutions**

Chapter 5 outlines the consultation activities undertaken to date, key issues raised and communication collateral used in the process.

## Extensive engagement

The consultation program was structured to inform individuals and groups directly and indirectly affected by the Project. The consultation process was also structured to allow input from:

- landowners – between Helidon and Calvert, the permanent disturbance footprint traverses 193 properties. The temporary construction disturbance footprint, which also covers the permanent operational disturbance footprint, traverses 341 properties.
- stakeholder groups – with specific interests in the Project, such as Traditional Owners and community groups
- Australian Government departments – Queensland Government departments and agencies, and local governments.

Stakeholder and community feedback and comments have informed the preparation of the draft EIS.

During the reference design and draft EIS development, we undertook extensive consultation with landowners. We held more than 381 face-to-face meetings to provide an overview of the Project, share and understand their concerns and receive their feedback.

We have held:

- presentations and briefings
- drop-in sessions
- draft EIS workshops.

We established a local office in Gatton in 2019, providing easy access to community members to drop-in at any time during office hours for face-to-face discussions about the Project and Inland Rail.

### Want to know more?

See the following:

- **Chapter 2: Project rationale (Binder 1)**
- **Chapter 5: Stakeholder engagement (Binder 1)**
- **Appendix C: Consultation Report (Binder 4)**

# Consultation

Since 2015, we have consulted widely with the community and stakeholders.

## Who we consult with

Community

Government *(Local, State and Commonwealth)*

Emergency Services

Impacted landowners

Local services

Indigenous stakeholders

Local businesses

## How we consult

Face-to-face meetings

Calls

Emails

E-news

Printed newsletters *(letter box drops)*

Workshops and info sessions

Community Consultative Committee (CCC)

Interactive map

Website

Social media

*Please note the above lists are not exhaustive. Detailed lists can be found in Chapter 5 and Appendix C.*

## Stages of consultation

A phased approach was developed to engage key stakeholders and other potentially affected stakeholders about the Project. Broad public engagement has been ongoing since 2016. Consultation for the development of the Terms of Reference and Project design commenced in mid-2017.

### STAGE ONE

**2002**

- raising public awareness in Inland Rail

### STAGE TWO

**December 2017 – October 2020**

- one-on-one consultation, public forums relating to designs, engagement for property impacts and acquisition

### STAGE THREE

**October 2020 – early 2022**

- formal consultation to support EIS assessment and approval; commence land acquisition discussions

### STAGE FOUR

**2022–2026**

- engagement during construction

### STAGE FIVE

**2026**

- completion and handover to operations

## Major themes of the consultation process

Inland Rail maintains a secure stakeholder management database – Consultation Manager – to record all consultation undertaken as part of the Project.

The database was established in mid-2014 for the Inland Rail Program and will continue to be maintained throughout the EIS process and into Project construction and beyond. This central database is used to record stakeholder consultation and monitor and report on enquiries, issues and team responses across all ARTC operations and Inland Rail projects.

### Major themes

- **land use and tenure, including property**
- **noise and vibration**
- **traffic, transport and access**
- **surface water and hydrology**
- **socio-economic**
- **cultural heritage**
- **landscape and visual amenity**
- **waste and spoil management**
- **flora and fauna**
- **air quality**

Stakeholder interactions helped shape the project and inform proposed mitigation measures for future stages of design, construction, commissioning and operation.

Consultation allowed the Project to:

- identify community values and local conditions in proximity to the Project
- appropriately assess potential impacts and identify key benefits of the Project's construction and operation
- propose measures to minimise or avoid potential Project impacts
- recommend strategies to maximise or enhance potential Project benefits.

> We have received over **1,000 enquiries** through Project feedback and information mechanisms. We have received over **500 enquiries** through our interactive map and website.

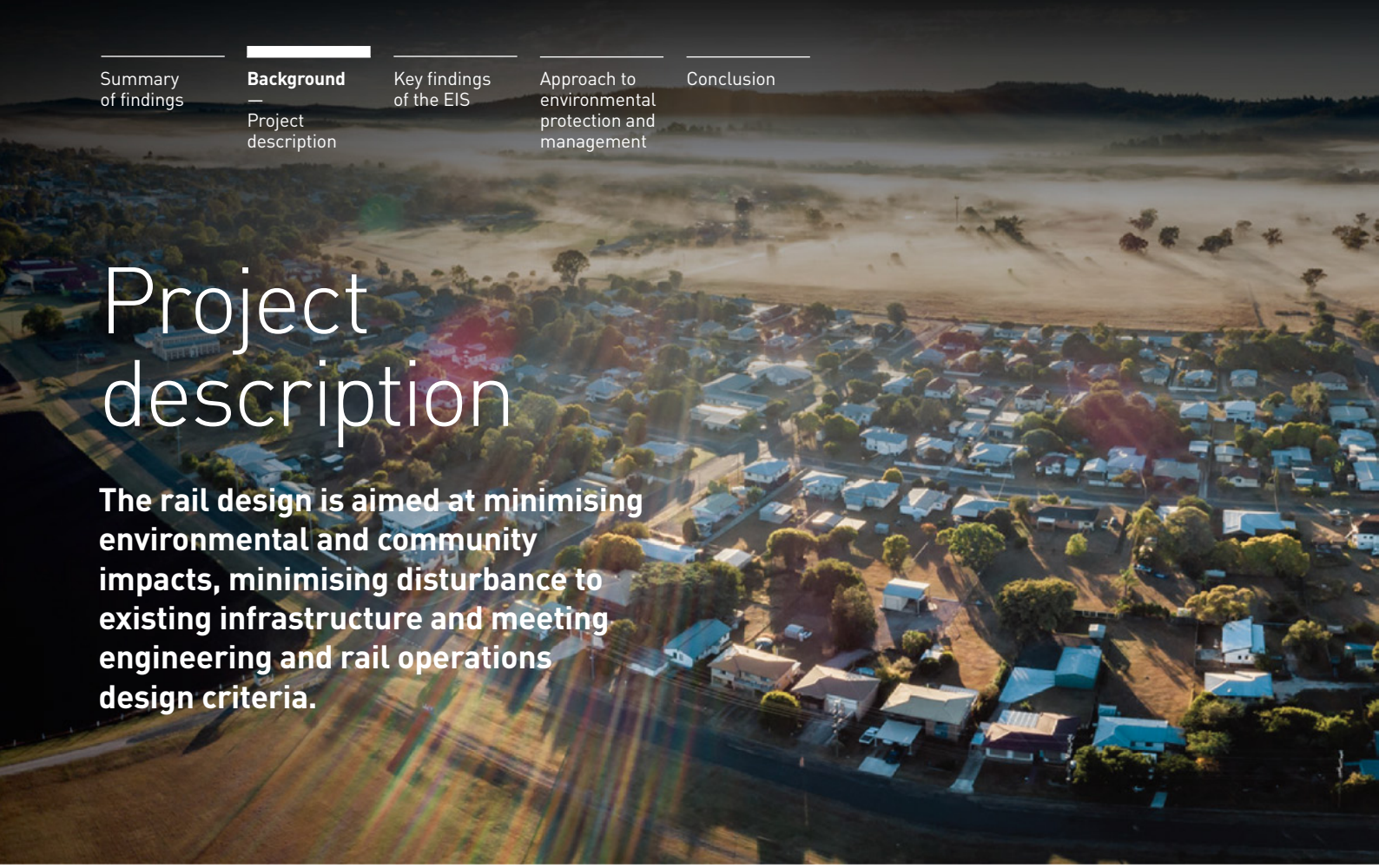
## Lockyer Valley Community Consultative Committee (CCC)

The Lockyer Valley CCC was established for both the Gowrie to Helidon and Helidon to Calvert projects.

The CCC has 14 members plus an independent Chair, and meetings are held quarterly. Since December 2017, the CCC has held 12 meetings and over 350 community members have attended those meetings as observers.

The CCC ensures representation of diverse viewpoints and provides a platform to raise community concerns. The role of the committee is to gather and disseminate information regarding Inland Rail throughout the community and bring community views to the meetings.

> Community consultation is an ongoing process to inform the community about the Project and involve them throughout the life of the Project.



# Project description

**The rail design is aimed at minimising environmental and community impacts, minimising disturbance to existing infrastructure and meeting engineering and rail operations design criteria.**

Chapter 6 describes the Helidon to Calvert project (the Project), which is the subject of this draft EIS.

## Project overview

The Project is a 47 kilometre section of the proposed Inland Rail program and comprises a single track, dual gauge railway with four crossing loops, 31 bridges and an approximately 850 metre long tunnel through the Little Liverpool Range.

The Project crosses the local government areas of Lockyer Valley Regional Council and Ipswich City Council.

It will be built predominantly within the existing rail corridor and the Department of Transport and Main Roads' Gowrie to Grandchester future State transport corridor. Approximately 24km of the rail corridor will be co-located with the existing Queensland Rail West Moreton System rail corridor.

The track will initially be constructed to accommodate 1,800 metre long double-stack freight trains but will ultimately accommodate trains up to 3,600 metres long, based on business needs.

> The co-location of the Project alignment with the existing rail corridor has been designed to minimise conflicts between local communities and the rail network, minimise visual intrusion in the area, and allow coordination of service lines with existing rail networks.

The objectives of the Project design are to:

- provide rail infrastructure that meets the Inland Rail specifications, to enable trains using the Inland Rail corridor to travel between Helidon and Calvert, connecting with other sections of Inland Rail to the west and east
- minimise the potential for adverse environmental and social impacts.

**Want to know more?**

See the following:

- **Chapter 1: Introduction (Binder 1)**
- **Chapter 6: Project description (Binder 1)**
- **Drawings (Binder 18)**

## Key project features

Helidon — Calvert

**Start and finish point**
Helidon and Calvert

**Local government areas**
Lockyer Valley Regional Council and Ipswich City Council

47km
Helidon — Calvert

**47km total length**
24km co-located with existing rail corridor, dual gauge single track

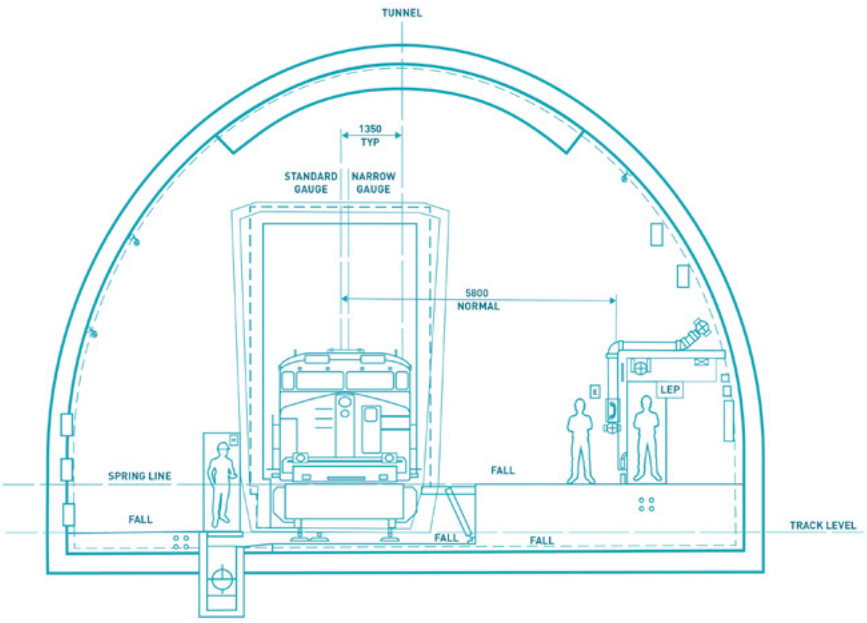
## Key features:

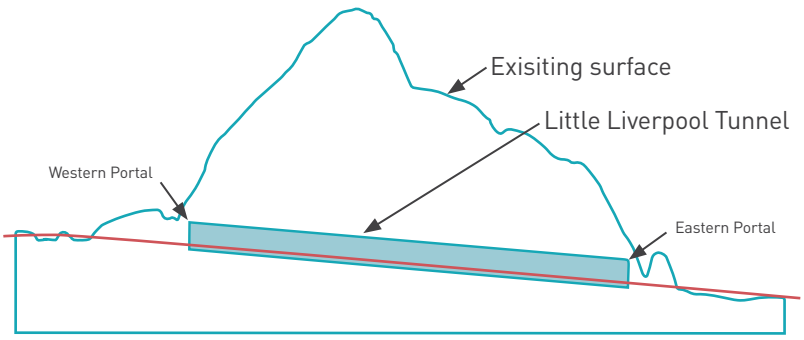
- Approximately 850m long tunnel through the Little Liverpool Range
- 4 crossing loops located at Helidon, Gatton, Laidley and Calvert
- 31 new rail bridges

## Train length

- Up to 1,800 metres in length, with future proofed potential for future accommodation of 3,600 metres length.

**Proposed tunnel example**




**Key**

Rail Level

Tunnel

## Employment

- Construction employment: approximately 410 full time personnel at the peak of construction, with an expected average workforce of 190 people onsite over the construction period.
- Operational employment: approximately 15–20 full time employees.

## Reference design

Potential impacts that have been avoided or mitigated through the development of the design are identified in the impact assessment discussions included in the assessment chapters of the draft EIS.

## Rail

- New track – constructing approximately 47 kilometres of new single track, dual gauge railway.
- Rail corridor – establishing approximately 56 kilometres of rail corridor (including crossing loops), where approximately 24 kilometres will be established through existing rail corridor as brownfield development.

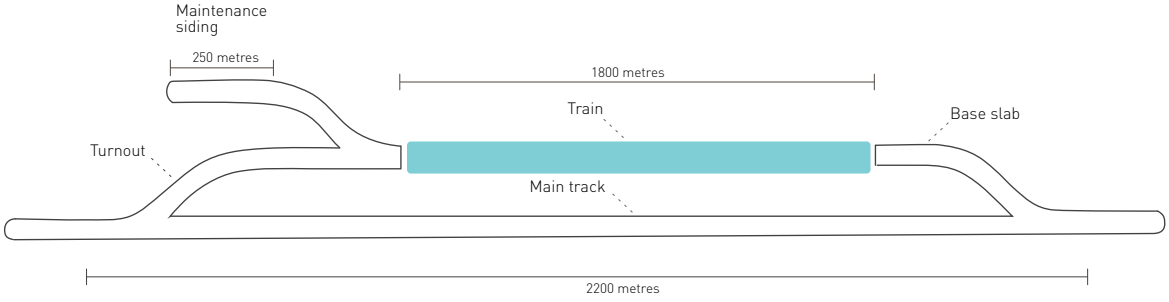
## Tunnel infrastructure

- Construction of an approximately 850-metre long tunnel through the Little Liverpool Range.

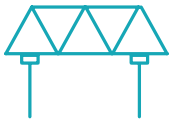
## Crossing loops and turnouts

- Crossing loops are places on a single line track where trains from opposing directions can pass each other. Four crossing loops will be constructed, each a minimum of 2,200 metres in length.

## Crossing loops example




*Indicative design for crossing loop and maintenance siding*



## Bridges

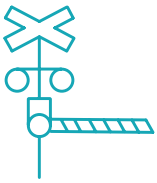
To accommodate the topography of the land, waterway crossings or other infrastructure such as roads, a total of 31 bridges are proposed for the Project, including:

- 13 rail-over waterway
- 6 rail-over-waterway-and-road
- 6 rail-over-road
- 4 road-over-rail
- 1 rail-over-rail
- 1 pedestrian-over-rail.

## Drainage

A total of 86 culverts are proposed for the Project, including:

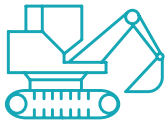
- 51 reinforced concrete culvert pipe locations (multiple cells in places)
- 35 reinforced concrete box culvert locations.



## Rail crossings

There are seven active level crossings proposed for the Project. Rail crossings include:

- level crossings
- grade separations/rail or road overbridges
- occupational/private crossings.



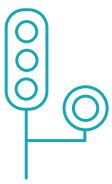
## Construction

Construction early works are anticipated to commence late 2021 once the detail design is complete and all the necessary EIS approvals have been obtained. The target for construction completion is 2026. The construction completion date will be influenced by a number of variables, including the impacts of ongoing community consultation, ongoing design and development works.

## Environmental treatments

Environmental matters which have been taken into consideration for the Project design include:

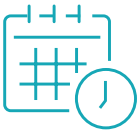
- fauna fencing and vegetative screening
- landscaping and habitat rehabilitation
- potential noise barriers (concept options included in draft EIS for Forest Hill, Gatton and Laidley).



## Ancillary works

Ancillary works are construction of associated rail infrastructure including:

- maintenance sidings
- signalling and communications
- signage and fencing
- services and utilities.



## Construction hours

The construction program will generally be based on the following worksite hours:

- general construction activities
  - Monday to Friday 6.30am–to 6.00pm
  - Saturday 6.30am–1.00pm
- no work planned on Sundays or public holidays
- if the Project works comply with established performance criteria
  - Monday to Friday 6.00pm–10.00pm
  - Saturday 1.00pm–5.00pm.

Work may be required outside of the primary construction hours for key activities such as:

- the delivery of concrete, steel and other construction materials
- movements of heavy plant and materials
- spoil haulage
- tunnelling activities
- arrival and departure of construction staff
- roadworks and works in rail corridors
- traffic control
- incident response including tow-trucks for light, medium, and heavy vehicles.

There may be circumstances where work outside the above standard hours, including night works or in an emergency, will be required.

## Construction workforce

A preliminary estimate of the workforce required to undertake the construction work, based on the nominated indicative program, for the Project is 410 full-time equivalents at peak (between weeks 56 and 57). The average number of full-time equivalent workforce onsite across the full construction period is anticipated to be approximately 190 personnel – 730–750 full time equivalents expected.

The size and composition of the construction workforce will vary depending on the construction activities being undertaken and the staging strategy adopted.

It is estimated that the average number of full-time equivalent workforce on site during the operational phase of the Project will be 15 to 20 people.

Construction and operation workforce will be partially locally sourced and accommodated in the region.


## Commissioning

All construction works will be subject to Testing and Commissioning Plans. Inspection and Test Plans will be developed by the contractor and approved by ARTC.

Testing and commissioning (checking) of the rail line and communication/signalling systems will be undertaken to ensure that infrastructure is designed, installed, and are operating appropriately, this includes connections between the existing Queensland Rail and ARTC networks.

Commissioning of the trackworks will require completed Inspection and Test Plans, Clearance Reports, certification records, track geometry reports and as built documentation.

The commissioning period will also be used for driver training and test trains.

Final testing and commissioning of the track and systems is programmed for approximately six months after completion of construction works.

## Construction decommissioning

All construction sites, compounds and access routes will be returned existing condition, unless otherwise agreed with the relevant landowner.

Construction decommissioning will be undertaken progressively with the surface of all rehabilitated areas relieved of compaction (termed ripping or aeration) prior to rehabilitation.

Site reinstatement and rehabilitation will be undertaken progressively in accordance with the developed Environmental Management Plans (and relevant sub-plans) as sites become available.

## Operation

The Project would be ready for operation once the adjoining Inland Rail projects (Gowrie to Helidon and Calvert to Kagaru) are complete.

The Project will be managed and maintained by the proponent; however, train services will be provided by a variety of operators. The hours of operation are anticipated to be 24-hours a day, seven days a week.

Operation activities will include:

- the use of the railway for freight purposes
- operation and maintenance of safety systems
- signalling
- general track and infrastructure maintenance.

Train control will be managed via ARTC's existing control centres. Train services will be provided by a variety of operators and will include a mix of grain, bulk freight and other general transport.

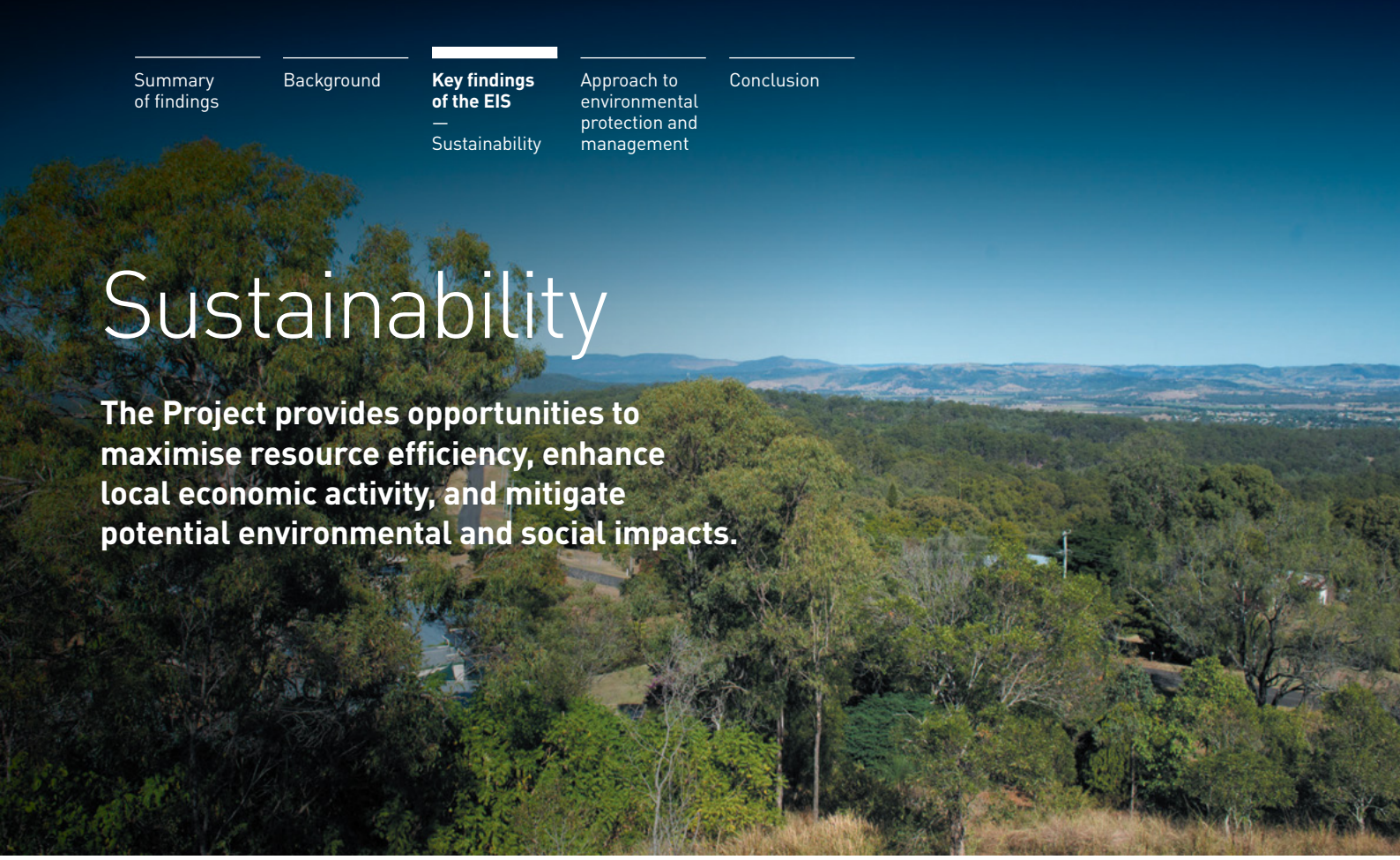
Train speeds will vary according to axle loads, track geometry, service type, train configuration and driver behaviour. The rail line has been designed for train design speeds ranging from 80km to a maximum of 115km per hour (km/hr).

Once operational, an average of 33 train services per day are estimated. This may increase up to an average of 47 services per day in 2040. The proposed forecast numbers assume existing movements along the Queensland Rail West Moreton System rail corridor will utilise the new Inland Rail alignment.

Standard ARTC maintenance activities will be undertaken during operations. These activities will occur on a scheduled basis or in response to unplanned requirements (e.g. maintenance following adverse weather events).


## Decommissioning

The Project is expected to be operational for in excess of 100 years, so the decommissioning of the Project cannot be foreseen at this time and is therefore not considered as a Project phase in this EIS. If the Project, or elements of it, were subject to plans for decommissioning, the works would be undertaken in accordance with a decommissioning plan, which would be developed in consultation with relevant stakeholders and regulatory authorities.



# Sustainability

**The Project provides opportunities to maximise resource efficiency, enhance local economic activity, and mitigate potential environmental and social impacts.**

Chapter 7 outlines ARTC's commitment to social, environmental and economic sustainability to deliver the best possible outcomes for communities and the natural environment.

## Sustainability

In recognition of the role Inland Rail has in demonstrating sustainability leadership, ARTC has developed an Inland Rail Environment and Sustainability Policy (ARTC, 2018), which outlines the sustainability objectives, targets and commitments for the Project.

The sustainability commitments embedded into the Inland Rail Environment and Sustainability Policy have guided the Project's approach to sustainability. The approach is supported by identified targets for Inland Rail projects as part of the program-wide Sustainability Strategy.

During the development of the design, sustainability initiatives were identified and incorporated into the Project. These opportunities and initiatives will contribute towards achieving an Infrastructure Sustainability (IS) rating for the Project against version 1.2 of the IS Rating Scheme, which is administered by the Infrastructure Sustainability Council of Australia (ISCA, 2018).

The Project's contribution will also form part of the Inland Rail's target of achieving an 'Excellent' rating under the IS Rating Scheme.

> Inland Rail provides opportunities to maximise resource efficiency, enhance local economic activity and mitigate potential environmental and social impacts.

### Want to know more?

See the following

- **Chapter 7: Sustainability (Binder 1)**
- **Appendix F: Corporate policies (Binder 4)**

# Land use and tenure

**Land use within and surrounding the Project is mostly grazing land, combined with other agricultural land uses such as seasonal irrigated horticulture and cropping.**

Chapter 8 assesses the Project's compatibility with, and potential impacts on, land use and tenure.

## Land use

The Project is located within the Western sub-region of the South East Queensland region. This region encompasses Ipswich, Somerset, Toowoomba and Lockyer Valley and the Scenic Rim Local Government Areas. The region contains major rural production and regional landscape areas.

The land use study area incorporates the Lockyer Valley important agricultural area in Helidon, Gatton, Forest Hill and Laidley. In addition, areas of Class A and B agricultural land intersect parts of the land use study area.

The tenure of land in the permanent operational disturbance footprint is mainly freehold for the greenfield rail corridor. Where the existing West Moreton System rail corridor will be used, tenure is state land (in the form of 'lands lease').

> The Project was designed to use the existing West Moreton System rail corridor and the protected Gowrie to Grandchester future State transport corridor where possible, minimising the extent of 'new' properties to be acquired.

Of the 193 properties within the permanent operational disturbance footprint, 23 are within the West Moreton System rail corridor and 57 are within the Gowrie to Grandchester future State transport corridor. These figures include up to five properties required for 'volumetric acquisition', where the Project passes beneath a property at the proposed Little Liverpool Range tunnel. The permanent operational disturbance footprint also traverses 36 easements.

Additional properties may also be acquired, such as in locations where certain impacts cannot be avoided or appropriately mitigated, or where acquisition is agreed with affected landowners.

Other land use components of note include the project:

- crossing and running parallel to highways, main roads, local roads and private roads
- potentially interacting with 662 utilities, including communication, electrical, oil, gas and water.

### Want to know more?

See the following:

- **Chapter 8: Land use and tenure (Binder 1)**
- **Appendix G: Directly Impacted Properties (Binder 4)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Beneficial impacts

Beneficial impacts of Inland Rail include providing better connections to cities, farms, and mines via ports to domestic and international markets. Inland Rail will provide a link to intermodal terminals and to interstate markets, improving access to and from regional areas identified to be significant areas for outbound containerised freight. Inland Rail will also increase the capacity for freight services by reducing congestion on existing road and rail passages, including the Warrego Highway.

## Potential impacts

- Changes in tenure and loss of property
- The loss of agricultural land and disruption to existing agricultural practices
- Restricted access to road networks and private properties
- Disruption, relocation and modification to existing services and utilities
- Disruption to land over which native title claims have been made (there is a claim yet to be determined by the Native Title Tribunal for the Yuggera Ugarapul People).

## Mitigation measures

- Refine the disturbance footprint further during detailed design to that required to safely construct, operate and maintain the Project, and minimise land acquisition, severance and disruption to land use, tenure and transport networks.
- Where feasible, detailed design and construction planning aims to minimise alteration to the surrounding road and transport network and maintain legal property accesses.
- Develop and implement a Reinstatement and Rehabilitation Plan for areas within the disturbance footprint that do not form part of the permanent works.
- Develop and implement a Landscape and Rehabilitation Management Plan to define progressive and post-construction installation of the Project landscape design, and establishment, maintenance, monitoring and completion criteria.

Where impacts cannot be avoided, they will be carefully managed and mitigated. ARTC will continue to consult with landowners and utility providers and landowners. Specific mitigation measures for each individual landowner will be identified to reduce impacts to acceptable levels.

## Obtaining tenure for the Project

At the point where the future rail corridor is confirmed and protected, properties that have not already been acquired for the Gowrie to Grandchester future State transport corridor will be acquired to facilitate the Project.

A Constructing Authority that has compulsory acquisition powers under the *Acquisition of Land Act 1967* (QLD) (AL Act) and will undertake the remaining land acquisitions in accordance with the process under the AL Act.

The tenure activities will be undertaken in consultation with interest holders and in accordance with the AL Act processes. Partial or full parcel acquisition of a property and/or acquisitions for easements and licences will be determined on a case-by-case basis prior to construction, and will consider factors such as parcel size, alignment effect, land use and operability following construction.

ARTC may also acquire land by negotiation in some cases and this may occur ahead of or in parallel with the compulsory acquisition process. These acquisitions will be voluntary, private treaty transactions between ARTC and the landholder.

During construction, land will be required temporarily. Purchasing or leasing arrangements for these properties will be investigated in consultation with landowners. Agreed mitigation and management measures will be employed during the pre-construction phase of the Project—this will ensure impacts can be minimised before construction starts.

## Change in land tenure and loss of property

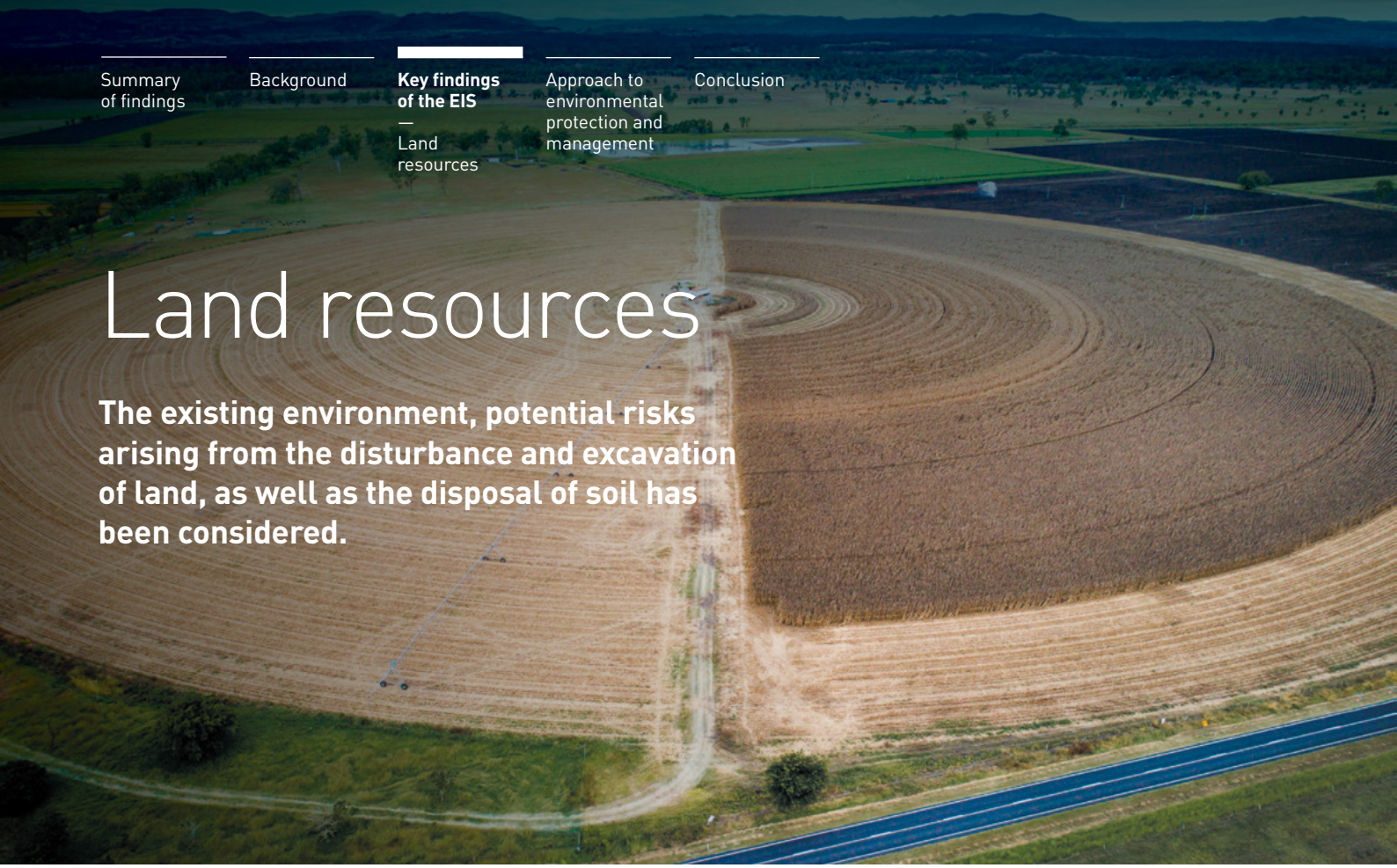
Where land is acquired by the AL Act, compensation will be able to be claimed by a person with an estate or interest in the land.

This occurs after the 'Taking of Land Notice' is published in the Queensland Government Gazette.

Interest holders will have three years from the 'Taking of Land Notice' in which to claim compensation (this date can be extended by the Constructing Authority).

Compensation will be assessed as at the date of resumption by having regard to:

- the value of land taken
- any damage caused by severance or injurious affection to the balance of land
- disturbance costs (disturbance costs may include legal costs and valuation, or other professional fees reasonably incurred and costs relating to the purchase of a replacement property).



# Land resources

**The existing environment, potential risks arising from the disturbance and excavation of land, as well as the disposal of soil has been considered.**

Chapter 9 identifies and assesses the risks to existing land resources and outlines appropriate mitigation measures.

## Land resources assessment

The project environment was investigated through desktop and field assessments. A risk assessment of soil properties (including agricultural and problematic soil) and contaminated land was undertaken.

Sodosols, dermosols and chromosols were identified as the most susceptible to dispersion and have potential for severe erosion along hillsides.

Field assessments tested for salinity, acid sulfate soils, sodic, dispersive and cracking clay soils within the project environment. Geotechnical investigations did not identify or find any acid sulfate soils or acid rock along the rail corridor, however there is a medium to high potential hazard for salinity within the study area.

The study area intersects important agricultural areas and Class A and B land. Eight properties within the land resources study area are listed on the Environmental Management Register.

While residual impacts upon land resources are anticipated to be low, the draft EIS identified potential sources of contamination in the vicinity of the alignment which may impact agricultural activities, quarries, landfill, waste disposal, and the existing rail corridor and road crossings.

> Before construction starts, ARTC will undertake a targeted contaminated land investigation as part of its Contaminated Land Management Strategy and Construction Spoil Management Plan.

During detailed design, additional mitigation measures will be implemented to avoid any potential fragmentation and sterilisation of Class A and Class B agricultural land and important agricultural areas.

### Want to know more?

See the following:

- **Chapter 9: Land resources (Binder 1)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix T: Spoil Management Strategy (Binder 14)**
- **Appendix V: EMR Search Certificates and Laboratory Certificates (Binder 16)**
- **Appendix W: Geotechnical Factual Report (Binder 17)**
- **Appendix E: Proponent Commitments (Binder 4)**

The assessment identified:

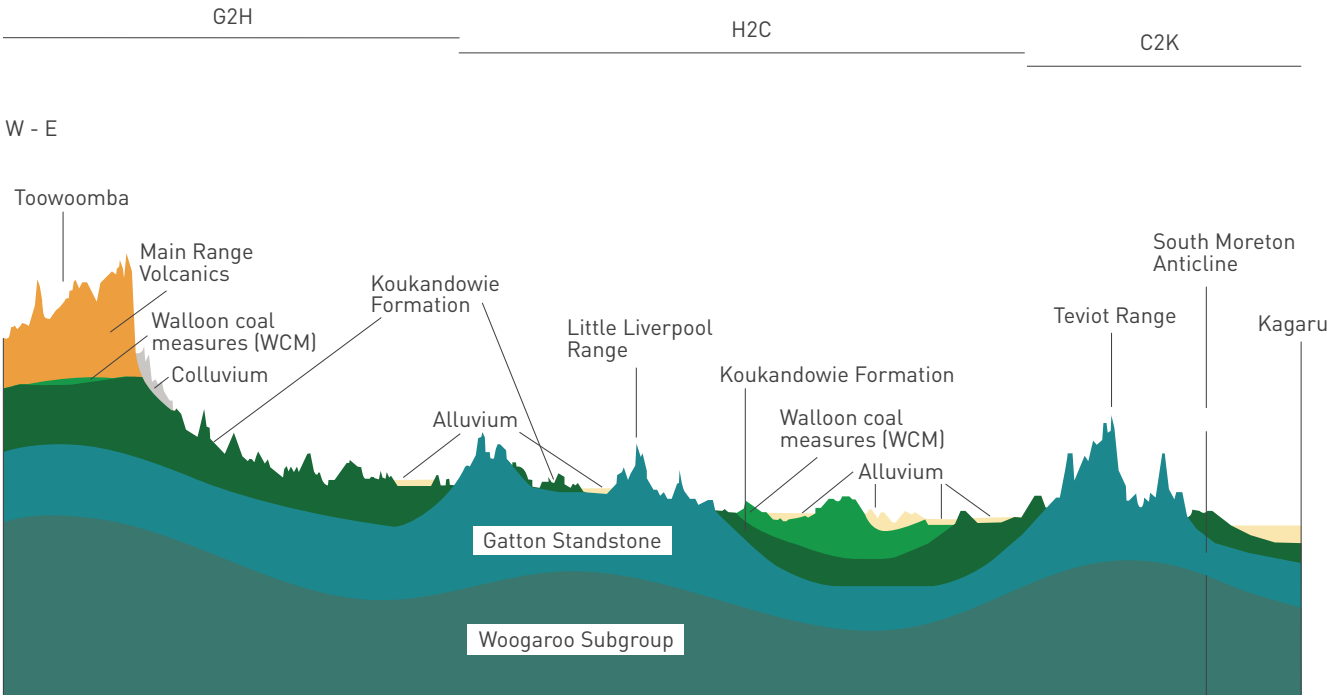
- four distinct soil types occur in the study area - with some soils being susceptible to dispersing and have potential for severe erosion along hillsides
- geotechnical investigations did not identify any acid sulfate soils or acid rock
- salinity has a medium to high potential of occurring in the study area.

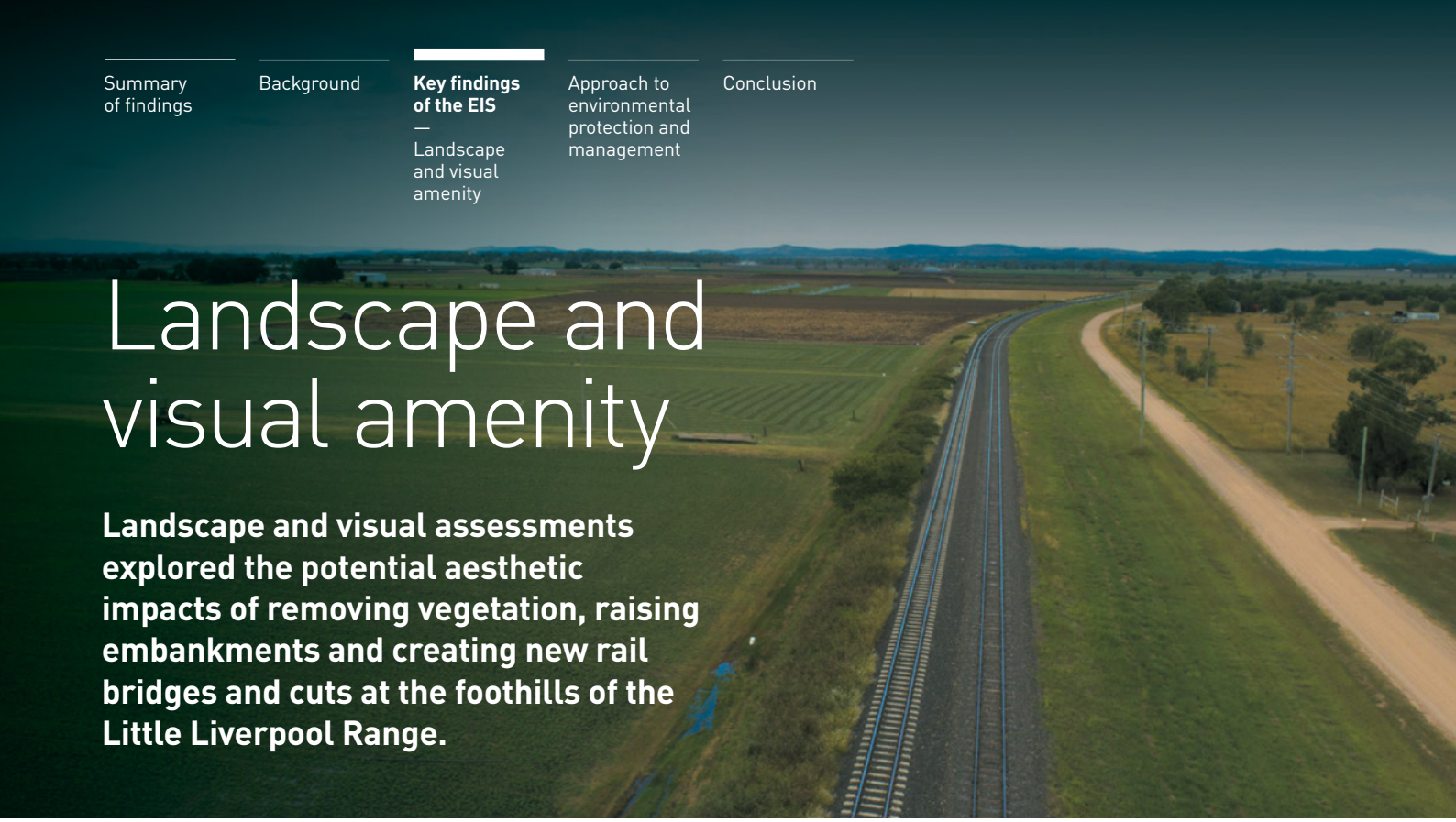
## Potential impacts

- Permanent changes to landform and topography, influencing water retention and movement within soil catchment systems.
- Loss of natural resources including Class A and Class B agricultural land and important agricultural areas.
- Unexpected acid sulfate soil or acid rock.
- Degradation of soil resources through invasive flora and fauna.
- Increased salinity causing water table salting, irrigation water salting and erosion scalding.
- Disturbance of existing contaminated land (soil and groundwater).
- Generation of new contaminated land (soil and groundwater) from project activities.

## Mitigation measures

- Targeted land investigations.
- Implementing salinity management principles and rehabilitation in accordance with the Reinstatement and Rehabilitation Plan.
- Preparing an Erosion and Sediment Control Plan to mitigate issues of soil and land conservation.
- Avoid fragmentation and sterilisation of land.





# Landscape and visual amenity

**Landscape and visual assessments explored the potential aesthetic impacts of removing vegetation, raising embankments and creating new rail bridges and cuts at the foothills of the Little Liverpool Range.**

Chapter 10 assesses the existing environment and potential landscape and visual impacts of the Project, as well as proposed mitigation measures.

### Want to know more?

See the following:

- **Chapter 10: Landscape and visual amenity (Binder 1)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix H: Landscape and Visual Impact Assessment Technical Report (Binder 4)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Landscape description

The area between Helidon and Calvert is a populated, working agricultural landscape set against a backdrop of forested ranges. It is characterised by mostly flat croplands and undulating pastures, interspersed with watercourses connected to Lockyer Creek and the Bremer River.

The project study area includes the regionally significant zones of the:

- Great Dividing Range
- Little Liverpool Range
- Marburg Range
- Main Paradise Range
- elevated areas around Beins Mountain
- northern extent of the Mistake Mountains Range.

Land within the project area have been previously cleared for agricultural purposes and for the development of residential communities including Gatton, Laidley, Helidon, Helidon Spa, Grantham, Forest Hill, Grandchester, and Calvert.

Landscape and visual impact assessments examined the impact of the project on landscape, visual and light amenities through a combination of desktop and field work, including geographic information system analysis, visibility analysis mapping, and preparation of illustrative cross-sections and visualisations.

A number of visual receptor audiences were assessed to have the potential to be affected by the Project including:

- local residents and workers in towns and rural settlements (including Rosewood, Calvert, Grandchester, Forest Hill and Laidley)
- local residents and workers on rural and acreage properties
- travellers on main and local roads
- tourists on roads and scenic drives and staying in tourist accommodation within the landscape and visual study area
- tourists on the Westlander train
- recreational users of the landscape, particularly using walking and biking trails within the national parks, State forests and other nature reserves, which provide vistas within the landscape and visual study area and may experience visual impacts.

## Impacts

- Removal of vegetation
- Embankments and cuts
- Creation of new rail and bridges
- Visual impacts.

## Potential impacts

Key landscape and visual impacts from the project relate to activities such as removing vegetation, constructing new bridges and raising embankments. The Project is unlikely to cause any significant lighting impacts during its construction and operational phases.

Eight landscape character types were identified within the study area, with the most highly impacted being the Forested Uplands. This is due to the significant cut and fill work that will be carried out while constructing a tunnel through the Little Liverpool Range.

Visual receptors have also been also considered in the draft EIS. The area includes several towns and settlements. Examples include residents in the various population centres close to the proposed alignment and transient receptors such as commuters on roads throughout the area, including the Warrego Highway and tourist drives (including part of the Cobb and Co. trail).

Seventeen representative viewpoints have been referenced to assess potential impacts on existing views.

The greatest effect during construction is of up to 'moderate' significance within the Gatton area. Construction impacts will be mitigated as far as reasonably practicable and the duration of many anticipated impacts are short-term during periods of construction only.

During operation, three visual impacts were found to be of 'high significance', including:

- a rail bridge on the Warrego Highway looking east
- a large embankment close to residential properties in the Valley Vista subdivision north of Laidley
- embankments and deep cuts at the foothills of the Little Liverpool Range in Laidley.

Visual representations have been included to highlight the potential for further visual mitigation measures for the Project. (See next page.)

## Mitigation measures

The requirement for specific mitigation to manage landscape and visual amenity, beyond ARTC's standard mitigation measures, is constrained by practical and operational issues.

The key mitigation proposed is the development of an Inland Rail Reinstatement and Rehabilitation Plan, which will include specific landscape objectives and principles, as well as outline landscape and rehabilitation treatments for each phase of the Inland Rail Program.

## Visual representations – Before

**Before**

Warrego Highway, Grantham

Off Beavan Street, Gatton

Douglas McInnes Drive, Laidley

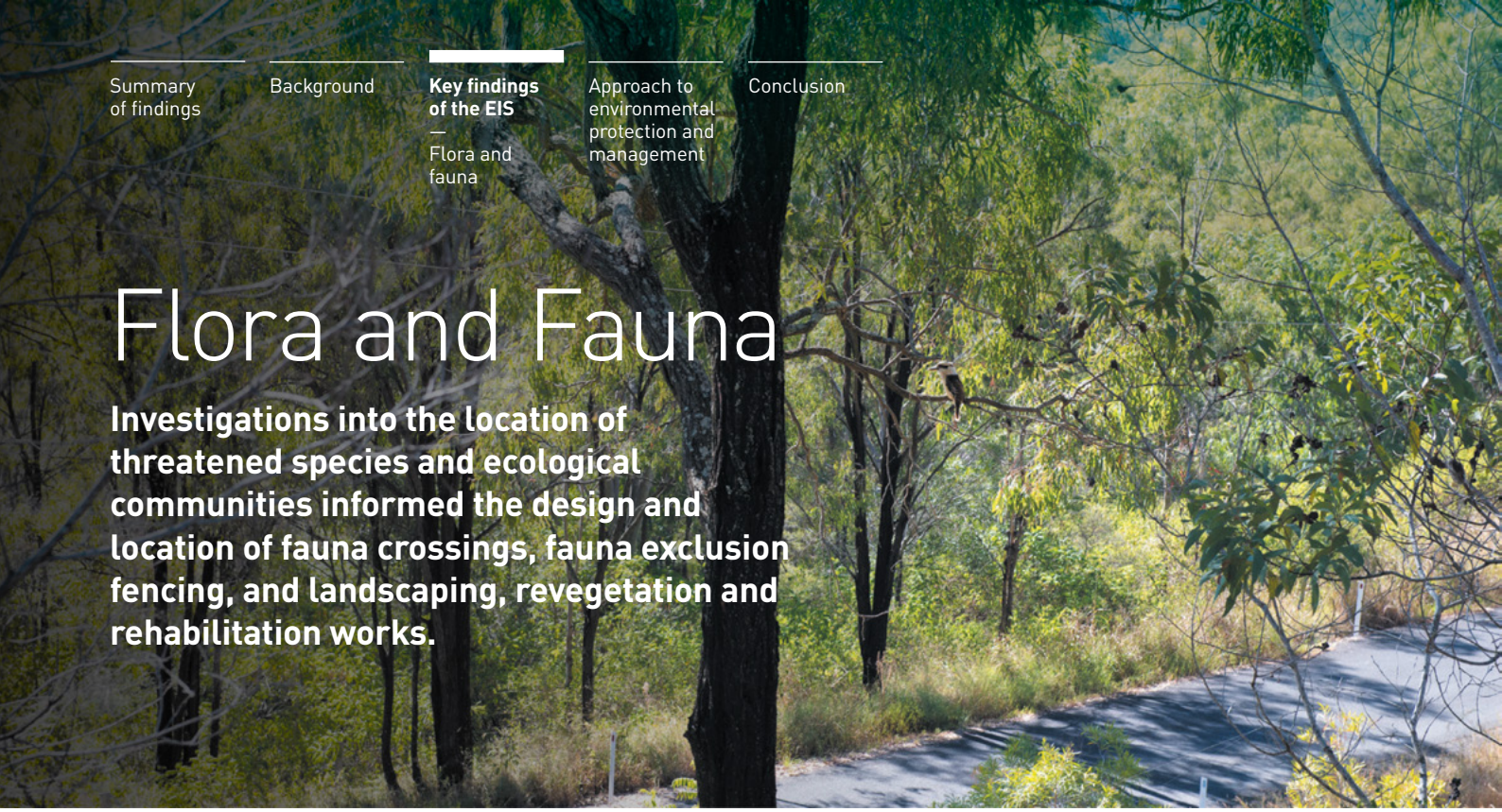
## Visual representations – Proposed

**Proposed**

Warrego Highway, Grantham

Off Beavan Street, Gatton

Douglas McInnes Drive, Laidley



# Flora and Fauna

**Investigations into the location of threatened species and ecological communities informed the design and location of fauna crossings, fauna exclusion fencing, and landscaping, revegetation and rehabilitation works.**

Chapter 11 describes the impact of the Project on native flora and fauna and outlines the steps taken to assess, understand and mitigate impacts.

### Want to know more?

See the following:

- **Chapter 11: Flora and fauna (Binder 2)**
- **Appendix I: Terrestrial and Aquatic Ecology Technical Report (Binder 6)**
- **Appendix J: Matters of National Environmental Significance Technical Report (Binder 7)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Identifying flora and fauna

The Project is located within the South East Queensland bioregion, which has experienced a long history of human disturbance as a result of agricultural practices, urban development and resource development. At a regional level, large tracts of remnant vegetation are typically fragmented, occurring in the areas less attractive to development (that is, rocky ranges, sloping topography) and roadside vegetation, or relatively small, isolated patches subject to edge-related impacts.

A total of 77 sensitive environmental receptors were identified within the ecology study area.

These sensitive environmental receptors were grouped into high, moderate and low sensitivity categories based on factors including conservation status, exposure to threatening processes, resilience and representation in the broader landscape.

## Stakeholder engagement

### Workshops

Presentation to local environmental groups on the flora and fauna impact assessment methodology. Registered groups and interested stakeholders invited.

Workshop with local environmental groups to discuss, identify and assess mitigation and management measures for species nominated by the group. Registered groups and interested stakeholders invited.

### WildNet training

Training session for local environment groups in the use of WildNet to support the uploading of locally collected field results.

> The draft EIS determined if the Project will have a significant residual impact on prescribed environmental matters including matters of national environmental significance and matters of state environmental significance.

## Potential impacts

The construction phase will have the greatest potential impact on ecological receptors due to:

- habitat loss and degradation from vegetation clearing and removal
- fauna species injury or mortality
- reduced biological viability of soil due to compaction or changes to groundwater conditions
- displaced flora and fauna species from invasive weed and pest species
- reduced connectivity of biodiversity corridors
- edge effects, barrier effects and habitat fragmentation
- noise, dust, or light emissions
- increase in litter (waste)
- degraded aquatic habitat
- erosion and sedimentation.

Assessment of sensitive environmental receptors against Commonwealth or State significant impact assessment criteria, indicates the following species will be subject to 'significant residual impacts as a result of the Project'.

Matters of National Environmental Significane (MNES) listed under the EPBC Act include:

- Flora
  Four-tailed Grevillea; Blunt-leaved Leionema; Lloyd's Olive; A grass
- Fauna
  Spotted-tail Quoll; Collared Delma; Red Goshawk; Swift parrot; Brush-tailed Rock-wallaby; Koala; New Holland Mouse; Grey-headed Flying-fox; Australian Painted Snipe.

Matters for the State of Queensland (MSES)

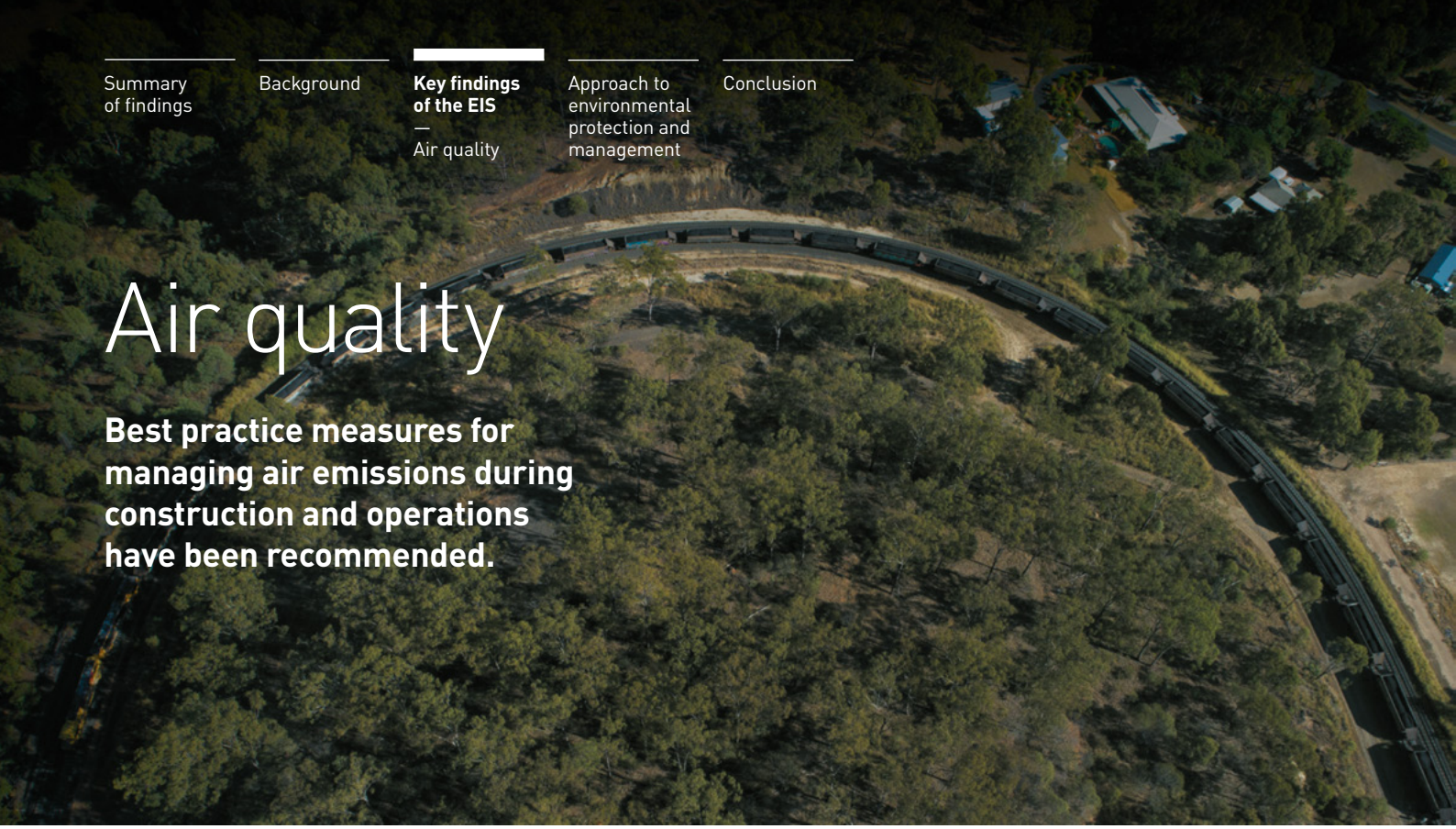
- Regulated vegetation
  Category B (other than grassland) within a defined distance from the defining banks of a relevant watercourse or relevant drainage feature
- Essential habitat
  Protected wildlife habitat for the following species Bailey's Cypress Pine; Swamp Tea-tree; Glossy-black Cockatoo; Powerful Owl.

## Mitigation measures

- Flora and fauna survey to verify previous surveys and assessments, refine potential offset calculations, inform micro-siting of infrastructure, support secondary approvals and establish baseline conditions against which relevant outcomes of the Reinstatement and Rehabilitation Plan can be compared.
- Fauna passage locations and associated rehabilitation areas to maintain infrastructure permeability, particularly at the three key locations identified as part of the draft EIS to maintain and/or re-establish habitat connectivity.
- Landscape design establishes the requirements for rehabilitation of disturbed areas for habitat recreation, landscaping and stabilisation, including for riparian zones and informs the development of the Reinstatement and Rehabilitation Plan and the Landscape Management Plan.
- Develop and implement the flora and fauna sub-plan within the Construction Environmental Management Plan.
- Develop and implement the Reinstatement and Rehabilitation Plan and the Landscape and Rehabilitation Management Plan.
- Develop a post-construction MNES Monitoring Plan in consultation with stakeholders. For the threatened ecological community or other MNES, the post-construction MNES Monitoring Plan will define:
  - habitat location
  - reference condition
  - assessment framework
  - infrastructure elements (e.g. erosion and sediment control devices, fauna crossing structures)
  - corrective actions
  - completion criteria
  - monitoring timeframes.

## Offsets

- Provisions of offsets for the MNES with significant residual impacts will be required under the EPBC Act Offsets policy. For MSES, impacts to prescribed matters that are considered to constitute significant residual impacts will need to be offset consistent with the *Environmental Offsets Act 2014* (QLD).
- The ARTC Environmental Offset Delivery Strategy – QLD will inform the development of offset delivery components including Detailed Environmental Offset Delivery Plan and Offset Area Management Plans, which will be developed and implemented by ARTC prior to construction commencement.



# Air quality

**Best practice measures for managing air emissions during construction and operations have been recommended.**

Chapter 12 provides the air quality impact assessment for construction, commissioning and operational phases of the Project.

### Want to know more?

See the following:

- **Chapter 12: Air Quality (Binder 2)**
- **Appendix K: Air Quality Technical Report (Binder 9)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Potential impact - construction

The results of the qualitative air-quality risk assessment show that the unmitigated air emissions from the construction phase pose a medium risk for airborne dust concentrations (human health) and a medium risk from dust deposition (amenity and aesthetic).

## Potential impact - operation

Dispersion modelling addressed line-source emissions (freight trains travelling along the main line) and point-source emissions (freight trains idling at crossing loops). Potential impacts from the Little Liverpool Range tunnel portals have also been assessed.

Based on worst-case assumptions, conservative emission rates and conservative background concentrations, the assessment determined that compliance is predicted for all pollutant for forecast traffic.

The assessment assumes coal trains potentially using the Inland Rail alignment are veneered. Veneering is a bio-degradable, non-toxic binding agent is applied to the loaded wagon coal surface. The veneer forms a crust over the coal load and minimises coal dust lift-off when exposed to air passing over the surface in transit. This is consistent with the current practices on the Queensland Rail West Moreton System rail corridor.

Predicted dust deposition from operations was assessed for its potential to impact tank water quality. The assessment determined compliance with all drinking water quality guidelines.

Based on the nature of the sources associated with the Project and the receiving environment, it is expected that odour impacts on the nearest potentially affected sensitive receptors will not be significant.

> Construction sources and operational air emissions have considered impacts to health and wellbeing, the health and biodiversity of ecosystems, agriculture uses, and the aesthetics of the environment.

## Mitigation measures

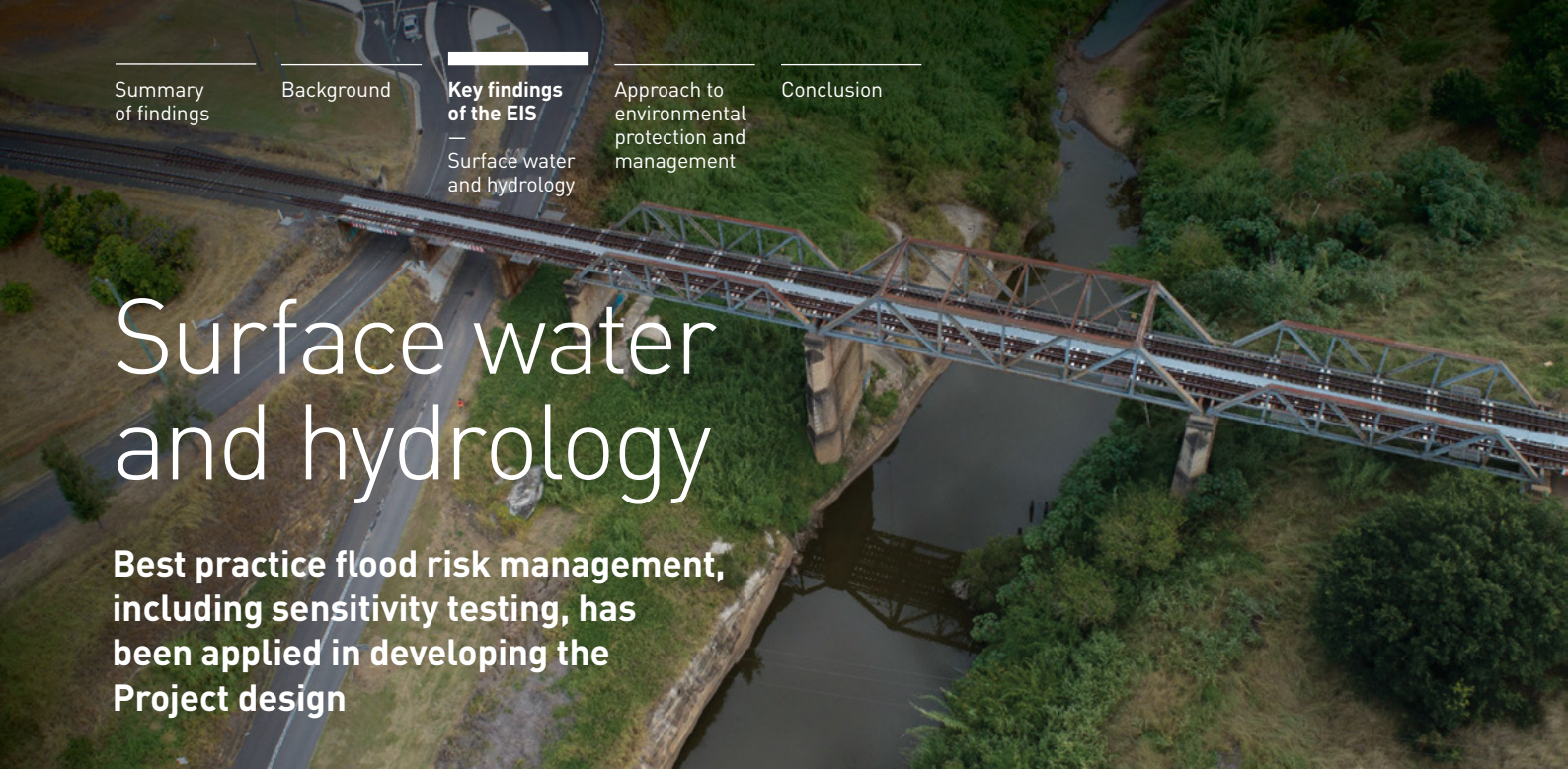
Proposed mitigation measures for the Project's construction phase, incorporated into the Construction Environmental Management Plan, include:

- water sprays to reduce dust emissions from excavation and disturbance of soil and materials, vehicles travelling on unsealed roads, and loading and unloading materials
- timely rehabilitation of exposed areas, in accordance with the Reinstatement and Rehabilitation Plan
- separation distances for fuel storage tanks from sensitive receptors.

The assessment of the operational phase showed that during the operation phase, compliance for all pollutants is predicted for all traffic-volume scenarios (at all receptors), if veneering is used. Without veneering, cumulative annual dust objectives were predicted to be above adopted regional air quality goals. Therefore, it is expected that veneering will need to be continued.

The assessment of the operational phase assumed that a number of the operational management measures already required by the South West Supply Chain (Queensland Rail West Moreton System) Coal Dust Management Plan, will apply to the Project when used for coal transport.

In addition to these mitigation measures, methods for the monitoring, reporting and compliance management with the Project's air-quality objectives have been proposed.



# Surface water and hydrology

**Best practice flood risk management, including sensitivity testing, has been applied in developing the Project design**

Chapter 13 outlines matters relating to surface water and hydrology as a result of the construction and operation of the Project.

## Surface water

The Project is located within the Lockyer Creek and Bremer River catchments, crossing four main waterways: Sandy Creek, Lockyer Creek, Laidley Creek and Western Creek, as well as several unnamed tributaries.

The impact of the Project on the existing flood regime was quantified and compared against adopted flood impact objectives. These objectives address the requirements of the ToR and have been used to guide the Project reference design.

The hydrologic and flooding assessment demonstrated that the Project is predicted to result in impacts on the existing flooding regime that generally comply with the flood impact objectives.

The hydrology works were undertaken in close consultation with potentially affected community stakeholders. The consultation works were comprehensive and provided the community with detailed information and certainty around the approach, flood modelling works and the Project design.

Stakeholders provided photographic evidence and anecdotal accounts of previous flood extents and actual impacts to watercourses. The commentary and information on historical flood events allowed:

- validation and calibration of hydrologic and hydraulic models for the watercourses within the study area allowing the Project to more accurately assess impacts and identify appropriate mitigation measures as part of the draft EIS
- identification of appropriate mitigation measures, with bridge and culvert structures designed and located to maintain existing surface water flow paths and flood flow distributions, and avoid unacceptable increases in peak water levels, flow distribution, velocities and duration of inundation.

An Independent International Panel of Experts (The Panel) for flood studies has been established, to provide advice to the Commonwealth and the Queensland Governments on the flood models and structural designs developed by the Australian Rail Track Corporation (ARTC) for Inland Rail in Queensland. As an advisory body to government, the Panel is independent of the ARTC in respect of the development, public consultation and approvals for the Inland Rail EIS process.

More information on the panel is available at:
**tmr.qld.gov.au/projects/inland-rail/independent-panel-of-experts-for-flood-studies-in-queensland**

### Want to know more?

See the following:

- **Chapter 13: Surface water and hydrology (Binder 2)**
- **Appendix L: Surface Water Quality Technical Report (Binder 11)**
- **Appendix M: Hydrology and Flooding Technical Report (Binder 11)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Potential impacts

The construction, and operation of the Project has the potential to impact on water quality receptors and/or flood sensitive receptors through changes in or to:

- debris
- receiving water quality and hydrology
- salinity
- erosion and sedimentation
- contaminants
- the existing hydrology (flood regime) include:
  - changes in peak water levels and associated areas of inundation
  - concentration of flows
  - redirection of flows or changes to flood flow patterns
  - increased velocities leading to localised scour and erosion
  - changes to duration of inundation or increased depth of water affecting land or the trafficability of roads.

Potential impacts may be expected from inadequate rehabilitation processes.

## Mitigation measures

Mitigation measures associated with surface water impacts include:

- developing and implementing the following plans: Erosion and Sediment Control Plan, Reinstatement and Rehabilitation Plan, Soil Management Sub-plan, Surface Water Management Sub-plan and a Stormwater Management Sub-plan
- hydraulic modelling and analysis to ensure that mitigation measures are appropriately sized
- minimising the Project's temporary disturbance footprint, while still allowing for sufficient erosion and sediment control measures
- a surface water monitoring program assessing mitigation strategies to monitor the effectiveness of mitigation measures (in relation to water quality objectives)
- tunnel-dewatering treatment strategy in line with the surface water monitoring program to prevent and minimise impacts to receiving aquatic environment from discharge.

Measures associated with hydrology impacts include:

- designing the Project to achieve a 1% Annual Exceedance Probability (AEP) flood immunity to formation level, while at the same time minimising the potential for unacceptable impacts on the existing flooding and drainage regime.

Designing and locating bridge and culvert structures, including new culverts (and extension of existing culverts) under the existing Queensland Rail line, to:

- maintain existing surface water flow paths and flood flow distributions
- avoid unacceptable increases in peak water levels, flow distribution, velocities and duration of inundation
- improve existing conditions
- installing scour and erosion protection measures in areas determined to be at risk
- ongoing stakeholder engagement to agree on acceptable design outcomes in terms of impacts on the existing flood regime.

In future stages, ARTC will continue to work with:

- landowners concerned with hydrology and flooding throughout the detailed design, construction and operational phases of the Project
- directly impacted landowners affected by the alignment throughout the detailed design, construction and operational phases of the Project
- local governments, State departments and local flood specialists throughout the detailed design, construction and operation phases of the Project.

Acceptable impacts will ultimately be determined on a case-by-case basis, considering flood-sensitive receptors and land use within the floodplains.

Direct interaction and engagement will continue with all potentially impacted stakeholders and landowners.

The adopted flood impact objectives will be used as guidance. This will take into account flood-sensitive receptors and land use within the floodplains.

# Groundwater

**The groundwater assessment for the Project included a geotechnical and hydrogeological site investigations, assessment of potential short and long-term impacts and an assessment of significance.**

Chapter 14 explores the existing hydrogeological environment, the potential impacts and proposed mitigation measures.

## Groundwater assessment

The water table is typically a subdued version of topography, with the depth to groundwater increasing beneath topographic highs in the groundwater study area (for example the Helidon Hills and Little Liverpool Range). Shallower groundwater will occur in lower lying reaches within the groundwater study area (such as close to surface water drainage lines). The construction and operation of the Project has the potential to impact groundwater and groundwater uses from:

- loss of, or damage to, registered groundwater bores
  - including inaccessibility
- altered groundwater availability (levels and flows)
  - seepage into cuttings and Little Liverpool Range tunnel
- changes to groundwater quality
  - from spills and uncontrolled releases, or from acid rock drainage
- subsidence or consolidation
  - due to groundwater extraction, dewatering or loading
- vegetation removal and surface alteration
  - affecting recharge/discharge and increasing associated salinity risks.

> Groundwater is water found in between rock, soil and sediment under the land's surface.

### Want to know more?

See the following:

- **Chapter 14: Groundwater (Binder 2)**
- **Appendix N: Groundwater Technical Report (Binder 12)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Potential impacts

### Little Liverpool Range tunnel

Modelling of the proposed drained tunnel through the Little Liverpool Range was carried out to estimate potential drawdown impacts.

Under the base case scenario (estimated typical groundwater levels and no structural features) drawdown impacts were limited in magnitude and lateral extent, and no registered bores or potential groundwater dependent ecosystems were within the predicted 1m drawdown extent and no unacceptable adverse impacts would be anticipated.

The nearest registered bore to the proposed tunnel is located approximately 240m southwest. This is not located within the modelled 5m drawdown extent for any modelling scenario.

## Seepage from deep cuts

The maximum steady state extents of drawdown (that is, reduced groundwater levels) due to long-term seepage into cuts were estimated. Five deep cut locations have been considered.

The long-term drawdown extents were between 300m and 470m from the cuts and can be used to consider potential to impact groundwater users during operational phase.

There are only two registered bores within the drawdown extents estimated for the five deep cuts considered.

## Drawdown

The use and charteristics of identified bores will be collected through liaison with the bore owners prior to the construction phase.

## Registered bores

A desktop survey of registered groundwater bores identified 510 bores within 1 kilometre either side of the proposed alignment, of which there are 384 'existing'; 124 'decommissioned or abandoned' and 2 of 'unknown status'.

A groundwater bore survey will be undertaken during the detailed design phase to confirm all groundwater bores within the groundwater study area.

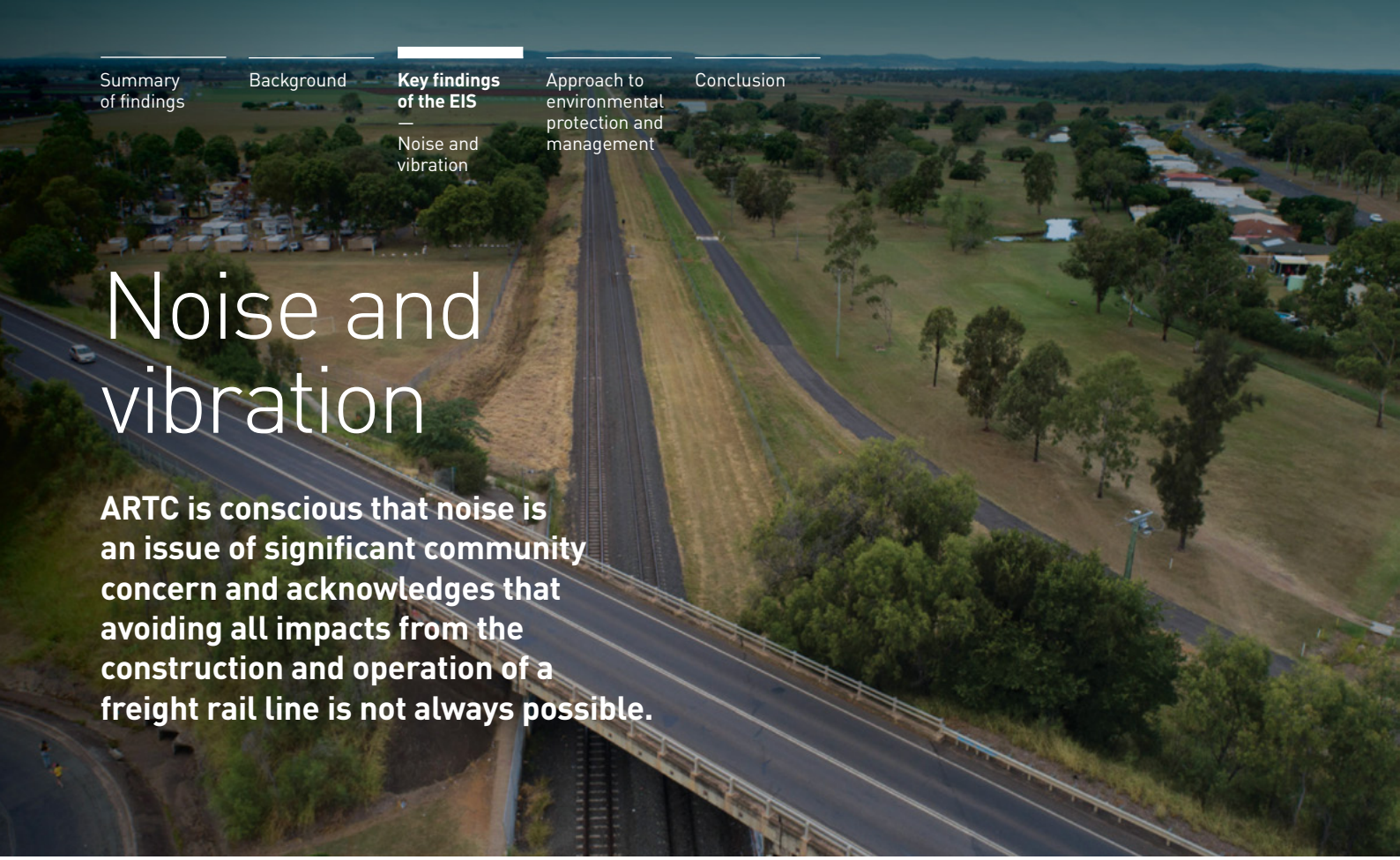
## Mitigation measures

Mitigation and management measures will be implemented to mitigate potential impacts, including undertaking site inspections prior to the construction of cuts, visual examination of surface outcrops for sulfide minerals or evidence of sulfide mineralisation and additional monitoring of groundwater levels and quality.

During detailed design, hydrogeological conditions underlying the Project will be further investigated for:

- significant embankments that overlay alluvial sediments where shallow groundwater is present
- drawdowns and inflow rates to deep cuts that intersect groundwater
- proposed groundwater monitoring network
- tunnel drainage/dewatering impacts.

A groundwater monitoring program is proposed. The proposed monitoring program will aid in an adaptive management approach and allow potential Project impacts to be identified.



# Noise and vibration

**ARTC is conscious that noise is an issue of significant community concern and acknowledges that avoiding all impacts from the construction and operation of a freight rail line is not always possible.**

Chapter 15 addresses both construction and operational railway noise and vibration impacts on the surrounding environment.

### Want to know more?

See the following:

- **Chapter 15: Noise and vibration (Binder 3)**
- **Appendix O: Noise and Vibration (construction, fixed infrastructure and operational road noise) Technical Report (Binder 12)**
- **Appendix P: Operational Railway Noise and Vibration Technical Report (Binder 13)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Managing noise and vibration

The construction and operation of the Project has the potential to be a source of noise and vibration emissions within the local environment.

We have undertaken substantial noise monitoring and modelling assessments of likely impacts. This allows us to understand the number of people who will be impacted and at what levels so we can inform and improve our design and mitigate impacts in a reasonable and practical manner.

Where future Inland Rail operations are above State Government imposed noise levels, options to reduce railway noise will be considered. Options available include source control, noise path control, and/or at property treatments. ARTC will work with all potentially impacted landowners to find reasonable and practicable options as part of the overall Inland Rail planning processes.

**Examples of sensitive noise receivers**

- residential dwellings
- hospitals
- places of worship
- schools
- childcare centres
- open space – passive use (e.g. parkland, bush reserves)
- open space – active use (e.g. sports field, golf courses)

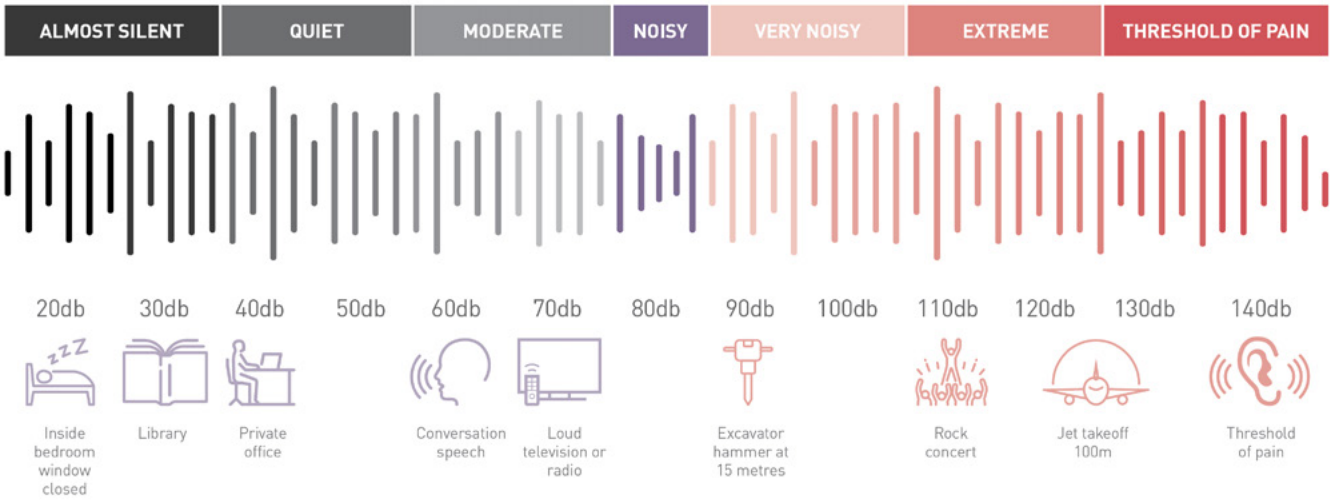
## Further detailed investigation of potential noise and vibration levels at sensitive receptors will be required during detailed design and construction.

The draft EIS assessed:

- construction of the Project, including the railway infrastructure, civil earthworks, local road network upgrades and the Little Liverpool Range tunnel and associated infrastructure
- use of road networks during construction works and upgrades to road networks as a result of the Project
- mechanical plant and ventilation infrastructure associated with the Little Liverpool Range tunnel
- railway operations including train passbys on the main line track, within the Little Liverpool Range tunnel, operation of level crossings and train movements at the crossing loops.

## People's perception of noise is strongly influenced by their environment. A noise level that is perceived as loud in one situation may appear quiet in another.

### Noise level comparisons



## Construction noise and vibration

Scenarios were developed to assess the reasonable 'worst-case' noise and vibration emissions for each main construction activity.

While both temporary and transient, the construction activities in proximity of nearby communities can be inherently noisy.

The communities that have the highest predicted noise impacts are those in close proximity to the existing rail corridor.

The 'earthworks' and 'rail civil works' construction stages are predicted to have the greatest impact from construction noise, due to the need for heavy-vehicle equipment and high-intensity works to complete these stages.

Mitigations to be implemented include:

- minimum safe working distances
- appropriately sized equipment
- alternate work practices
- management measures applied
- respite periods
- notification process(es)
- compliance monitoring (source and receiver)
- response and follow-up process(es)
- temporary relocation of affected occupants
- at-property treatments.

Specific noise management and mitigation measures will be incorporated into the Construction Noise and Vibration Sub-plan, which will form part of the Construction Environmental Management Plan.

Residual impacts present will be temporary and will stop when construction finishes. Managing residual impacts will be undertaken in consultation with the affected landholders.

## Noise from the operation of fixed infrastructure

Noise control measures will be applied to the mechanical plant to control noise emissions. Predicted noise levels at nearby sensitive receptors achieved recommended noise design objectives.

Noise control measures will be verified during detail design and could include attenuators (silencers) for ventilation fans and acoustic lining within the ventilation structures.

## Road traffic noise

The Project is expected to influence local road traffic networks both temporarily during the construction works and long-term with proposed new and upgraded local roads.

As part of this assessment, 136 sections of roads have been identified as potential haul routes. The calculated road traffic noise triggered the assessment criteria at sensitive receptors adjacent to 16 of the road sections potentially accessed by the Project. The number of roads triggering the criteria by 2025 drops significantly to just five roads.

An assessment of potential road traffic noise issues (future operational) for seven proposed new roads and 27 upgraded roads was undertaken. In summary:

- the road traffic noise levels from three proposed upgraded roads; Eastern Drive, Glenore Grove Road and Laidley-Plainland Road are predicted to exceed the adopted criteria – at up to 84 existing sensitive receptors.
- of the seven new roads, five are predicted to exceed the new roads criteria – at up to 17 existing sensitive receptors.

Measures to reduce road traffic noise, and manage associated impacts, have been recommended. Options to mitigate road traffic noise, such as transmission control or earth mounds, will be evaluated further during the detailed design and construction of the Project.

## Operational noise and vibration

Railway noise levels were calculated at existing sensitive receptors for the commencement of railway operations, adopting forecast typical daily train movements in the year 2026 and the forecast railway operations for the future design year 2040.

The predicted noise levels were assessed against railway noise management criteria adopted by ARTC for application on the Project and across Inland Rail – which are generally more stringent than the railway noise assessment criteria from Queensland regulatory guidelines.

The assessment identified that railway noise levels would achieve the criteria at the majority of the 7,000 sensitive receptors identified to be within 2km of the Project alignment. However, noise mitigation would need to be investigated for:

- up to 285 sensitive receptors at project opening in 2026
- an additional 30 sensitive receptors triggered the assessment criteria at the design year 2040
- a total of 315 sensitive receptors requiring a review of reasonable and practical measures to reduce and control railway noise for these sensitive receptors.

The vibration from train passbys can be a potential source of ground-borne noise. The assessment identified that sensitive receptors within 50m of the outer rail may experience ground-borne noise levels - airborne railway noise levels is expected to be the dominant source of noise at the building façades nearest to and facing the rail corridor.

Based on the distance from the outer rail, the vibration criteria may trigger the consideration of mitigation measures during detail design for two sensitive receptors.

A screening assessment of ground-borne vibration from the train movements within the Little Liverpool Range Tunnel determined potential levels at the nearest sensitive receptors to the tunnel would achieve the vibration assessment criteria. The potential ground-borne noise levels from the train movements within the tunnel achieved the assessment criteria at most receptors but triggered a review of noise mitigation at seven sensitive receptors above the tunnel alignment in Laidley.

## Noise Mitigation

Mitigation measures may include a range of options such as at-property treatment to reduce the intrusion of railway noise, measures to reduce railway noise at its source, or measures to prevent the noise from travelling outside of the railway corridor.

**1 Control of noise and vibration at source**

Specific measures incorporated in the design of the rail infrastructure to control noise and vibration emissions.

**2 Control the pathway for noise to reach the receptors**

Includes options such as rail noise barriers and utilising the civic earthworks to screen noise emissions.

**3 Control of noise impacts at the receptors**

Includes architectural treatment for noise affected properties and upgrading existing property fencing.

*Strategy based on reasonable and practicable approach (DTMR, 2019)*

### Reasonable:

- community preferences; cost factors; benefits provided; existing/future levels

### Practicable:

- conventional; readily available; tested technology; build/maintenance
- considerations (environmental, safety, engineering)

- For operational railway noise, many of the sensitive receptors are isolated and the predicted noise levels trigger the assessment criteria by less than 5 dBA (decibels) at the majority of sensitive receptors. The highest predicted railway noise level was 17 dBA above the relevant ARTC noise assessment criteria.
- Operational noise and vibration verification works will be undertaken post-commissioning.

**Works continue during** detailed design:

- refinement of predictions
- internal noise levels
- agreement on options/measures/approach.

**Works continue beyond** commissioning:

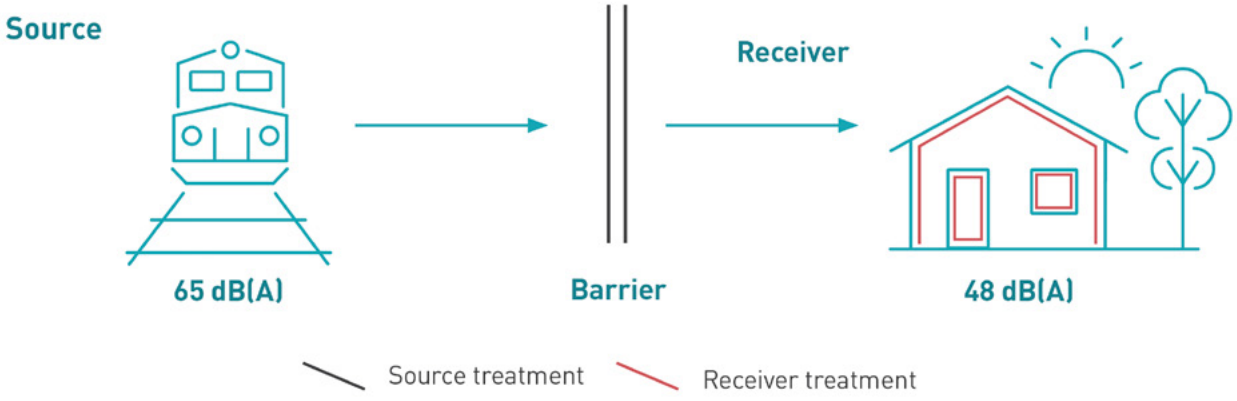
- verification, validation and compliance
- resolution of issues (current, emerging)
- addressing problems, managing legacy.

## Concept railway noise barriers

The predicted noise levels triggered an investigation of noise mitigation at sensitive receptors adjacent to the existing West Moreton System in the townships of Gatton and Forest Hill and the new rail corridor near the Valley Vista Estate in North Laidley.

Concept railway noise barriers are considered a potential noise mitigation option in these areas as the noise levels were modelled to be more than 5 dBA above the assessment criteria and the sensitive receptors were in groups adjacent to the rail corridor.

> Where sensitive receptors are isolated along the alignment, it is usually not practical to construct rail noise walls or noise barriers. The reasonable and practical noise mitigation is likely to be architectural acoustic treatment of the properties to manage noise impacts within habitable rooms.

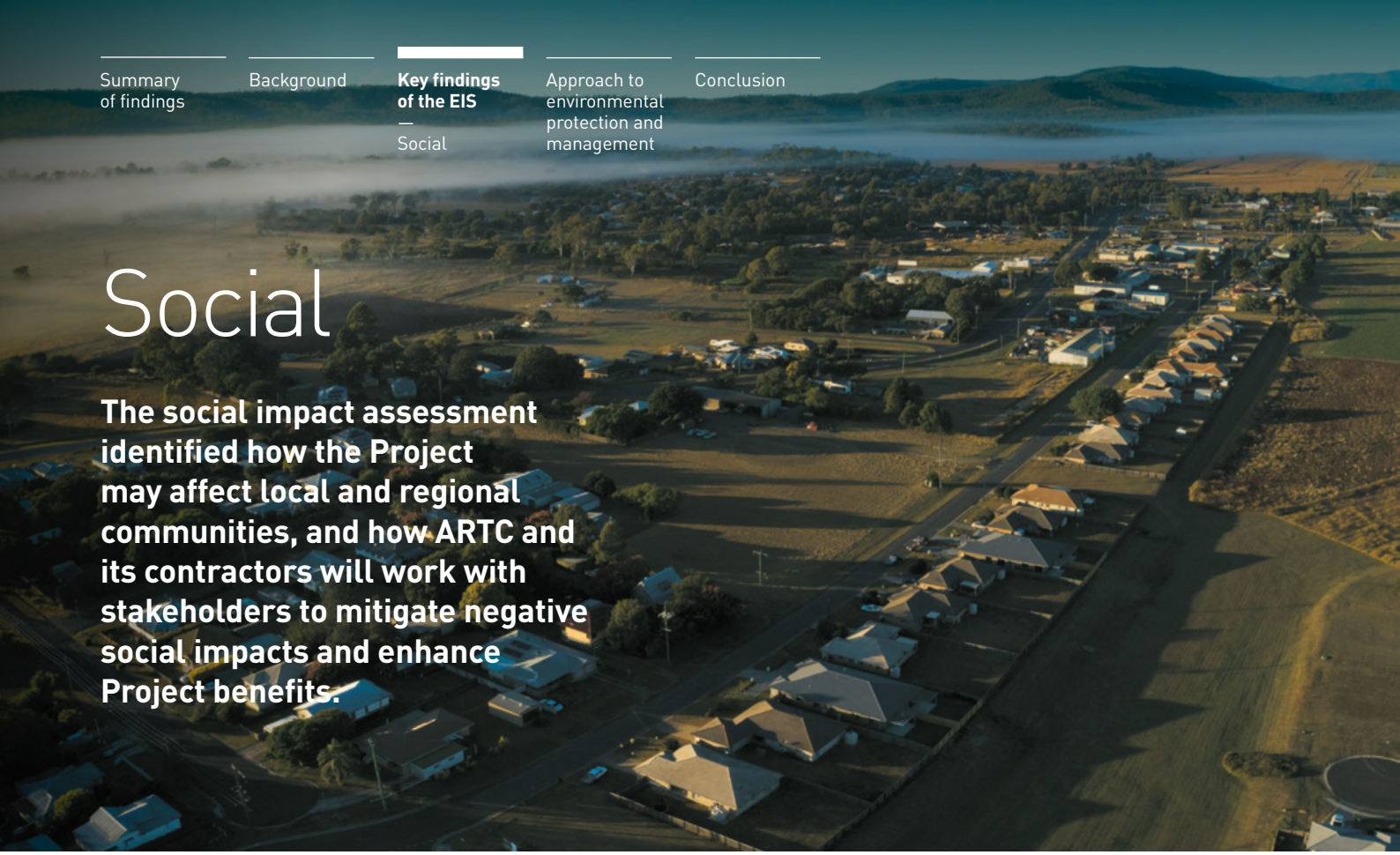



## Concept noise barrier options

| Location | Concept noise barrier extents |
|---|---|
| Gatton | 720m barrier north of the rail corridor adjacent to Hickey Street<br>585m barrier south of the rail corridor adjacent to Chadwick Road<br>Gatton Caravan Park – two options: 330m barrier north of the rail corridor or a 280m barrier north of the rail corridor and 150m barrier on the eastern boundary of the site |
| Forest Hill | 270m barrier north of the rail corridor adjacent to Railway Street<br>775m barrier north of the rail corridor adjacent to William Street<br>190m barrier south of the rail corridor adjacent to Gordon Street |
| Laidley | 1,130m barriers on both the north and south of the rail corridor between Old Laidley-Forest Hill Road and the Valley Vista Estate |

- Analysis indicated that the concept railway noise barriers at the rail corridor boundary would reduce noise levels at nearby sensitive receptors.
- The concept noise barrier options could typically reduce railway noise levels by 5 dBA or more. When compared to the noise levels without concept railway noise barriers this can be a perceptible reduction in the loudness of the railway noise levels within the communities. This would improve the local amenity.
- The specific location, extent and height of noise barriers, if implemented, will be subject to a detailed review of feasible and reasonable options.
- Depending on final design, the noise assessment criteria may not be fully achieved for some sensitive receptors, and these receptors may need additional at-property treatment.
- While at-property treatment can ameliorate potential noise impacts inside buildings, the external rail noise levels may still be clearly audible above the ambient noise environment in close proximity of the rail corridor.
- The decisions to implement at-property treatments will be based on measured rolling stock noise levels and a survey of the property. Consultation with directly affected landowners will continue and railway noise levels will be verified when Inland Rail operations start on the Project.

Stakeholder and community engagement will be ongoing for potential noise and vibration matters during construction and operation.



# Social

**The social impact assessment identified how the Project may affect local and regional communities, and how ARTC and its contractors will work with stakeholders to mitigate negative social impacts and enhance Project benefits.**

Chapter 16 explores the social benefits, opportunities and potential impacts throughout the Project life-cycle.

## Impact management

The social impact assessment drew on the results of ARTC's consultation and engagement processes. Stakeholders include directly affected and nearby landowners, traditional custodians, government agencies, businesses, and community, environmental and economic groups.

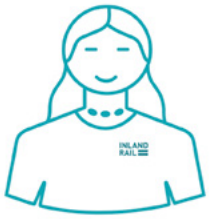
As for all major projects located near human settlements, the level of potential impact experienced is higher for those living closest, while Project benefits usually accrue at a broader regional level.

### Want to know more?

See the following:

- **Chapter 16: Social (Binder 3)**
- **Appendix Q: Social Impact Assessment Technical Report (Binder 14)**
- **Appendix E: Proponent Commitments (Binder 4)**

The local community will benefit from construction and operation of the Project. The Project will generate up to 410 full-time equivalent jobs at the peak of construction, with an expected average workforce of 190 people onsite over the construction period. This employment is expected to contribute to financial and housing security, self and family care and social connections.



**The Project will generate up to 410 full-time jobs**

Training opportunities will be provided for people who are disadvantaged in the current labour market, including young people and Indigenous people.

Local businesses will have the opportunity to supply the Project with fuels, equipment, quarried material, and services including fencing, electrical installation, rehabilitation and landscaping, maintenance and trade services.

## Potential impacts

### Locally:

- property impacts (land use and tenure, severance of productive agricultural land)
- community cohesion and conflict regarding the Project
- amenity impacts due to noise, vibration, dust, changes to the landscape and increased traffic
- traffic delays during construction of bridges, level crossings and other Project infrastructure
- periodic traffic delays at level crossings during operations, potentially delaying emergency service vehicles.

### At a regional level:

- demand on trades and construction labour
- demand for local health and emergency services
- increased risk of collisions with motorists, cyclists and pedestrians.

## Mitigation measures

A Social Impact Management Plan has been developed to address social impacts, invest in local communities and offset potential impacts on distributional equity.

Processes and mechanisms have been outlined to:

- provide guidance for the mitigation of negative impacts on stakeholders and communities
- incorporate stakeholder inputs on mitigation and enhancement strategies
- support adaptive management of social impacts by enabling communication between stakeholders and the Project during the detailed design, pre-construction and construction process, to identify any need for improvements to management measures
- describe ARTC's initiatives and partnership opportunities that will maximise local employment and business opportunities and bring about long-term benefits for local communities.

## Social impacts

Social impact action plans have been created for:

Community and stakeholder engagement

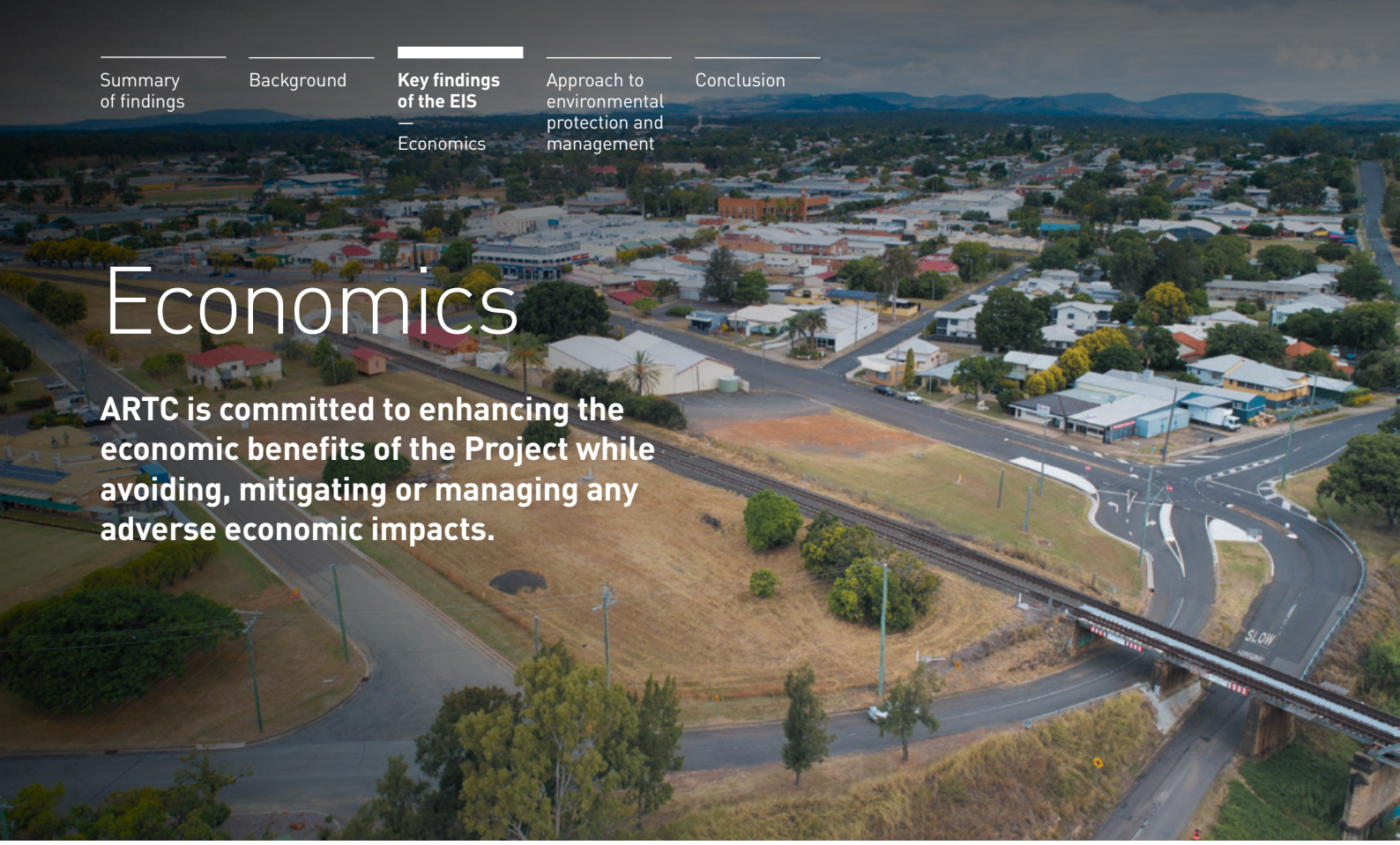
Workforce management

Housing and accommodation

Local business and industry

Health and community wellbeing

These action plans outline the objectives, desired outcomes and proposed mitigation measures for each area of impact.




# Economics

**ARTC is committed to enhancing the economic benefits of the Project while avoiding, mitigating or managing any adverse economic impacts.**

Chapter 17 outlines the economic impact assessment undertaken.

## Economic opportunities

The economic significance of the Project on the regional, state and national economies was assessed and potential economic benefits and impacts on affected local and regional communities and businesses were identified and assessed.

The Project will support local and regional development by:

- encouraging growth of Indigenous, local, and regional businesses through the supply of resources and materials for the construction and operation of the Project
- supporting secondary service and supply industries.

The in construction activity is also likely support additional flow-on demand and additional spending by the construction workforce in the local community.

As part of Inland Rail, the Project has the potential to unlock the construction of ancillary and complementary infrastructure, industrial development and logistics operations within the local area.

The Project may act as a significant catalyst for development in the planned and existing industrial areas at the Ebenezer Regional Industrial Area, Willowbank Industrial Estate, and the Bromelton State Development Area.

The Project will also offer opportunities to support the local agricultural industry by driving savings in freight costs, improving market access, and reducing the volume of freight vehicles on the region's road network.

### Want to know more?

See the following:

- **Chapter 17: Economics (Binder 3)**
- **Chapter 16: Social (Binder 3)**
- **Appendix R: Economics Technical Report (Binder 14)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Potential impacts

- The economic benefits assessment estimates that the Project is expected to provide a total (2019 present value terms) of $147.40 million in incremental benefits.
- Inland Rail will in improvements in freight productivity, reliability and availability, and benefits to the community from crash reductions, reduced environmental externalities and road decongestion.

> The Project will promote regional economic growth across the Toowoomba, Ipswich and Greater Brisbane.

## Mitigation measures

ARTC is committed to enhancing the economic benefits of the Project while avoiding, mitigating or managing any adverse economic impacts.

The Social Impact Management Plan (SIMP) will be implemented to manage the social and socio-economic impacts of the Project and enhance Project benefits and opportunities.

The SIMP includes a Local Business and Industry Action Plan. The SIMP outlines the actions that ARTC will undertake or require its contractor to undertake to manage the social and socio-economic impacts of the Project, while enhancing the Project benefits and opportunities.

## Economic benefits

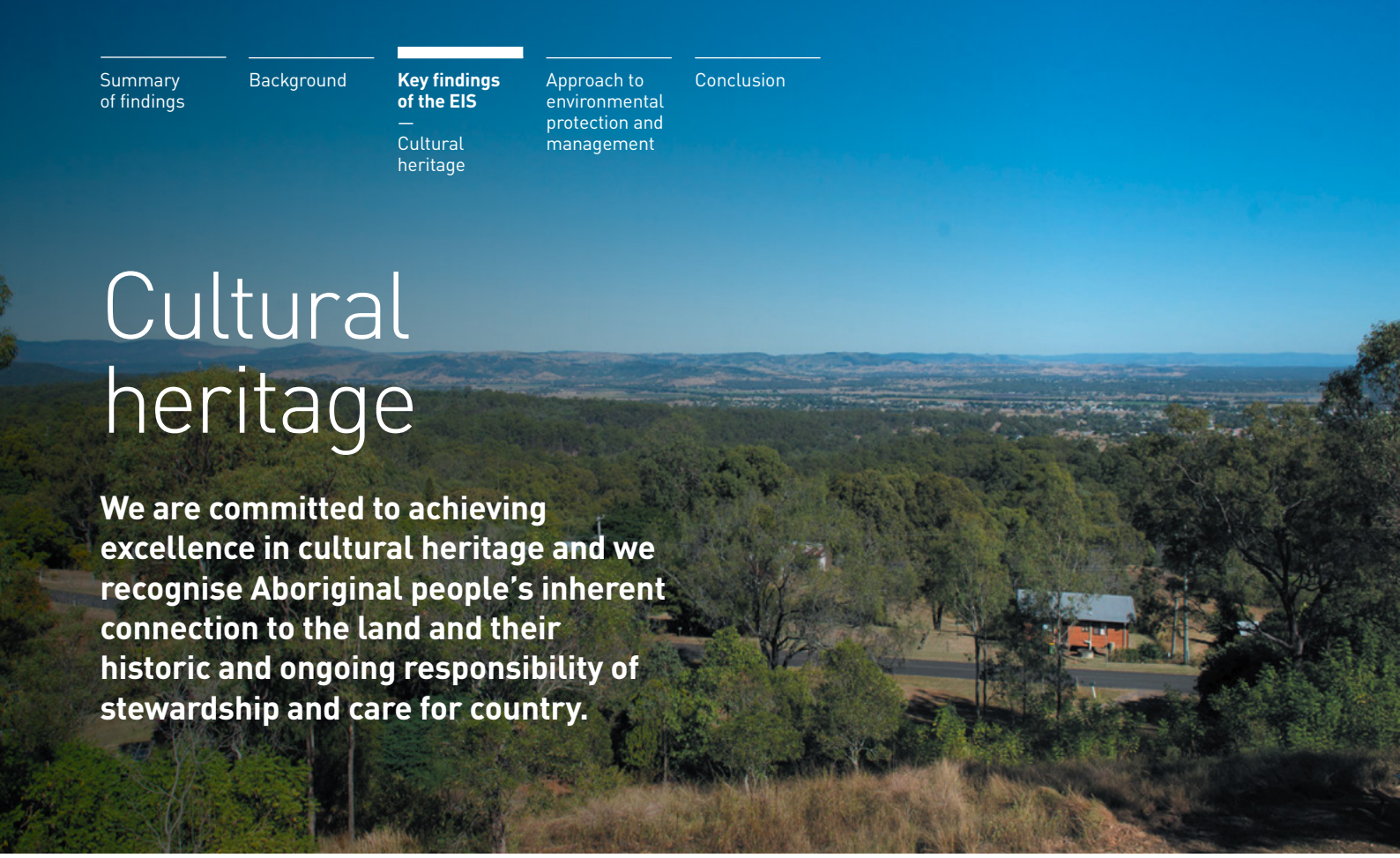
Over the construction phase, real gross regional product for the **Toowoomba region** is projected to be **$235 million** and for the **Greater Brisbane regions $814 million** (assuming slack labour markets)

**Toowoomba region**

$235 million

**Greater Brisbane**

$814 million



# Cultural heritage

**We are committed to achieving excellence in cultural heritage and we recognise Aboriginal people's inherent connection to the land and their historic and ongoing responsibility of stewardship and care for country.**

Chapter 18 examines ARTC's Cultural Heritage Management Plans for addressing potential impacts of the Project on Indigenous and non-Indigenous sites or significance.

## Indigenous heritage

A Cultural Heritage Management Plan (CHMP) was developed between ARTC and the relevant Aboriginal Party in 2018 (CLH017009) and approved under the *Aboriginal Cultural Heritage Act* (2003) (QLD).

The CHMP meets the requirements for identifying, assessing and managing Indigenous heritage for the Project. The CHMP is confidential and will not be made available as part of the EIS process.

Searches show 12 reported Indigenous cultural heritage sites within 1km of the Project alignment.

The majority of these sites consist of artefact scatters and scarred or carved trees, cultural sites, landscape features and resource areas.

## Non-Indigenous cultural heritage

An assessment of non-Indigenous heritage values and impacts was undertaken using a combination of register searches and historical and archival research. The assessment identified 42 Areas of Interest, including 26 registered local heritage places, and ten registered state heritage places, which were inspected and assessed against the relevant criteria.

The Project may directly or indirectly impact on the 26 Areas of Interest that have local heritage significance and 10 Areas of Interest that have 'State significance'.

A combination of mitigation measures will be implemented before the Project is constructed. Measures will include:

- archival recording
- archaeological surveys, excavations, surface collection, and monitoring
- relocation of heritage items where and when appropriate.

### Want to know more?

See the following:

- **Chapter 18: Cultural heritage (Binder 3)**
- **Appendix S: Non-Indigenous Cultural Heritage Technical Report (Binder 14)**
  **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**


GRANDCHESTER
RIGGS CAMP

# Traffic, transport and access

**The Project will maintain the safety and efficiency of all potentially affected transport modes.**

Chapter 19 includes an overview of existing roads, active transport and rail infrastructure for the Project.

### Want to know more?

See the following:

- **Chapter 19: Traffic, transport and access (Binder 3)**
- **Appendix U: Traffic Impact Assessment (Binder 15)**
- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Road and rail interfaces

The Project will be compatible with existing transport infrastructure, future transport corridors and the surrounding road network. Project related traffic consists of traffic generated by both construction and operational activities.

The construction transport mode for the Project will primarily be road and rail. The greatest potential for impact would be during the construction phase of the Project.

A number of the proposed construction routes will traverse through areas of moderate-to-high pedestrian activity. Key areas include the city centres of Toowoomba, Gatton, Helidon, Laidley and North Ipswich.

Construction-related traffic has the potential to generate volumes equal to, or greater than, 5 per cent of the background traffic on multiple links. The level of service on the road network has the potential to reduce during the construction period. The majority of these routes currently facilitate a high proportion of heavy-vehicle movements.

Impacts to the road network during the operation of the Project are expected to be negligible.

## Potential impacts and mitigation measures

During the construction phase, transporting materials, equipment and personnel will mainly occur via existing State-controlled roads and local government roads.

Construction materials and equipment will be delivered to centralised laydown areas along the alignment.

The construction traffic analysis results indicated that:

- five State-controlled roads have been identified that will interface with the Project alignment, and up to 11 State-controlled road sections may have construction traffic that exceeds 5 per cent of existing
- 34 local government roads (Lockyer Valley Regional Council, Ipswich City Council and Toowoomba Regional Council) have been identified that may have construction traffic that exceeds 5 per cent of existing background traffic
- existing public transport services, school bus routes and/or long-distance coach services may be impacted by construction traffic or proposed and existing road–rail crossings.
- no stock routes will be impacted within the transport study area.

> The overall impact to many of these roads is expected to be minor because the high percentage of construction traffic is a function of low existing traffic volumes.
>
> Given the low frequency of existing services, it is considered there would be minimal impacts to the existing public transport services during construction works and operations.

Certain sections will generate construction-related traffic volumes in excess of 10 per cent of the background traffic during the construction phase. The level of service comparison between the 'with' and 'without' development scenarios indicate the Project may potentially cause a minor change in level of service for some road sections during each year of construction.

> It is not expected construction of the Project would generate the need to upgrade the local road network for such a short duration of impact, but adequate traffic and road use management strategies and mitigation measures would be required and implemented.

A Construction Traffic Management Plan will be developed before construction activities start.

The draft EIS found that the condition of existing transport infrastructure (including pavements) will be maintained during Project construction works.

## Road–rail interfaces

Level crossings can introduce risk as they represent points at which trains, cars and pedestrians can intersect.

The rail crossing impact assessment focused on vehicle delay and queueing analysis of Project traffic at rail crossings, and at neighbouring closely spaced intersections. This analysis was undertaken for the Project at proposed rail crossings. There are currently 14 road–rail interfaces within the construction-phase and 7 active level crossings proposed for the Project operations.

A safety-based risk assessment was undertaken for all road–rail interfaces proposed for the Project, with a 'high' risk rating assigned to each level crossing location.

Traffic, transport and access mitigation measures have been included as part of the Project design to reduce risk with measures informed by key actions and areas of focus of the Queensland Level Crossing Safety Strategy (2012–2021) (DTMR, 2012).


Chapter 20 addresses potential Project-related hazards and risks.

## Risk assessment process

A preliminary risk assessment was undertaken consistent with the requirements of Australian and New Zealand Standard/International Standards Organisation AS/NZ ISO 31000:2018) *Risk Management: Principles and Guidelines* (Standards Australia, 2018).

Hazards were identified for each of the Project phases and evaluated qualitatively to determine residual risks.

Risks have been reduced to a level that is tolerable, or will be considered tolerable, if they are reduced so far as reasonably practicable.

Considering the Project's location, topography and mitigation measures, residual risks were identified for incidents related to: dangerous goods freight transport, potential use of explosive for Little Liverpool Range tunnel construction, pedestrian and community safety, interface with live trains and derailment or involving private access route, overbridges and emergency access.

ARTC's existing Emergency Management Procedure provides a systematic approach to incident response and recovery or incident investigation on the ARTC network – this will be applied to Inland Rail and the Project for emergency response and emergency planning.

An Incident Management Plan will be developed for Inland Rail to detail the procedures and resources for responding to and managing emergencies.

## Natural hazards

- Flooding, wildlife, sudden subsidence or movement of soil or rocks, cyclone, bushfire, landslide, implication related to climatic conditions.

**Want to know more?**

See the following:

- **Chapter 20: Hazard and risk (Binder 3)**

## Construction and commissioning hazards and risk

- Existing infrastructure, use of explosive for construction, land contamination, implication related to climate change.

## Operational hazards and risks

- Respirable silica and other airborne contaminants such as naturally occurring asbestos, fatigue and heat management, concurrent or simultaneous operations with existing railway infrastructure.

## Other health, safety and security hazards and risks

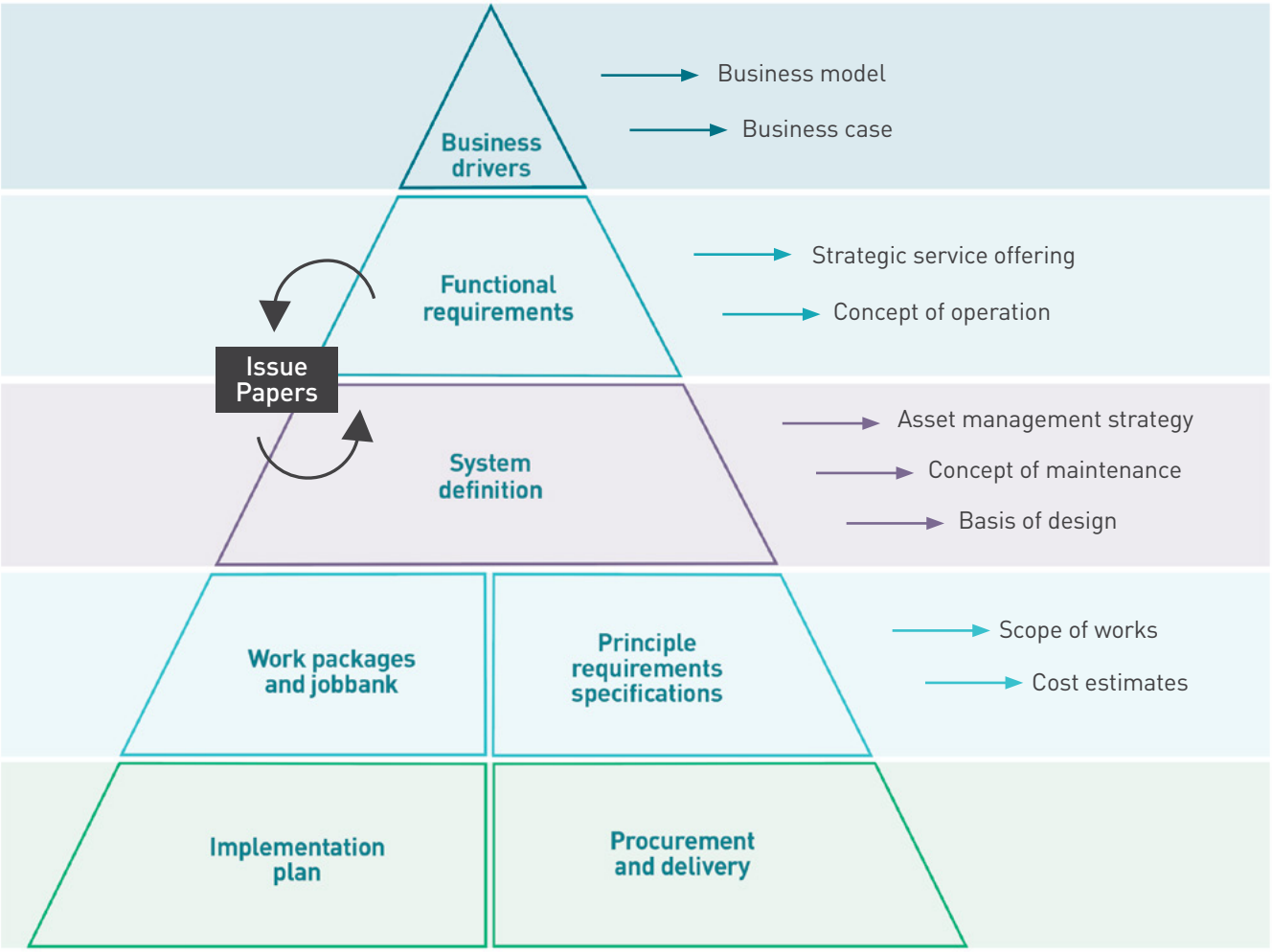
- Abandoned mines, underground collieries, accidents including derailments and pedestrian safety, spillages, fire and abnormal events that may occur during all Project stages.

## Risk assessment process

This draft EIS assesses the risk of adverse impacts from both natural hazards and hazards associated with the Project by:

- evaluating the risks and hazards in the existing environment
- identifying and assessing the potential risks to people, property and the environment that might be associated with the construction and operation of the Project
- proposing appropriate mitigation measures to be implemented during the Project's lifecycle.

> Risk assessment is an ongoing process and, as the Project design evolves, the impact on risks will be regularly reviewed to ensure they are reduced as far as is reasonably practical.



# Waste and resource management

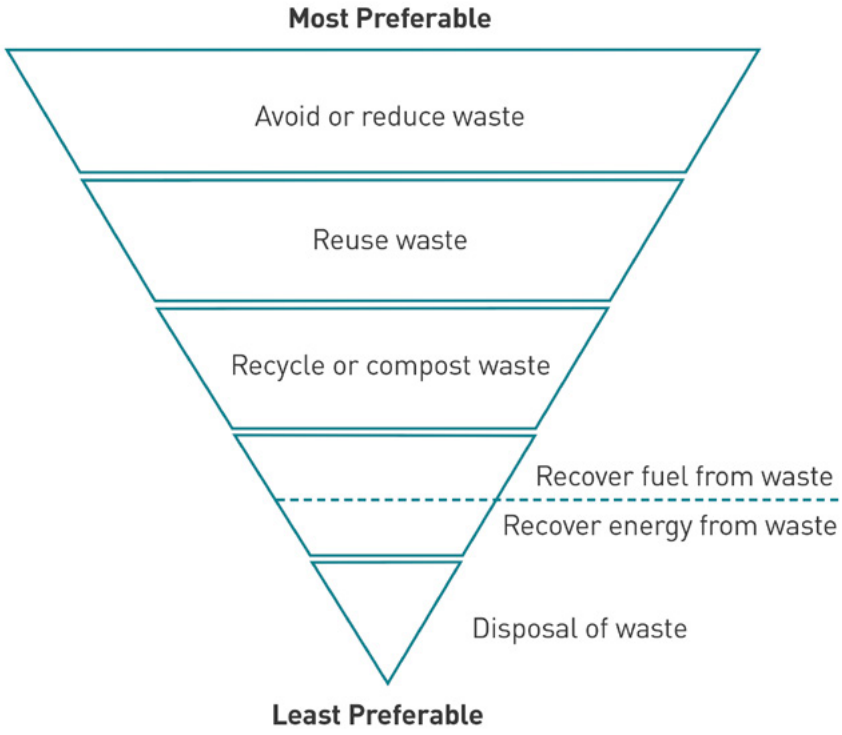
**The majority of spoil produced will be reused as fill and it is anticipated that a small portion may be required to be disposed of as waste.**

Chapter 21 of the EIS provides an assessment of the waste management requirements for the Project, including the identification of the applicable regulatory framework, waste management strategies and expected waste stream composition and quantity.

## Waste and resource assessment

The Project will avoid or minimise adverse impacts from waste and resource management on environmental values and sensitive receptors within the waste and resource management study area.

## Waste and resource management hierarchy




*Source: Waste Management and Resource Recovery Strategy (Queensland Government)*

### Want to know more?

See the following:

- **Chapter 21: Waste and Resource Management (Binder 3)**
- **Appendix T: Spoil Management Strategy (Binder 14)**

## Potential impacts

The waste generated during construction and operation will vary in different phases of the Project. The majority of spoil produced will be reused as fill and it is anticipated that a small portion will be required to be disposed of as waste.

The construction phase will generate the majority of the Project's waste through vegetation clearing, topsoil stripping, excavation and the demolition of existing structures. Municipal solid waste will be generated by activities at construction locations and on multiple work fronts.

With the exception of spoil, no significant waste streams have been identified for the Project – they will be managed in accordance with standard industry practice. Wastes are expected to be accommodated within the capacity of existing waste management arrangements in the vicinity of the Project.

- The western extremities of the Project may use waste facilities in Toowoomba.
- The east waste disposal and composting facilities around Ipswich will be used.
- Facilities and capacity will be confirmed with operators when construction timing for the Project is refined.

The Project design calculates that approximately 3,638,000m$^3$ of cut material (other than rock) from tunnelling and rail works may be generated during construction. Approximately two-thirds of the excavated material will be reused within the Project as fill, leaving approximately 1,349,000m$^3$ of spoil that will need to be managed or treated.

> Mitigation measures and waste and resource management strategies are proposed, aligning with the *Waste Reduction and Recycling Act 2011* (QLD) and the Queensland Government Queensland Waste Management and Resource Recovery Strategy.

## Mitigation measures

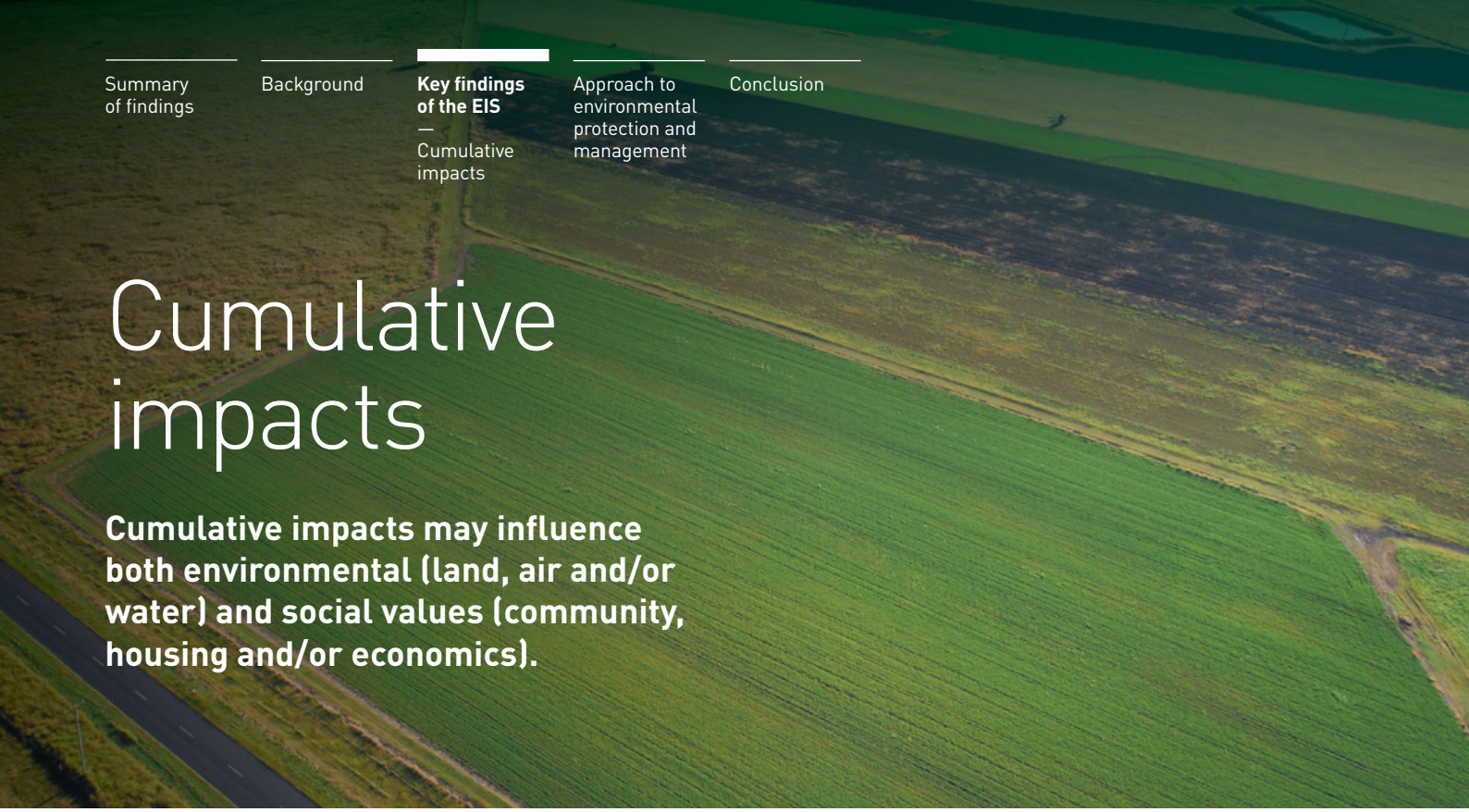
A range of mitigation measures will be implemented to ensure that, during construction and operation, waste is avoided, reused or recycled wherever possible. A Waste Management Sub-plan will be prepared, including:

- waste reduction targets
- processes for documenting waste volumes and types
- requirements for waste segregation and temporary storage onsite
- waste tracking for when waste is disposed of offsite
- appropriate record keeping and reporting.

The Waste Management Sub-plan will be part of the Construction Environmental Management Plan. A Spoil Management Strategy has been prepared as part of the draft EIS.

The volume of waste generated by each of the waste streams will be further refined during detailed design.

This will further refine waste disposal options.



# Cumulative impacts

**Cumulative impacts may influence both environmental (land, air and/or water) and social values (community, housing and/or economics).**

Chapter 22 addresses potential impacts from the Project in combination with other existing developments or planned projects.

## Cumulative impacts

Cumulative impacts may be exacerbated when a number of activities or projects occur within close proximity to each other, with a correlation between impact accumulation and proximity.

The assessment considered significant proposed projects that have the potential to contribute to cumulative impacts. The cumulative impact assessment relied on publicly available information, and depending on the level of information available, conservative assumptions about a project's impact have been adopted (e.g. area of vegetation to be cleared).

Existing developments and operating activities were considered as part of the baseline works for each technical assessment.

## Potential cumulative impacts

Potential cumulative impacts on environmental aspects are considered to be of low significance, except for the following environmental aspects:

**land resources** – soil resources (losses), changes to landform and topography, erosion, and weed management

**Landscape and visual amenity** – operational impacts associated with views of combined, successive, and sequential adjoining projects.

**Flora and fauna** – habitat loss from vegetation clearing/removal and potential cumulative issues from edge/barrier effects, habitat fragmentation and the associated reduction in connectivity to existing biodiversity corridors

**Surface water** – clearing and removal of existing riparian vegetation during construction.

**Social impacts** – combined effects of adjoining projects on social values including the labour demands, traffic volumes, traffic safety, and amenity for landowners.

**Economics** – increased demand on both the labour market and physical inputs (materials, goods and services).

**Traffic, transport and access** – construction traffic on local traffic volumes and the extent to which adjoining projects intensify these effects.

**Want to know more?**

See the following:

**Chapter 22: Cumulative impacts (Binder 3)**

**Constructability** – projects included in the cumulative impact assessment have overlapping construction schedules. This has may increase traffic and congestion on some roads as well as potentially decrease the availability of short-term skilled labour.

The proposed combined delivery approach for the Gowrie to Helidon, Helidon to Calvert and Calvert to Kagaru Projects provides opportunities to coordinate the management of cumulative impacts generated as a result of construction traffic movements, workforce requirements, spoil management and reuse, and identification and protection of environmental offsets.

Cumulative impacts are expected to occur at a local and regional level, changing over time to influence potential impact intensity or scale, frequency or duration.

# Approach to environmental management

**All works associated with the Inland Rail Program will be completed in accordance with the ARTC Environmental Policy and ARTC Safety Policy. Throughout design, construction and operation, Inland Rail are committed to protecting the environment by minimising our environmental footprint.**

Chapter 23 addresses ARTC's approach to environmental management and the development of post-EIS environmental management sub-plans.

**Want to know more?**

See the following:

- **Chapter 23: Draft Outline Environmental Management Plan (Binder 3)**
- **Appendix E: Proponent Commitments (Binder 4)**

## Environmental Management

A draft Outline Environmental Management Plan (EMP) has been prepared for the Project to:

- provide an environmental management framework to identify outcomes to be achieved for the detailed design, pre-construction, construction and commissioning
- establish the process for preparation and implementation of the Outline Environmental Management Plan, Construction Environmental Management Plan (CEMP) and relevant sub-plans.

Once operational, the Project will become part of the existing ARTC national rail network, and will be subject to the laws, policies and procedures that already apply to that network. Internal ARTC policies and procedures will be reviewed to include any special operational requirements of the Project.

The draft Outline EMP includes discipline-specific sub-plans, drawing on the outcomes of the environmental assessments documented in the draft EIS. The draft Outline EMP sub-plans establish a framework that will be prepared as components of the CEMP during the next phase of the Project.

The sub-plans in the draft Outline EMP include: land use and tenure, land resources, landscape and visual amenity, flora and fauna, air quality, surface water and hydrology, groundwater, noise and vibration, cultural heritage, traffic, transport and access, hazard and risk, waste and resource management.

Each sub-plan identifies environmental outcomes, performance criteria, proposed measures and monitoring requirements.

Social and economic matters will be addressed under the Social Impact Management Plan (SIMP).

The draft Outline EMP Sub-plan identifies:

| | |
|---|---|
| Environmental outcomes | Environmental outcomes are mandatory and must be achieved.<br>The environmental outcomes are derived from statutory requirements or other relevant criteria and are reflected in the criteria adopted in the draft EIS. |
| Performance criteria | Measurable goals or indicators of the environmental outcome.<br>Environmental outcomes are deemed to be achieved if the performance criteria are met.<br>If the performance criteria are not met, mitigation measures must be implemented to achieve the environmental outcomes. |
| Proposed mitigation measures | Measures directed at achieving the environmental outcomes.<br>The proposed mitigation measures have been identified through the EIS process, recognising that additional or different mitigation measures may be applied in order to achieve the environmental outcome.<br>Additional mitigation measures may be developed in consultation with directly affected persons, relevant stakeholders and with the independent advice of the independent Environmental Monitor and/or independent Community Relations Monitor. |
| Monitoring and reporting requirements | Monitoring and reporting requirements to demonstrate that the environmental outcomes have been achieved, or corrective measures implemented, where applicable. |

## Environmental management

All work associated with the Project will be in accordance with relevant ARTC corporate policies (Inland Rail Environment and Sustainability Policy, ARTC Environmental Policy and ARTC Safety Policy).

The draft Outline EMP describes:

- key elements and delivery phases of the Project
- environmental management framework for the design, construction and commissioning of the Project
- relationship between the draft Outline EMP, the CEMP, sub-plans and other environmental management documents
- monitoring, reporting, auditing, review and documentation requirements
- processes for dealing with a non-compliance, including corrective actions
- requirements for training and awareness, community and stakeholder engagement
- outline of the complaints management and response process.

> We stand by our core values of no harm, future thinking, active engagement, and results.

## Roles and responsibilities

The roles and responsibilities of relevant entities for delivery of the Project works are set out in below. These roles may be refined as contractual arrangements are finalised and subject to changing agency responsibilities.

| Role | Responsibilities |
|---|---|
| ARTC (Proponent) | ▸ Proponent for the Project.<br>▸ Administers the Project agreement.<br>▸ Oversee the contractor's detailed design process to achieve the environmental outcomes.<br>▸ Participate in community engagement activities.<br>▸ Engage the Environmental Monitor for the duration of construction.<br>▸ Engage the Community Relations Monitor for the duration of construction. |
| Contractor | ▸ Prepare, maintain and implement the CEMP.<br>▸ Deliver the Project in accordance with all laws, including conditions of approvals.<br>▸ Provide notifications and reports as required by law, including conditions of approvals.<br>▸ Ensure the construction workforce are properly and regularly trained in environmental responsibilities, including cultural heritage responsibilities, in accordance with the CEMP.<br>▸ Establish and maintain a complaints management system, to receive and respond to complaints. |
| Coordinator-General and/or State Regulator and/or Commonwealth | ▸ Administers the *State Development and Public Works Organisation Act* 1971.<br>▸ Receives the Outline CEMP two months prior to Project works.<br>▸ Receives reporting and notification in accordance with any imposed conditions. |
| Environmental Monitor – an independent, suitably skilled and qualified entity engaged by ARTC | ▸ Review and endorse the contractor's CEMP (including sub-plans) and revisions against the draft Outline EMP and any imposed conditions.<br>▸ Monitor compliance with the CEMP (including sub-plans) and any imposed conditions.<br>▸ Maintain a current copy of the CEMP (including sub-plans) including any progressive revisions and records of modifications to the Projects construction or commissioning procedures.<br>▸ Maintain a register of sensitive receptors.<br>▸ Review any audit and compliance reports prepared by the contractor or the Proponent.<br>▸ Have oversight of the implementation of the environmental monitoring requirements established in the CEMP. Review the results of the monitoring and verify these results if the Environmental Monitor considers it necessary. |
| Community Relations Monitor – an independent, suitably skilled and qualified entity engaged by ARTC | ▸ Provide monthly reports on community issues emerging from the construction and commissioning activities in relation to any imposed conditions, the CEMP, complaints, monitoring and community relations.<br>▸ Communicate with ARTC and the Environmental Monitor about any imposed conditions, the CEMP, the SIMP, community consultation strategies and community concerns.<br>▸ Review complaints procedures and the resolution of complaints and corrective action reporting to assess performance of the contractor's implementation of the SIMP and CEMP.<br>▸ Facilitate discussions between the ARTC and the contractor and affected entities about management measures as required by either the ARTC or affected entity.<br>▸ Provide advice to the Environmental Monitor in relation to complaints. |
| Community Reference Group (CRG) | ▸ Provide feedback to ARTC and the contractor in relation to construction planning, impacts and mitigation measures. |

Any conditions imposed by the Coordinator-General in the EIS Evaluation Report or by the Australian Government Minister for the Environment will be incorporated into future versions of the Outline EMP, sub-plans and the CEMP. This will ensure that all construction works are authorised and consistent with those conditions.

# Conclusion

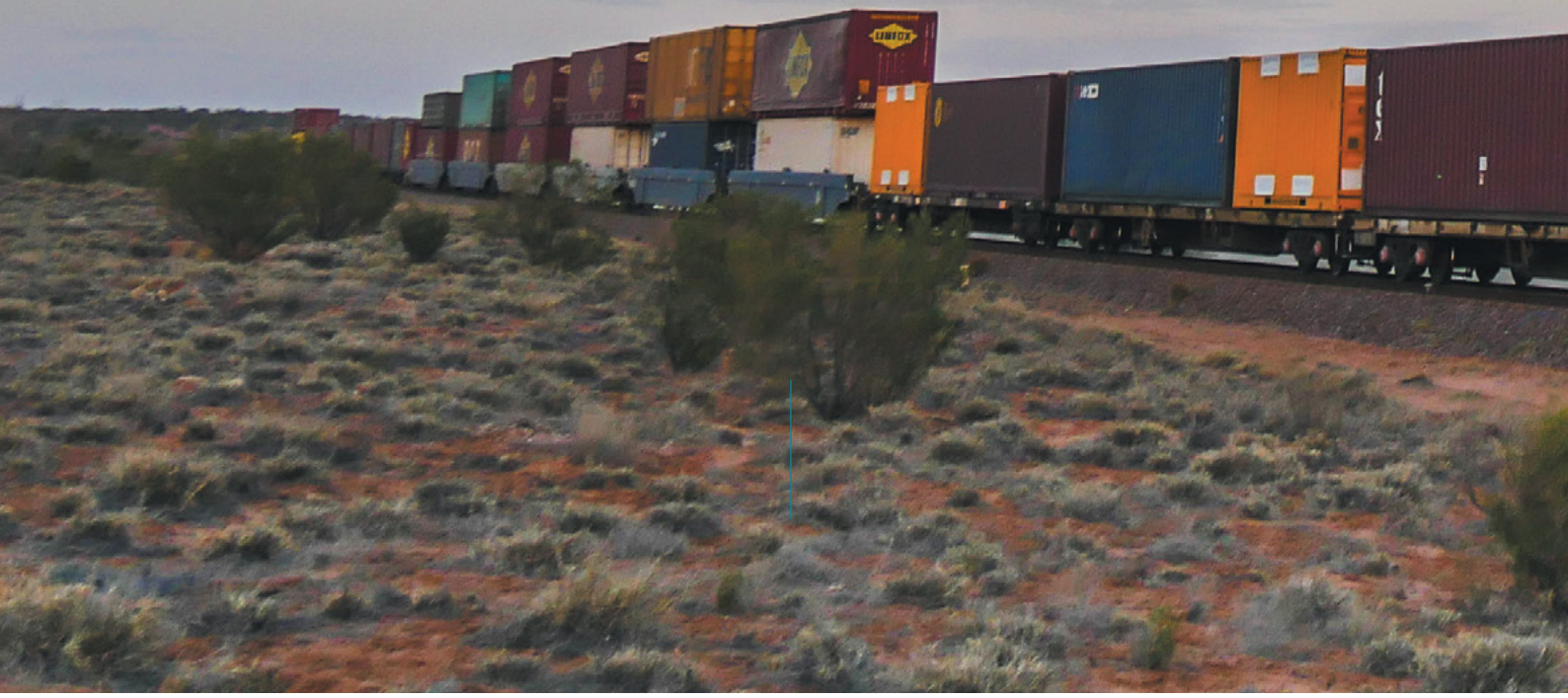
**Inland Rail offers a safe and sustainable solution to Australia's freight challenge.**

The draft EIS has followed the process established by the *State Development and Public Works Organisation Act 1971* (QLD). The draft EIS responds to the Terms of Reference for the Project issued by the Queensland Coordinator-General in October 2017.

The Project is consistent with the objectives of the *Environment Protection and Biodiversity Conservation Act (1999)* (Cth), including providing for the protection of matters of national environmental significance.

The draft EIS has undertaken a conservative and 'worst case' approach to identifying and assessing potential impacts of the Project.

**Mitigation measures to address potential impacts of the Project have been detailed within the draft EIS.**



The proposed measures, and environmental management requirements, will be further developed, implemented and maintained as the Project progresses through future stages from development of detail design through to construction and into operations.

The delivery of the Project, an integral part of the Inland Rail Program, will:

- provide a safe and sustainable solution to Australia's freight challenge, while seeking to minimise adverse environmental, social and economic impacts.

The draft EIS demonstrates that the:

- residual impacts and benefits can be appropriately managed. Commitments have been made to address and mitigate potential impacts of the Project.

Opportunities have also been identified to:

- enhance the potentially significant economic and social benefits. Key focus areas include: local employment, local industry participation and opportunities for complementary investment.

As part of Inland Rail, the Project will help relieve pressure on existing road and rail corridors by providing a continuous rail freight route between Melbourne and Brisbane. The service offering will be competitive with road freight (i.e. a Melbourne to Brisbane transit time of less than 24 hours, with a reliability of 98 per cent), and will better connect regional farms with domestic and international export markets and will also maximise economic growth opportunities for the region.

**The Project, and the Inland Rail Program as a whole, provides a 'step change' opportunity to revolutionise the capacity and mode of freight travel in Australia.**