ARTC | INLAND RAIL
An Australian Government Initiative

Summary of findings

Albury to Illabo
Environmental Impact Statement

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.

Front cover and back cover: Looking south along the Murray River Bridge, Albury

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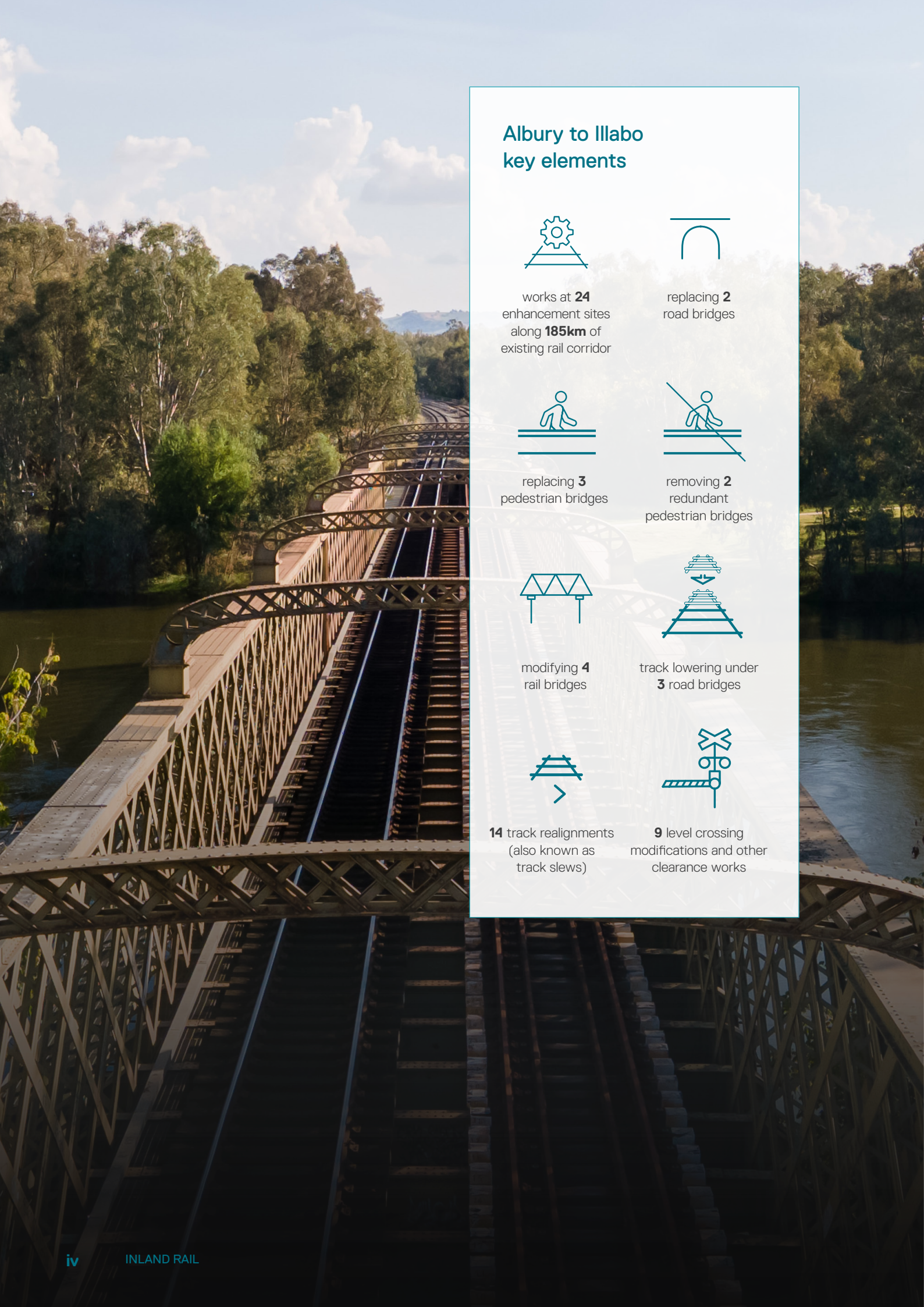

Albury to Illabo key elements

works at **24** enhancement sites along **185km** of existing rail corridor

replacing **2** road bridges

replacing **3** pedestrian bridges

removing **2** redundant pedestrian bridges

modifying **4** rail bridges

track lowering under **3** road bridges

14 track realignments (also known as track slews)

9 level crossing modifications and other clearance works

Albury to Illabo sites for assessment and design

Figure 1-2 Enhancement sites of the proposal

Data Sources: ARTC, NSWSS

Coordinate System: GDA 1994 MGA Zone 55
Scale: 1:750,000
Paper size: A3
Date: 10/12/2021

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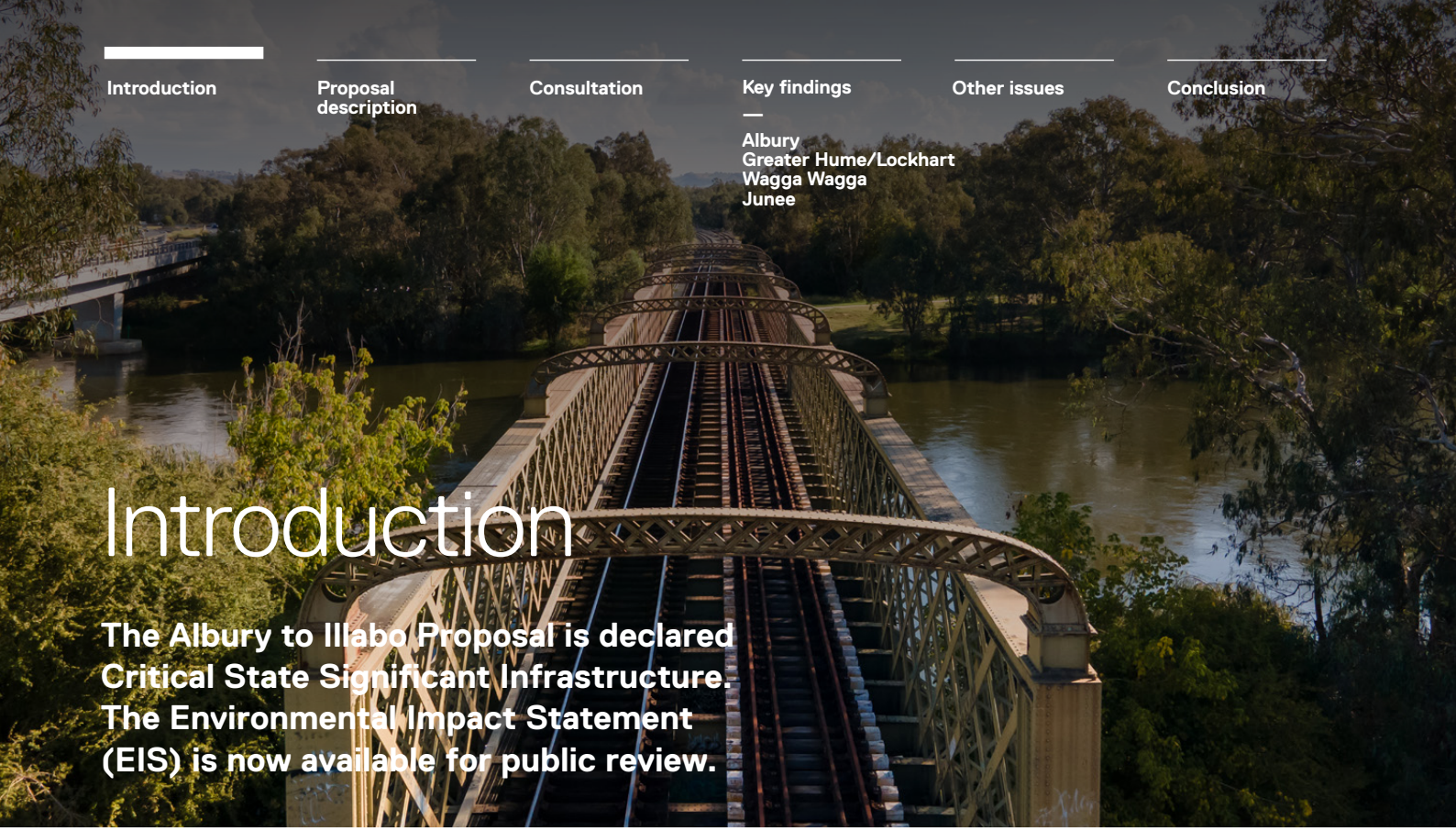


Introduction

The Albury to Illabo Proposal is declared Critical State Significant Infrastructure. The Environmental Impact Statement (EIS) is now available for public review.

Inland Rail – Albury to Illabo Proposal

The Inland Rail Program is a major national project to construct a direct interstate freight rail corridor between Melbourne and Brisbane via central-west New South Wales (NSW) and Toowoomba in Queensland.

The Program is about 1,700 kilometres long and has been divided into 13 projects, which can be delivered and operated independently, with tie-in points to the existing railway network.

The Albury to Illabo section is 185 kilometres of existing operational standard gauge railway. Enhancement works are required at 24 locations along this section of rail corridor to enable the use of double-stacked freight trains.

Purpose of this 'Summary of findings'

An Environmental Impact Statement (EIS) has been prepared to describe the potential impacts and proposed mitigations of the works and is now available for public comment.

An EIS supports an application for approval of the Proposal under division 5.2 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act). It addresses the environmental assessment requirements set by the Secretary of the NSW Department of Planning, Industry and Environment, which is commonly referred to as the SEARs.

The EIS includes the following:

- introduction of the Proposal, legislative context and consultation undertaken
- detailed description of the Proposal, including how it will be constructed and operated
- assessment of potential environmental impacts of the construction and operation of the Proposal
- compilation of key impacts and proposed mitigations.

The EIS is supported by appendices and technical papers.

This summary of findings is an overview of the potential effects of the Proposal and the proposed management measures.

Public review period

The EIS is currently on public exhibition.

You can view the EIS and associated approval documents on the NSW Department of Planning and Environment's (DPE) project website **planningportal.nsw.gov.au/major-projects**

Have your say

DPE encourages online submissions to ensure the timely consideration of all issues raised.

To have your say online, during the exhibition period go to **planningportal.nsw.gov.au/major-projects** and click on 'Make a submission'. You will need to log in or create a user account.

If you cannot lodge online, post or drop your submission to the address below, to arrive before the close of exhibition:

Director – Transport Assessments
Planning and Assessment
Department of Planning and Environment
Locked Bag 5022
Parramatta NSW 2124.

If you choose to send a paper-based submission, it is important that both the submission and mailing envelope are addressed to the nominated contact team. DPE advise if you choose to send a paper-based submission and it is not addressed to the correct contact team, the submission may not be received and may be returned.

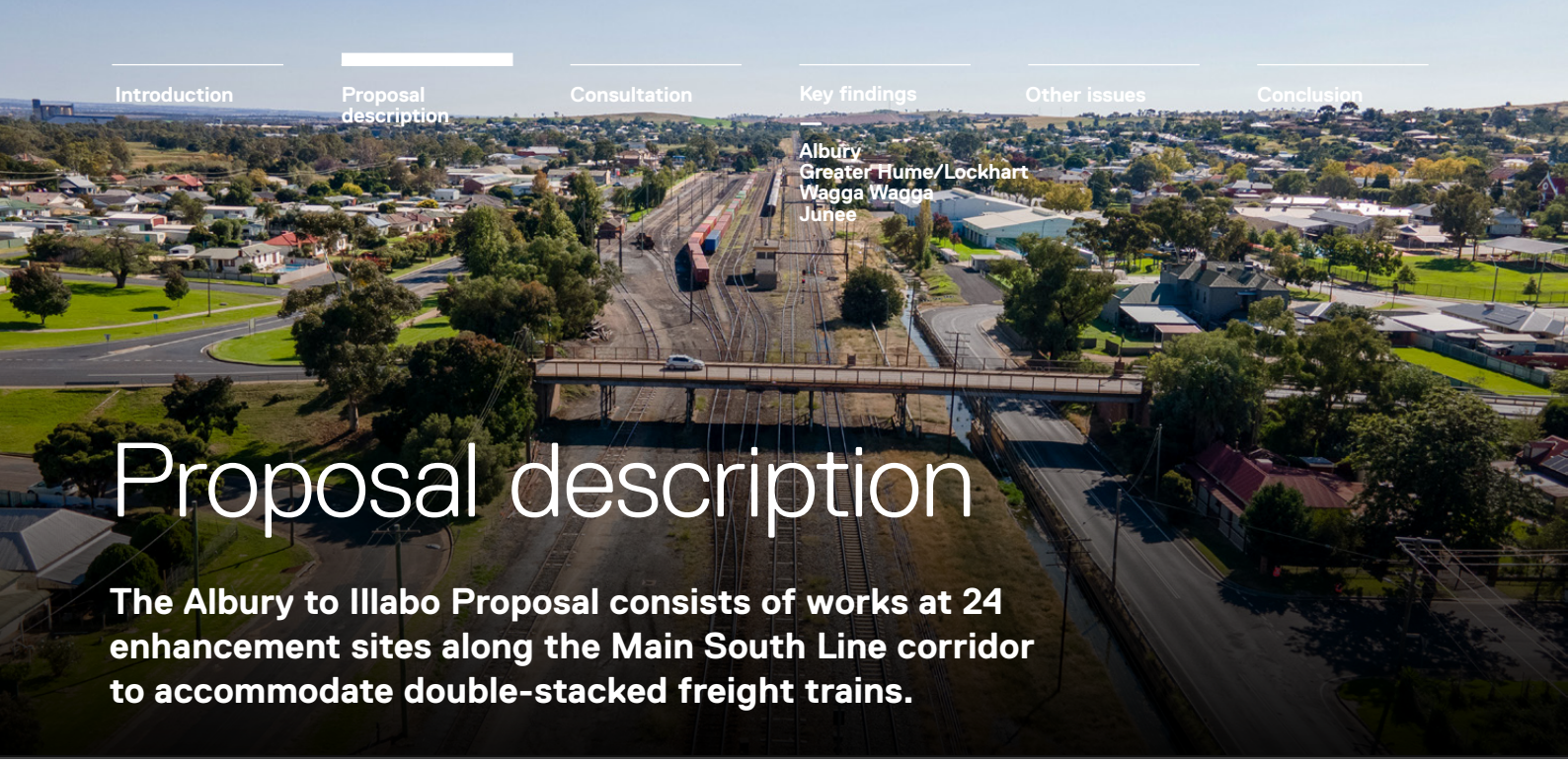
Your submission must include:

- your name and address, at the top of the letter only (if you want your personal details to be withheld from publication, please request this in a separate cover letter and do not include personal details in your submission)
- the name of the application and the application number: **Inland Rail – Albury to Illabo SSI 10055**
- a statement on whether you 'support' or 'object' to the Proposal or if you are simply providing comment
- the reasons why you support or object to the Proposal; and
- a declaration of any reportable political donations you have made in the last two years (visit **planning.nsw.gov.au/DonationsandGiftDisclosure** or phone **1300 305 695** to find out more).

For further enquiries, please call ARTC Inland Rail on **1800 732 761.**

ARTC help is available

If you need help with reading, or if English is your second language, please call **13 14 50.** This free service will help you read this document and other relevant Proposal information.



Proposal description

The Albury to Illabo Proposal consists of works at 24 enhancement sites along the Main South Line corridor to accommodate double-stacked freight trains.

The Proposal aims to provide rail infrastructure that meets the Inland Rail specifications, creating the necessary vertical and horizontal clearances (the height and width required) to accommodate double-stacked freight trains that are up to 1,800 metres long and 6.5 metres high.

The enhancement works include adjusting sections of track to achieve necessary clearances, changes to bridges and culverts, and other works including level crossing adjustments and modifications to drainage, road infrastructure, signalling infrastructure, fencing, signage and utilities. No additional works will be required outside of the enhancement sites.

The enhancement sites have been broken down into four precincts that align with the local government areas (LGAs): Albury, Greater Hume-Lockhart, Wagga Wagga and Junee.

The location

The Proposal is generally within the existing rail corridor extending from the town of Albury on the Victorian-NSW border to about three kilometres to the north-east of Illabo. The alignment passes through two major regional towns: Albury and Wagga Wagga, as well as several smaller regional towns in NSW including Gerogery, Culcairn, Henty, Yerong Creek, The Rock, Uranquinty and Junee.

The Proposal crosses five LGAs: Albury, Greater Hume, Lockhart, Wagga Wagga and Junee. The land impacted by the Proposal is predominantly the existing rail corridor of the Main South Line.

This section of the line includes six operating passenger stations, three intermodal terminals (including the Riverina Intermodal Freight and Logistics Hub currently under construction) for the transfer of freight between rail and road, and privately owned grain terminals located at several points.

The Proponent

Australian Rail Track Corporation (ARTC) has a 10-year program to deliver Inland Rail by 2027.

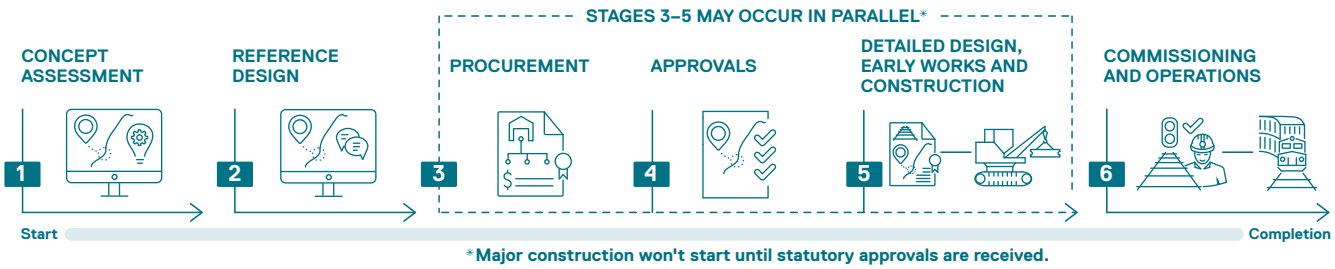
ARTC is an Australian Government owned statutory corporation that manages more than 8,500 kilometres of rail network across five states.

As the operator and manager of Australia's national rail freight network, ARTC is responsible for selling access to the rail network, capital investment, and developing new business.

Construction

Construction of the Proposal is planned to start in early 2024 and is expected to take about 16 months. Construction is expected to be completed in mid-2025. This section of the Main South Line would continue to operate during construction of the Proposal.

Proposal timeline



*Major construction won't start until statutory approvals are received.

Construction activities

Each enhancement site will undergo site establishment and enabling works before the main construction activities. The main construction activities vary at each enhancement site.

Precinct	Enhancement sites	Estimated duration (months)
Albury	Murry River Bridge alterations	12
	Albury Station pedestrian bridge replacement	6
	Albury Yard clearances track realignment	3
	Riverina Highway bridge track lowering	16
	Billy Hughes Bridge track lowering	16
	Table Top Yard clearances gantry removal	0.5
Greater Hume/Lockhart	Culcairn pedestrian bridge removal	3
	Culcairn Yard clearances track realignment	3
	Henty Yard clearances track realignment and level crossing modification	3
	Yerong Creek Yard clearances track realignment	3
	The Rock Yard clearances gantry modification	1
Wagga Wagga	Uranquinty Yard clearances track realignment, rail bridge and level crossing modifications	2
	Pearson Street bridge track lowering	16
	Cassidy Parade pedestrian bridge replacement	6
	Edmondson Street bridge replacement	11
	Wagga Wagga Station pedestrian bridge replacement	6
	Wagga Wagga Yard clearances track realignment	3
	Bomen Yard clearances track realignment and level crossing modification	2
Junee	Harefield Yard clearances track realignment and rail bridge alterations	2
	Kemp Street bridge replacement	10
	Junee Station pedestrian bridge removal	1
	Junee Yard clearances track realignment	2
	Olympic Highway underbridge track realignment and rail bridge alterations	3
	Junee to Illabo clearances track realignment, level crossing modifications including two upgrades	10

Construction hours

The Proposal involves enhancement works on or immediately adjoining active rail lines that need to remain in use during construction with minimal disruption. This work can only occur safely during rail possessions (sometimes referred to as closures) and temporary track occupancy when there are suitable gaps between scheduled trains.

Work during a rail possession can occur 24 hours per day in periods that are typically up to 60 hours, which is referred to as a 60-hour rail possession. Other works, like road bridges, will be managed to minimise community impacts from construction activities and traffic diversions. As such the proposed construction program has been developed to balance worker safety and community impacts.

Construction hours

- **Some work needs to occur during rail possessions, which can be 24 hours per day typically for a 60-hour period.**
- **Some work needs to occur during track occupancy authorisations, which could be any time of day when there is a break in train movements between five and nine hours.**

These construction hours apply when work is not undertaken during rail possessions or track occupancy authorisations.

1

Primary construction hours

- **6am start 6pm finish daily**

2

When primary construction doesn't apply

- **7am start 6pm finish: Mon–Fri**
- **8am start 1pm finish: Sat**

If noise exceedances continue beyond three months, these standard construction hours will be applied.

3

Noise intensive works

- **8am start 6pm finish: Mon–Fri**
- **8am start 1pm finish: Sat**

These hours will apply where works are expected to result in noise levels >75 decibels at a sensitive receiver.

ARTC will continue to engage with affected communities on proposed hours of activities once a construction contractor is appointed.

Workforce

Workforce on site for the Proposal is estimated to peak at 770 when work occurs at multiple enhancement sites at the same time. For the majority of the construction period, the workforce would average up to about 50 to 90 people in each precinct due to scheduling of construction works.

The construction workforce will predominantly require skilled and unskilled workers from the heavy and civil construction and general construction sectors. The Proposal represents a source of potential training and career pathway development for local workers, including Indigenous people and youth workers.

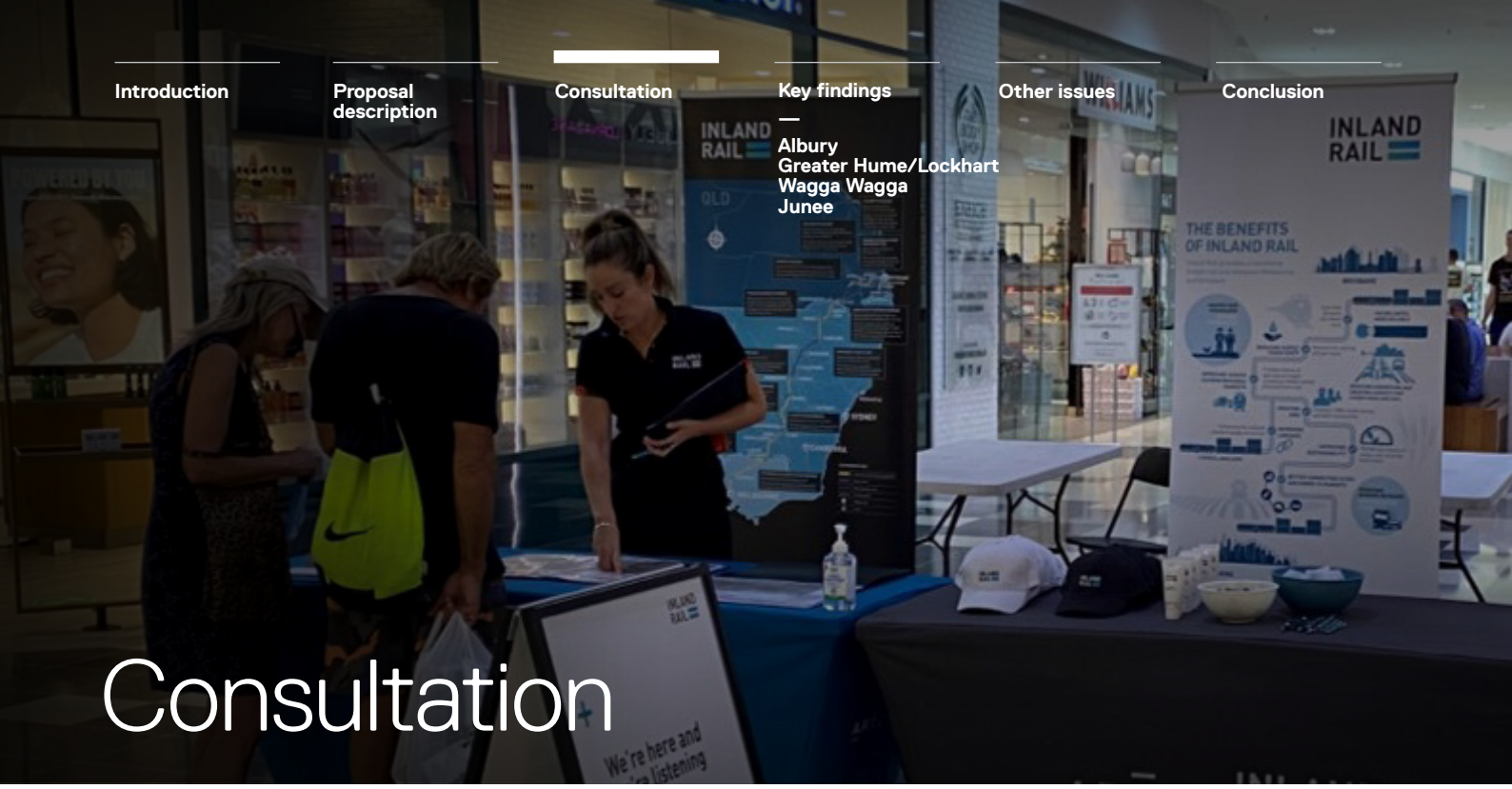
Given workforce requirements will be sporadic in nature due to the construction program, accommodation will be sought from the short-term accommodation market. Detailed construction planning will aim to distribute construction workforce across scheduled rail possessions throughout the construction period to minimise the peak demand on the short-term accommodation market. This will be coordinated with the accommodation strategy for the adjoining Illabo to Stockinbingal project.

Operations

The Main South Line between Albury and Illabo forms part of the regional rail network managed and maintained by ARTC. Train services will continue to be provided by a variety of operators.

The Proposal will be fully operational in 2025 with enhancement sites progressively commissioned on completion of construction. Inland Rail will be operational when all 13 sections are complete.

Currently there is an average of up to 12 freight train movements a day. About 18 freight train services per day are estimated in 2025. This is likely to increase to an average of 20 freight trains per day in 2040. Annual freight tonnages will increase in parallel, from approximately 13 million tonnes in 2025, increasing to about 19 million tonnes per year in 2040.



Consultation

Consultation with community and key stakeholders has occurred across two key phases of the Proposal's development.

Stakeholders identified for the Albury to Illabo Proposal:

- elected members of the parliaments of NSW and Australia
- local councils
- government agencies
- landowners and affected site neighbours
- special interest groups
- local business and industry
- Traditional Owners.

Between 2018 and 2020 Inland Rail held and/or attended more than 20 community events to provide information on the Proposal.

Throughout 2021, 15 community information sessions were held both online and face-to-face to provide updates and collect feedback on early designs.

The community has continued to be informed throughout 2022 through various channels including newsletters, campaigns, and community events.

In addition, a Community Consultative Committee was established in February 2021 following the Proposal being deemed to be State Significant Infrastructure. Up until finalising the EIS, 10 meetings across two sub-committees had been held.

Comprehensive and appropriate communication and consultation with the community and other key stakeholders will be ongoing during detailed design, construction and operation. Effective communication and engagement are fundamental to reducing risk and minimising potential impacts on communities.

How we have listened

The design process is dependent on rigorous engineering and ongoing stakeholder engagement. It has involved iterations and refinements, incorporating a range of considerations at each stage. Where practicable, ARTC has sought to incorporate stakeholder feedback directly into the design. This includes:

Proposed design of accessible ramps on the Albury Station pedestrian bridge

Albury

- Provision of accessible ramps on the eastern and western connections for the pedestrian bridge at Albury Station that are compliant with the *Disability Discrimination Act 1992* (DDA), as requested by Albury City Council.

Culcairn pedestrian bridge

Greater Hume and Lockhart

- ARTC has reached an agreement to gift Culcairn pedestrian bridge to Greater Hume Council for repurposing.

Proposed design of Cassidy Parade pedestrian bridge

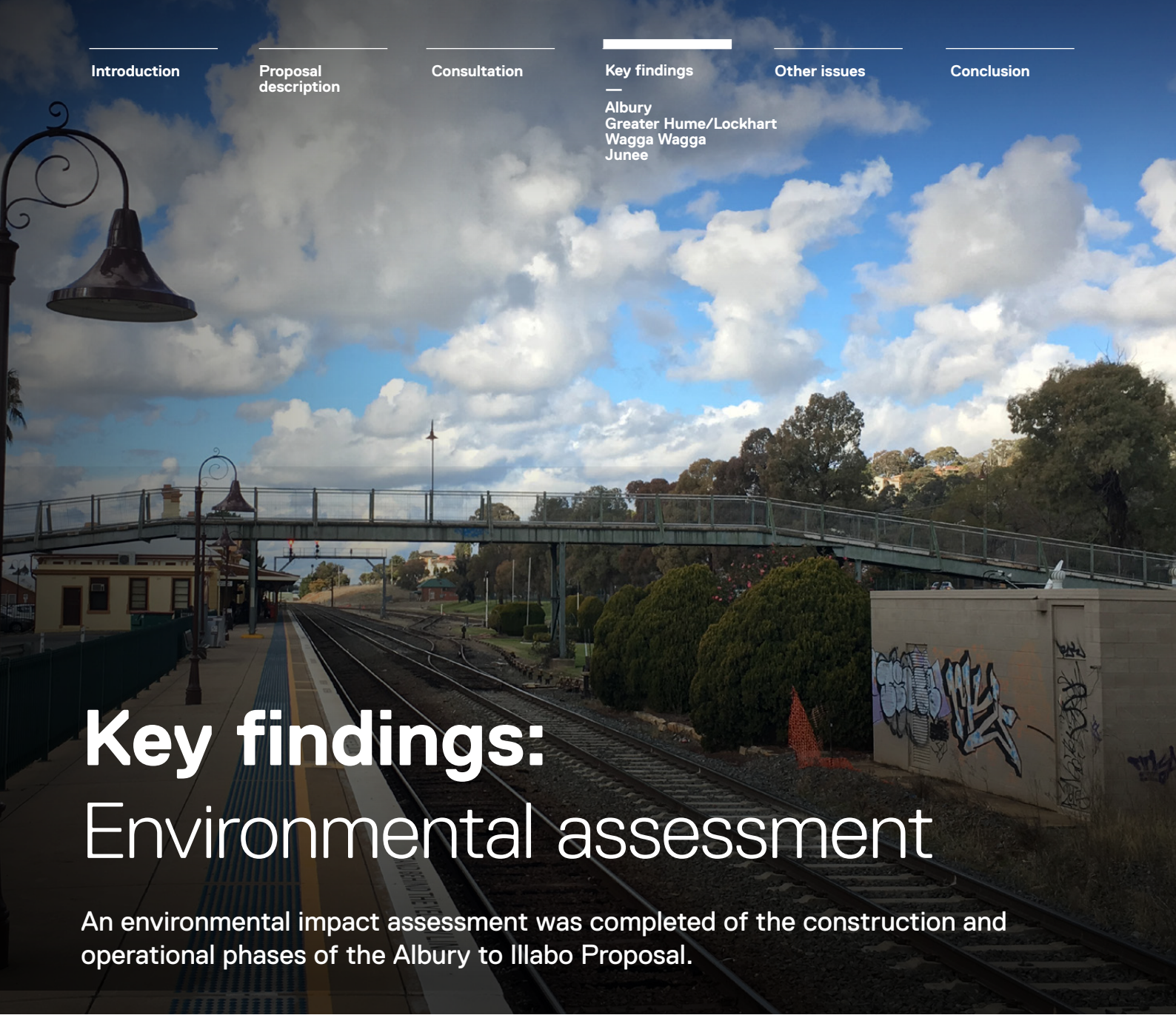
Wagga Wagga

- ARTC will work collaboratively with Wagga Wagga City Council on associated culvert works at Pearson Street bridge
- ARTC will continue to work collaboratively with Wagga Wagga City Council to incorporate the requirements of the active travel route plan and DDA compliance at the Cassidy Parade pedestrian bridge
- Incorporation of shared user paths (with pedestrian safety fences and a barrier between the road and the pathways) on both sides of the Edmondson Street bridge to meet the needs of the adjacent schools and the wider community
- Provision of a DDA compliant footbridge to replace the necessary removal of Wagga Wagga Station (Mother's) pedestrian bridge to meet community and school needs.

Proposed design of Kemp Street bridge

Junee

- Incorporation of Heavy Mass Loading (HML) into the Kemp Street bridge design to accommodate larger vehicles
- Design of extra wide pedestrian pathway at Kemp Street bridge to allow for a viewing area
- Refinement of traffic detours for both Junee and Wagga Wagga
- ARTC has reached an agreement to gift Junee Station pedestrian bridge to Junee Shire Council for repurposing.



Key findings: Environmental assessment

An environmental impact assessment was completed of the construction and operational phases of the Albury to Illabo Proposal.

The impact assessment identifies key potential environmental issues, impacts and risks. The assessment requirements are informed by the Scoping Report and by the SEARs. To produce the EIS, the assessment must describe and quantify the possible impacts associated with the Proposal and outline the efforts to minimise or avoid potential impacts during construction and operation.

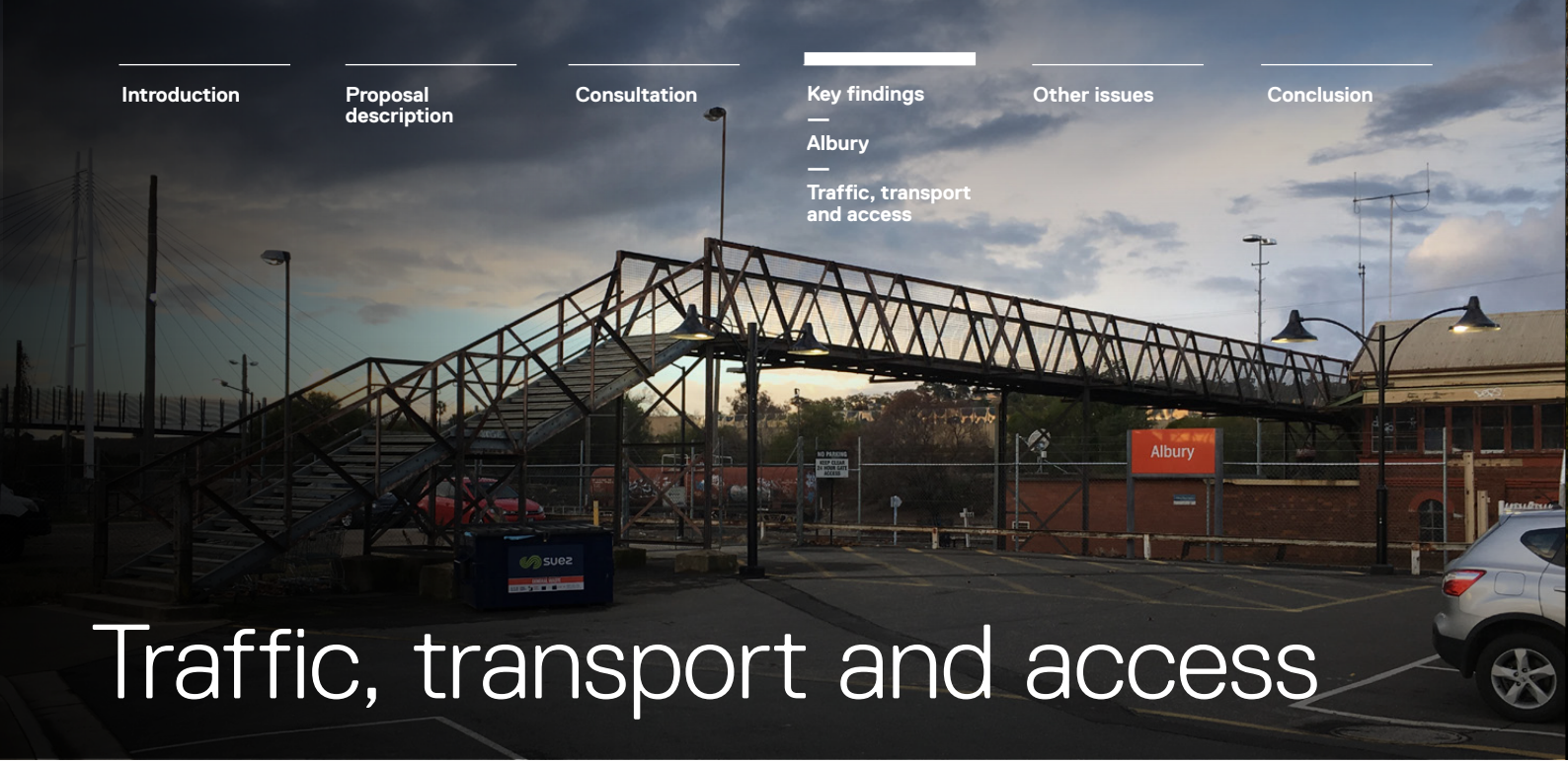
More detailed information about the impact assessment results and how they relate to the construction and operation of the Albury to Illabo Proposal can be found in the full EIS.

Approvals may include:

- planning approval from the NSW Minister for Planning under Division 5.2 of the *EP&A Act*
- a modified and new Environment Protection Licence under the *Protection of the Environment Operations Act 1997* as required for the construction and operation of the Proposal
- authorisation under the *Crown Land Management Act 2016* to allow occupation of Crown land located outside of ARTC leased areas
- approval under section 138 of the *Roads Act 1993* where works are required on or over public roads
- a water access licence would be sought under the *Water Management Act 2000* to take groundwater during deep excavations
- approval under the *Marine Safety Act 1998* for access restrictions on the Murray River during construction on the Murray River Bridge.

Albury precinct

Aerial view of the Albury Station Yard



Traffic, transport and access

The Hume Highway is an arterial road which provides access to enhancement sites in the Albury precinct. It carries about 11,400 vehicles per day on average. There are no planned road closures or traffic diversions.

Replacement of the Albury Station pedestrian bridge will require temporary pedestrian detour routes and will impact on parking around the station during construction. Once operational, there will be a permanent loss of two parking spaces at the Albury Station to accommodate the space needed for the pedestrian bridge.

Construction vehicles associated with the Proposal are not likely to impact the road network. Below shows the anticipated maximum one-way movements of construction vehicles per peak hour.

Enhancement site	Light vehicles per peak hour	Heavy vehicles per peak hour
Murray River Bridge	27	2
Albury Station pedestrian bridge	13	8
Albury Yard clearances	27	8
Riverina Highway bridge	40	10
Billy Hughes Bridge	47	10
Table Top Yard clearances	7	2

What you could experience during construction:

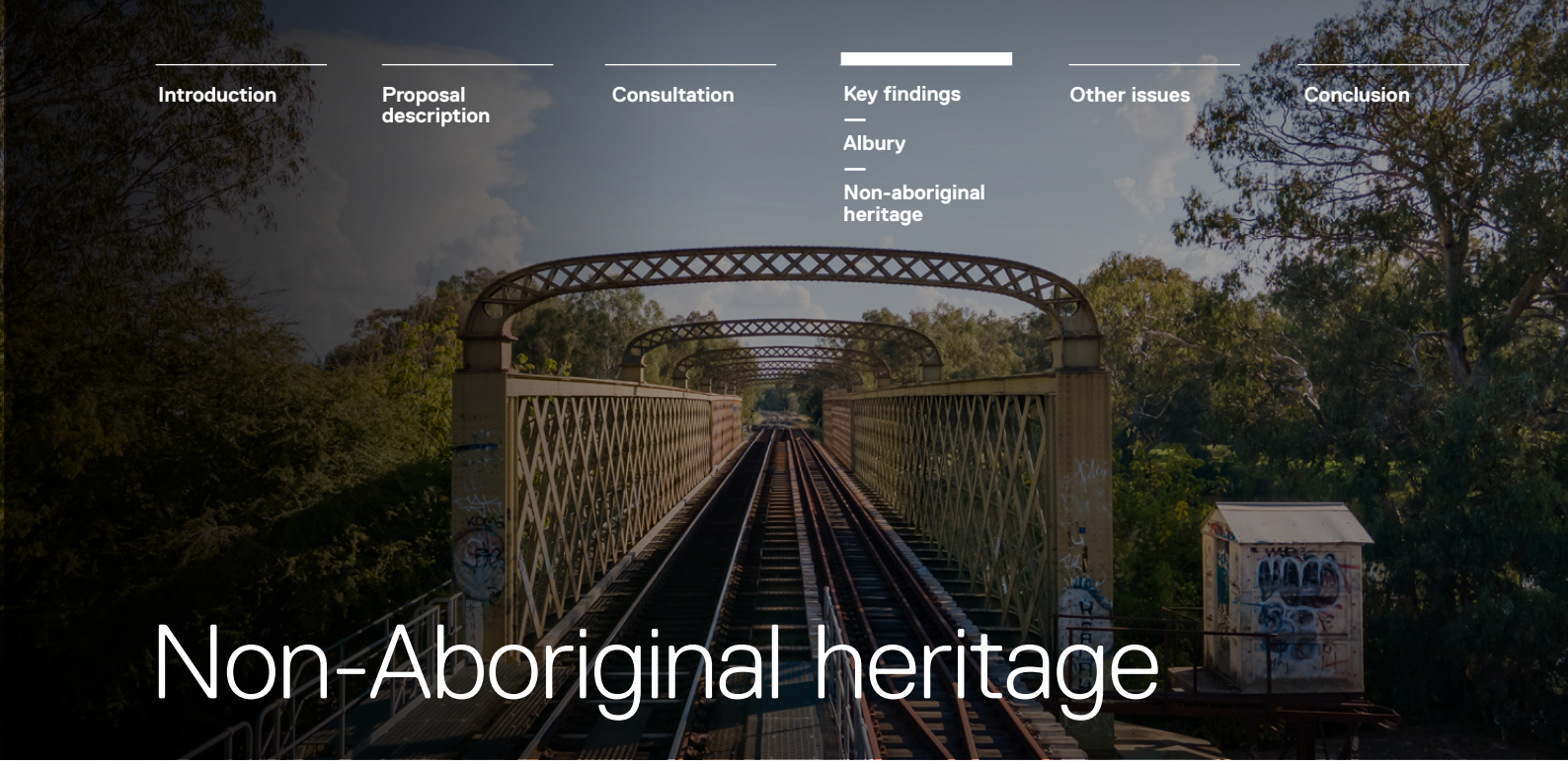
- changed road conditions around access points to enhancement sites
- public parking near Albury Station impacted with loss of 14 designated and 13 informal spaces
- minor disruptions to travel times on bus routes
- disruption to pedestrian access in and around Albury Station for train passengers
- temporary closure of Albury Station pedestrian bridge
- temporary access restrictions for some recreational water users of the Murray River.

What changes will occur once operational:

- Albury Station pedestrian bridge access improved due to ramp installation
- two parking spaces lost at Albury Station due to ramp installation.

What we will do:

- require construction vehicles park in construction compounds where practicable
- provide traffic management around railway stations
- develop a traffic, transport and access plan
- maintain passenger rail services
- maintain pedestrian connectivity during construction.



Non-Aboriginal heritage

The Murray River Bridge is a state heritage listed item. The double-track, three-span steel lattice truss bridge is in good condition and will need to be modified to have the arches about two metres higher than existing.

The Albury Railway Station and Yard Group is state and locally heritage listed and includes the Albury Station pedestrian bridge. Removal of the Albury Station pedestrian bridge will result in the loss of the heritage item and replacement with a more modern bridge.

What you could experience during construction:

- vibration impacts due to proximity of construction work to heritage items
- temporary construction compounds and work platforms within the boundaries of heritage items.

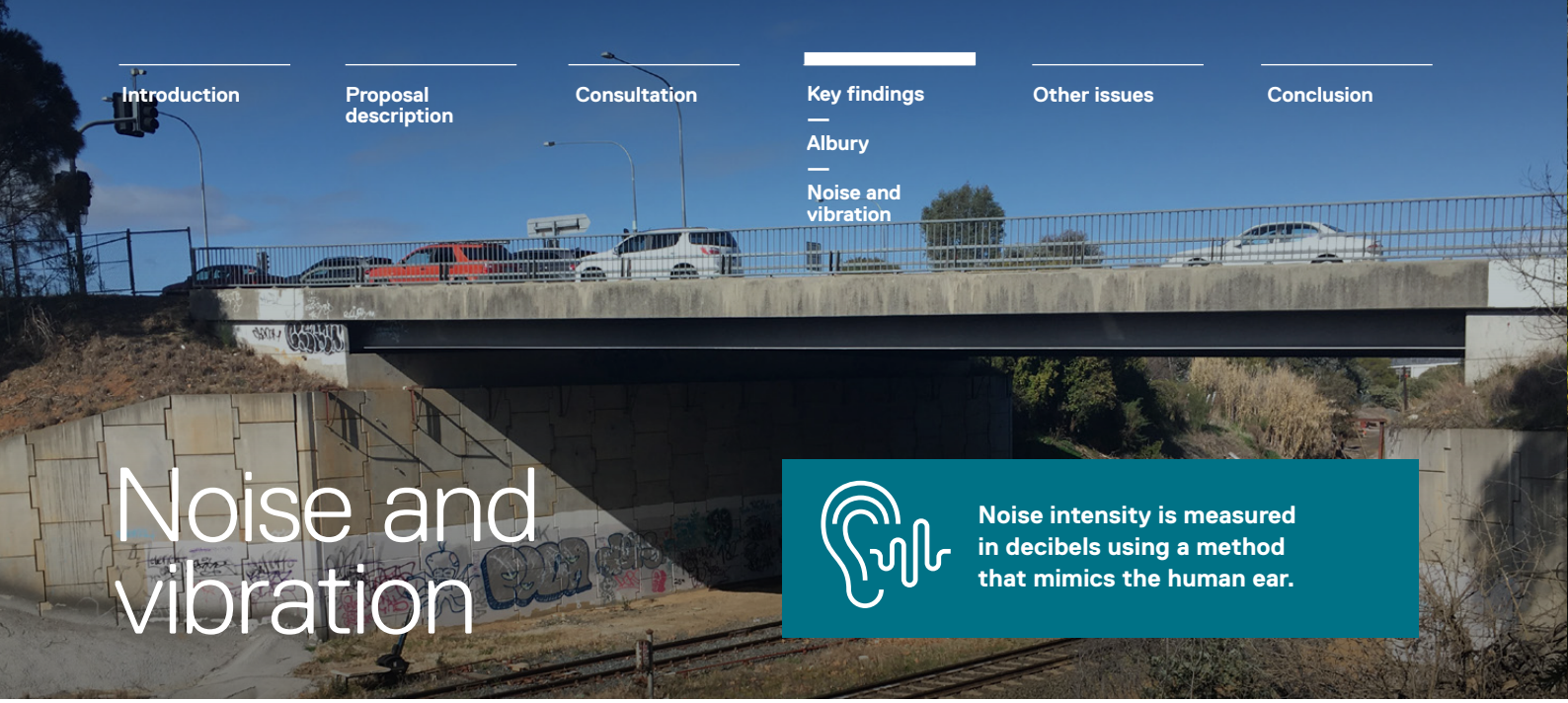
The proposed modern Albury Station pedestrian bridge

What changes will occur once operational:

- changes to the visual appearance of the Murray River Bridge
- changes to the visual appearance of the Albury Station pedestrian bridge
- altered visual appearance of the heritage landscape and items of Albury Railway Station and Yard Group.

What we will do:

- design modifications to the Murray River Bridge sympathetic to its heritage status
- carry out a detailed recording of heritage items and archaeological sites prior to construction
- implement a heritage management plan during construction
- prepare a heritage interpretation strategy
- implement a vibration plan during construction.



Noise and vibration

Noise intensity is measured in decibels using a method that mimics the human ear.

Construction would result in noise level exceedances at numerous receivers. Works at the Albury Station pedestrian bridge are predicted to have the highest noise levels and the highest number of affected receivers within the Albury precinct.

Works for the Albury Yard clearances, Albury Station pedestrian bridge and Riverina Highway bridge may occur concurrently for several days around the 60-hour rail possession and would impact overlapping receivers resulting in cumulative noise impacts.

Most affected sensitive receivers identified in the study area:

residential dwellings

schools

What you could experience during construction:

- noise and vibration from construction activities
- sleep disturbance during particular activities
- noise from construction traffic.

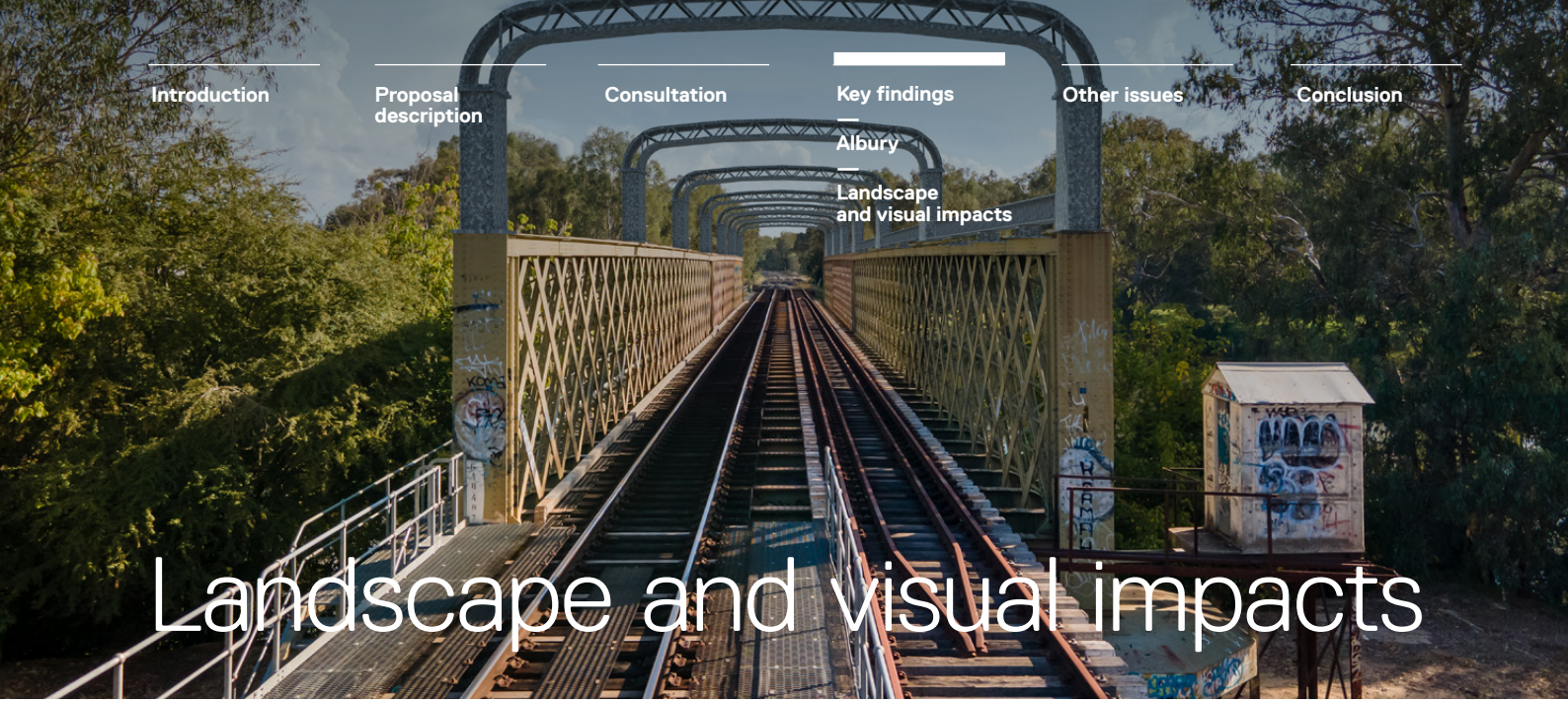
What changes will occur once operational:

- increased noise that exceeds operational rail noise criteria at three of the Scots School Albury buildings (to be confirmed by monitoring when operational)
- increased noise from operating trains on sections of adjusted track.

Predictive modelling indicates the increase in frequency and size of freight trains and the adjustments to the track may result in exceedances of operational rail noise criteria set by the *NSW Rail Infrastructure Noise Guidelines*. One non-residential receiver, being the Scots School near the Riverina Highway bridge enhancement site, is predicted to experience operational rail noise exceedances.

What we will do:

- limit noisy construction works to standard working hours where feasible
- communicate clearly any works needed outside of standard construction hours
- provide respite periods to reduce ongoing exposure to noise and vibration
- locate site laydown, access and stockpiles away from noise sensitive receivers
- use plant and equipment with the lowest available noise and vibration emissions where practicable
- implement a construction noise and vibration plan
- apply additional feasible and reasonable noise and vibration mitigation measures during construction in consultation with affected property owners where appropriate
- review construction noise mitigation during detailed design
- review operational noise and vibration during detailed design
- consult sensitive receivers on predicted operational noise to guide feasible and reasonable mitigation measures
- outline post-operational noise monitoring.



Landscape and visual impacts

There will be noticeable landscape and visual amenity impacts at the enhancement sites within the Albury precinct. In particular, the new pedestrian bridge at Albury Station will have a larger footprint and presence as it is taller and includes anti-throw screens and accessible ramps on both sides.

The Murray River Bridge modification will result in the arches being raised about two metres higher than the existing structure, but similar materials and architectural style as the existing arches will be applied to minimise visual impacts.

What you could experience during construction:

- view of construction equipment including cranes and material stockpiles
- increased heavy vehicle traffic
- lighting for night-time construction.

What changes will occur once operational:

- altered visual appearance of the replacement Albury Station pedestrian bridge and modified Murray River Bridge
- altered visual appearance from the protection walls and associated drainage at Riverina Highway and Billy Hughes bridges
- more frequent (and some larger) trains passing
- increased lighting from trains travelling at night.

Albury Station pedestrian bridge – existing

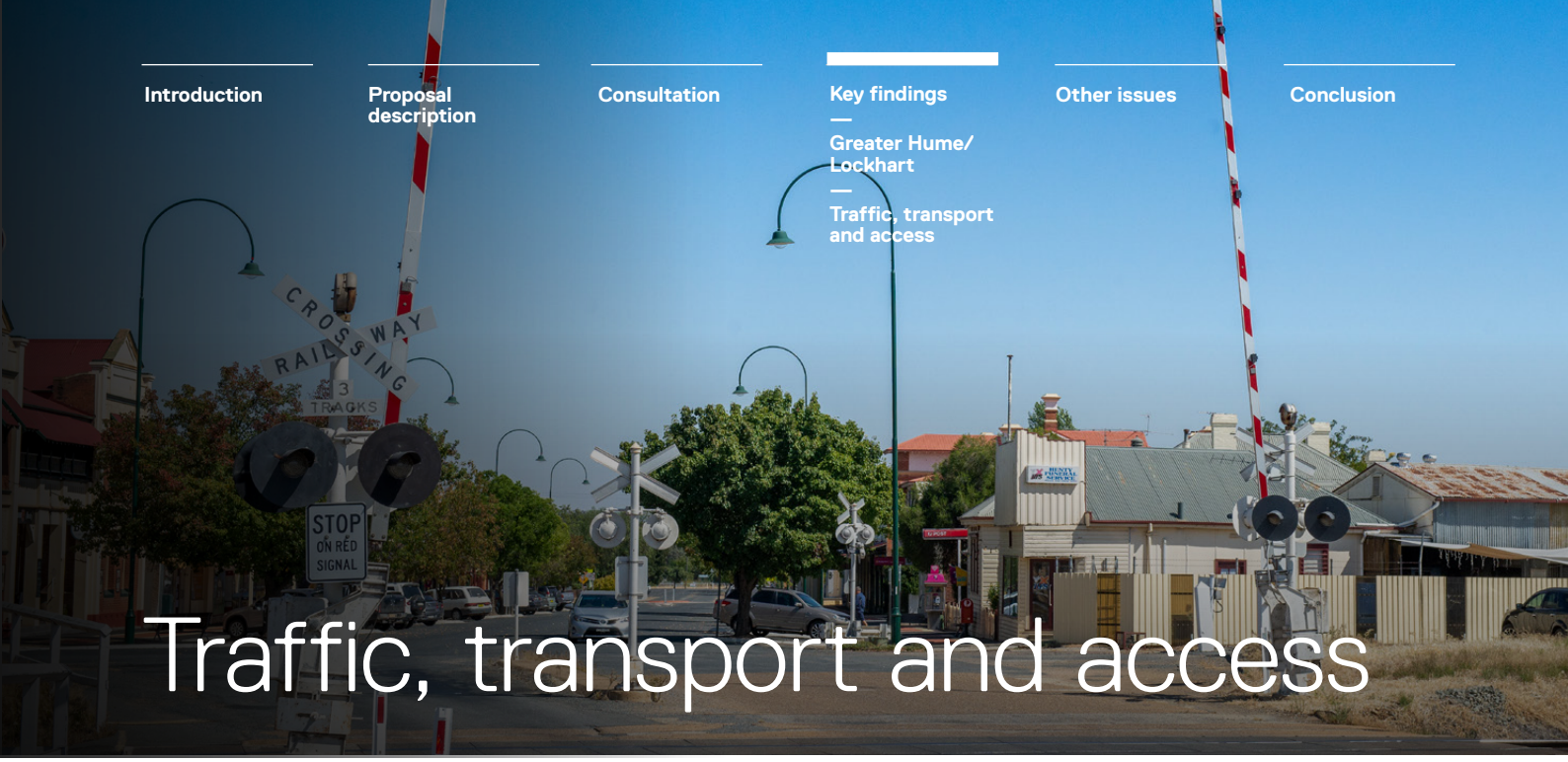
Albury Station pedestrian bridge – proposed design

What we will do:

- design bridges to be sympathetic to the surrounding environment
- an urban design and landscape plan will be prepared during detailed design
- locate stockpiles and equipment laydown areas with reduced visual impact
- minimise nuisance lighting during construction where practicable
- apply appropriate urban design principles during detailed design.

Greater Hume-Lockhart precinct

Looking north to Culcairn pedestrian bridge and Culcairn Yard



Traffic, transport and access

The Olympic Highway provides a connection to the enhancement sites in the Greater Hume-Lockhart precinct and is a major arterial road that carries a high volume of traffic in the region.

The Sladen Street level crossing located in the Henty Yard clearances enhancement site will be modified to accommodate track realignments, also known as track slews, and the pedestrian crossing will be upgraded to include extra safety provisions. A road closure is required for five days and traffic will be diverted to the level crossing 500 metres to the south at Rosler Parade. This may result in a maximum five-minute additional travel time for some motorists.

Construction work around stations may temporarily disrupt pedestrian movements and require traffic control. Construction vehicles associated with the Proposal are not likely to impact the road network. Below shows the maximum one-way movements per peak hour.

Enhancement site	Light vehicles per peak hour	Heavy vehicles per peak hour
Culcairn pedestrian bridge Culcairn Yard clearances	40	8
Henry Yard clearances pedestrian bridge	40	8
Yerong Creek Yard clearances	40	8
The Rock Yard clearances	7	1

What you could experience during construction:

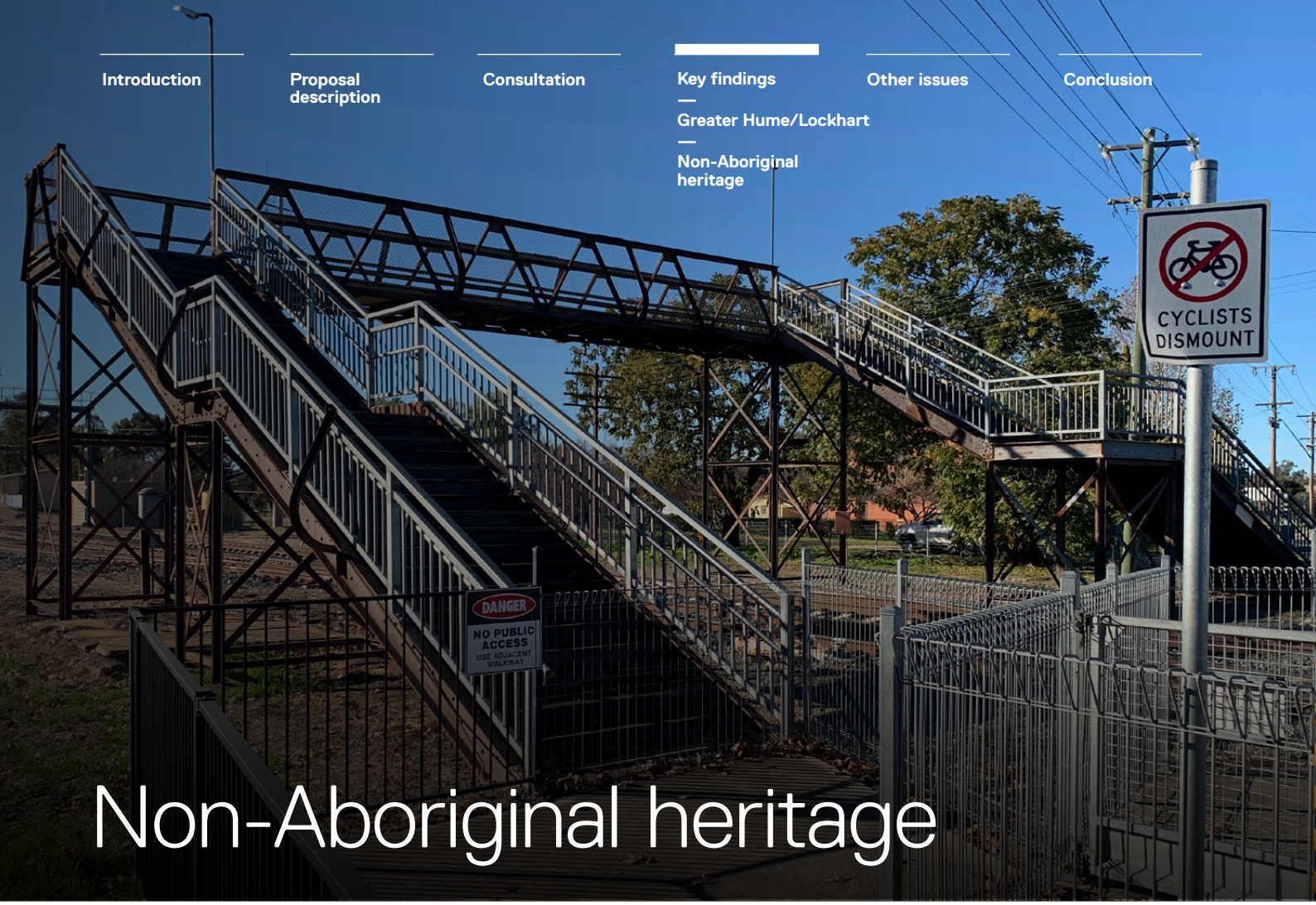
- one road closure with traffic diversion for five days
- changed road conditions around access points to enhancement sites
- minor disruptions to travel times on bus routes
- disruption to access in and around Culcairn, Henty and The Rock stations for train passengers.

What changes will occur once operational:

- increased frequency of level crossing closures due to the increased frequency of trains
- increased safety benefits for pedestrians at the Sladen Street level crossing.

What we will do:

- develop a traffic, transport and access plan to manage changes during construction
- provide adequate signage for road and pedestrian diversions
- consult with stakeholders prior to and during traffic diversions
- require construction vehicles to park in construction compounds where practicable
- provide traffic management around railway stations
- maintain passenger rail services.



Non-Aboriginal heritage

In the Greater Hume-Lockhart precinct the Culcairn, Henty and The Rock Stations and Yard Groups are all state and locally heritage listed sites, which overlap the enhancement sites.

The Culcairn pedestrian bridge is located alongside Balfour Street and was built in 1920. It is now disused and instead pedestrians cross the track using the adjacent pedestrian crossing on Balfour Street. The pedestrian bridge will be removed and not reinstated.

What you could experience during construction:

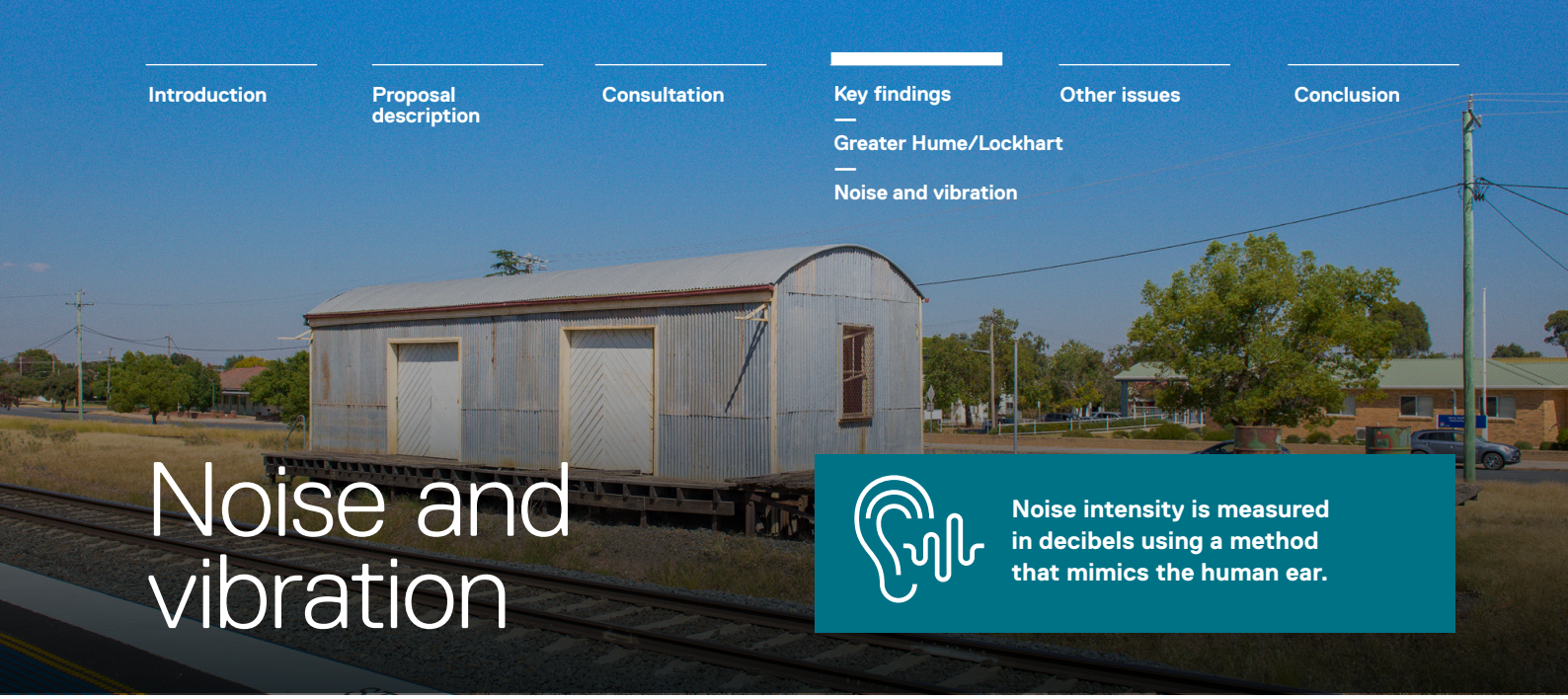
- vibration impacts due to proximity of construction work to heritage items
- temporary construction compounds within the boundaries of heritage items.

What changes will occur once operational:

- visual impact to the heritage landscape following removal of the Culcairn pedestrian bridge.

What we will do:

- investigate gifting the removed Culcairn pedestrian bridge to council for re-purposing elsewhere
- design modifications to infrastructure within yards sympathetic to heritage status
- carry out detailed recording of heritage items and archaeological sites prior to construction
- implement a heritage management plan during construction
- prepare a heritage interpretation strategy
- implement a vibration plan during construction.



Noise and vibration

Noise intensity is measured in decibels using a method that mimics the human ear.

Construction would result in noise level exceedances at numerous receivers. Works in this precinct are planned to last for approximately three months, with the exception of The Rock Yard clearances, which is less than a month.

Predictive modelling indicates the increase in frequency and size of freight trains and the adjustments to the track may result in exceedances of operational rail noise criteria set by the *NSW Rail Infrastructure Noise Guidelines*. Seven residential receivers near the Henty Yard clearances on Ivor Street and the Olympic Highway and one non-residential receiver, being the Yerong Creek Public School, near the Yerong Creek track clearances are predicted to experience operational rail noise exceedances.

Most affected sensitive receivers identified in the study area:

- residential dwellings
- schools
- recreational areas
- places of worship
- commercial properties

What you could experience during construction:

- noise and vibration from construction activities
- sleep disturbance
- noise from construction traffic.

What changes will occur once operational:

- increased noise that exceeds operational rail noise criteria at seven residential receivers in Henty (to be confirmed by monitoring once operational)
- increased noise exceeding operational rail noise criteria at Yerong Creek Public School (to be confirmed by monitoring once operational)
- increased noise from operating trains on sections of adjusted track.

What we will do:

- limit noisy construction works to standard working hours where feasible
- communicate clearly any works needed outside of standard construction hours
- provide respite periods to reduce ongoing exposure to noise and vibration
- locate site laydown, access and stockpiles away from noise sensitive receivers
- use plant and equipment with the lowest available noise and vibration emissions where practicable
- implement a construction noise and vibration plan
- apply additional feasible and reasonable noise mitigation measures during construction in consultation with affected property owners where appropriate
- review construction noise mitigation during detailed design
- review operational noise and vibration during detailed design
- consult sensitive receivers on predicted operational noise to guide feasible and reasonable mitigation measures
- outline post-operational noise monitoring.

Landscape and visual impacts

Landscape and visual amenity impacts at the enhancement sites within the Greater Hume-Lockhart precinct will be minimal. The removal of the Culcairn pedestrian bridge will alter the appearance of the rail corridor in that location. However, the track realignments and structure modifications at most enhancement sites will have a low magnitude of change and be consistent with the existing rail corridor.

Proposed removal of Culcairn pedestrian bridge

What you could experience during construction:

- view of construction equipment including cranes and material stockpiles
- increased heavy vehicle traffic
- lighting for night-time construction.

What changes will occur once operational:

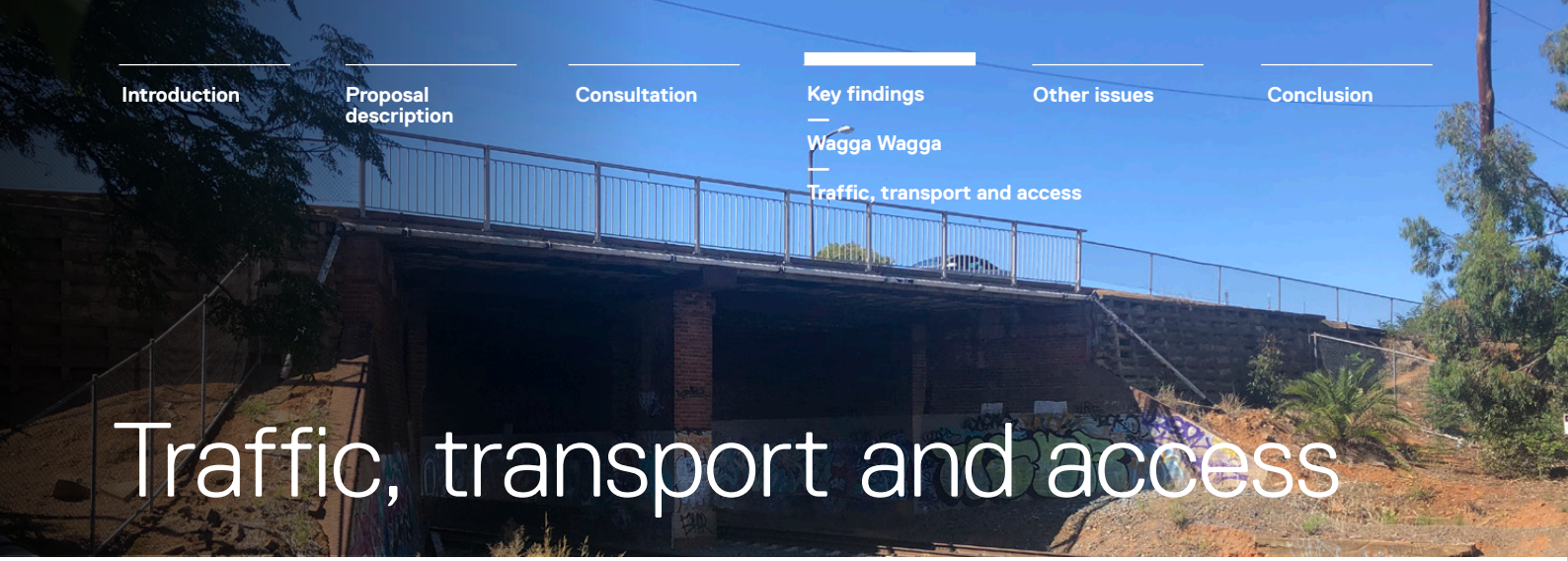
- altered visual appearance by removal of Culcairn pedestrian bridge
- more frequent (and some larger) trains passing
- increased lighting from trains travelling at night.

What we will do

- locate stockpiles and equipment laydown areas with reduced visual impact
- minimise nuisance lighting during construction where practicable
- apply appropriate urban design principles during detailed design.

Wagga Wagga precinct

The existing Cassidy Parade pedestrian footbridge



Traffic, transport and access

At Wagga Wagga, staging of construction has been proposed to limit the duration and cumulative impact to pedestrians from the closure of Cassidy Parade, Edmondson Street and Wagga Wagga Station bridges.

Both Edmondson Street and Erin Street will be closed during the Edmondson Street bridge work and will require a traffic detour for up to nine months. A traffic detour to the east and west of Edmondson Street will be established, with either detour route to take about nine minutes.

The additional traffic is expected to increase average delays and cause road congestion in the peak travel hours. ARTC will continue to consult with emergency services and road authorities to ensure adequate protocols are implemented to minimise any emergency vehicle access and road network impacts.

During construction the existing school drop-off areas on Edmondson Street adjacent to Kildare Catholic College will remain viable. Some temporary delays and parking impacts will occur in Station Place when the new Wagga Wagga station pedestrian bridge is lifted into place during a scheduled rail possession. Once operational, three parking spaces would be removed to accommodate the pedestrian bridge.

Construction vehicles associated with the Proposal are not likely to impact the road network significantly, although there may be delays in travel times for buses, with the traffic detour also seeing the closure/relocation of bus stops on Edmondson and Railway Streets. Below shows the maximum one-way movements of construction vehicles per peak hour associated with the enhancement sites.

Enhancement site	Light vehicles per peak hour	Heavy vehicles per peak hour
Uranquinty Yard clearances	27	8
Pearson Street bridge	33	3
Cassidy Parade pedestrian bridge	13	3
Edmondson Street bridge	20	5
Wagga Wagga Station pedestrian bridge	13	3
Wagga Wagga Yard clearances	27	10

What you could experience during construction:

- extended road closures and traffic diversions
- changed road conditions around access points to enhancement sites
- disruptions to bus routes and relocated bus stops
- disruptions to parking near enhancement sites
- disruptions to pedestrian and active travel movements.

What changes will occur once operational:

- minor, permanent changes to the road network at Edmondson Street bridge
- increased frequency of level crossing closures due to the increased frequency of trains
- shared user paths installed on modified pedestrian bridges crossing the rail line.

What we will do:

- develop a traffic, transport and access plan to manage changes during construction
- provide adequate signage for road and pedestrian diversions
- consult with stakeholders prior to and during traffic diversions
- require construction vehicles to park in construction compounds where practicable
- provide traffic management around railway stations
- maintain passenger rail services
- maintain pedestrian connectivity during construction.

To accommodate the replacement of Edmondson Street bridge there will be permanent, minor modifications to the adjoining road such as changes to road gradients and turning angles.

Non-Aboriginal heritage

In the Wagga Wagga precinct, the Wagga Wagga Station and Yard Group and the Bomen Railway Station are state and locally heritage listed sites, which overlap the enhancement sites in the vicinity.

The Wagga Wagga Station pedestrian bridge was built in 1936 and does not contribute to the heritage significance of the Wagga Wagga Station and Yard Group.

The proposed replacement will be larger, but will not change the character of the station and yard viewsheds.

The Cassidy Parade pedestrian bridge is listed on the ARTC heritage register. Demolition of the existing bridge will be a permanent loss of this heritage item. It will be replaced with a modern bridge.

What you could experience during construction:

- temporary altered visual appearance to the heritage landscape
- vibration impacts due to the proximity of construction work to heritage items
- temporary construction compounds within the boundaries of heritage items.

What changes will occur once operational:

- altered visual appearance on the heritage landscape and aesthetic values
- loss of the heritage listed Cassidy Parade pedestrian bridge.

What we will do:

- carry out detailed recording of heritage items and archaeological sites prior to construction
- implement of a heritage management plan during construction
- prepare a heritage interpretation strategy
- implement a vibration plan during construction.

Noise and vibration

Noise intensity is measured in decibels using a method that mimics the human ear.

Construction would result in noise level exceedances at numerous receivers. The highest noise impacts are predicted during rail possessions, due to the scale of works and number of nearby receivers. Rail possessions generally only occur a few times per year.

Concurrent works across Wagga Wagga Yard clearances, Cassidy Parade pedestrian bridge and Edmondson Street bridge during the 60-hour rail possession would impact overlapping receivers resulting in cumulative noise impacts.

Most affected sensitive receivers identified in the study area:

- residential dwellings
- schools
- commercial properties
- industrial premises

What you could experience during construction:

- noise and vibration from construction activities
- sleep disturbance during particular activities
- noise from construction traffic.

What changes will occur once operational

- increased noise exceeding operational rail noise criteria at South Wagga Public School and the Kildare Catholic College (to be confirmed by monitoring when operational)
- increased noise from operating trains on sections of adjusted track.

Predictive modelling indicates the increase in frequency and size of freight trains and the adjustments to the track may result in exceedances of operational rail noise criteria set by the *NSW Rail Infrastructure Noise Guidelines*. Two non-residential receivers, being the South Wagga Public School near the Wagga Wagga Yard clearances and the Kildare Catholic College near the Edmondson Street bridge, are predicted to experience operational rail noise exceedances.

What we will do:

- limit noisy construction works to standard working hours where feasible
- communicate clearly any works needed outside of standard construction hours
- provide respite periods to reduce ongoing exposure to noise and vibration
- locate site laydown, access and stockpiles away from noise sensitive receivers
- use plant and equipment with the lowest available noise and vibration emissions where practicable
- implement a construction noise and vibration plan
- apply additional feasible and reasonable noise mitigation measures during construction in consultation with affected property owners where appropriate
- review construction noise mitigation during detailed design
- review operational noise and vibration during detailed design
- consult sensitive receivers on predicted operational noise to guide feasible and reasonable mitigation measures
- outline post-operational noise monitoring.

Landscape and visual impacts

The proposed Edmondson Street bridge replacement

Due to the substantial construction work in the Wagga Wagga precinct there will be an impact on the visual amenity during this period. Existing vegetation is required to be removed and/or trimmed to accommodate the work, leading to visual impacts until the work is complete and disturbed areas are rehabilitated.

The replacement bridges will be more visually prominent structures including new retaining walls and drainage works needed for track lowering. Bridges will have anti-throw screens and ramps connecting to roads and there will be some reduction in vegetation cover surrounding the sites.

Existing Cassidy Parade pedestrian bridge

Proposed replacement Cassidy Parade pedestrian bridge

What you could experience during construction:

- view of construction equipment including cranes and material stockpiles
- increased heavy vehicle traffic
- removal of vegetation around bridge locations
- lighting for night-time construction
- views of new track lowering associated infrastructure.

What changes will occur once operational:

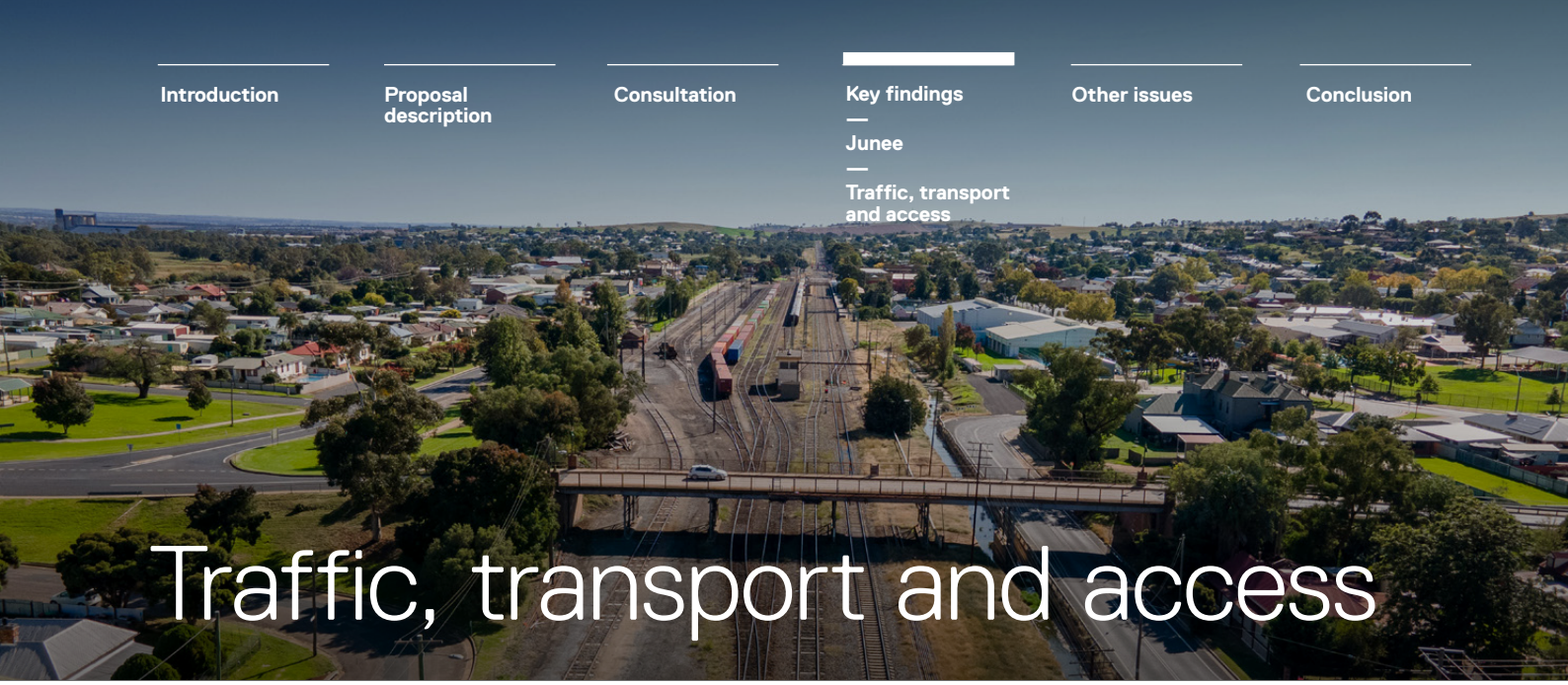
- altered visual appearance due to larger replacement bridges
- more frequent (and some larger) trains
- increased lighting from trains travelling at night
- street lighting and vehicle lighting at increased elevation on Edmondson Street bridge.

What we will do:

- reduce lighting impacts where practicable in the design of bridges
- design bridges to be sympathetic to the surrounding environment
- replace cleared vegetation and progressively rehabilitate disturbed areas
- locate stockpiles and equipment laydown areas with reduced visual impact
- minimise nuisance lighting during construction where practicable
- apply appropriate urban design principles during detailed design.

Junee precinct

Aerial view of the Olympic Highway underbridge, Junee



Traffic, transport and access

Kemp Street will be closed during the bridge enhancement works and traffic, pedestrians and cyclists will be diverted to the Olympic Highway level crossing about 700 metres to the north. The traffic diversion will be via Seignior, Lorne, Ducker, Hill, George and Edgar streets for about eight months and this will affect some bus services. There will be other temporary detours for two months including diversion of the Olympic Highway via Joffre Street and Pretoria Avenue, as well as a heavy vehicle diversion of the Olympic Highway via Goldenfields Way and Old Junee Road.

Level crossing alterations in the Junee to Illabo clearances will require temporary road closures at three of the enhancement sites for between three and five days. Road detours will be implemented and will result in a worst-case delay of up to 10 minutes for motorists. Two of the level crossings will also be upgraded to have flashing lights and boom barriers for motorists.

Traffic diversions could potentially impact on emergency vehicle access if not managed appropriately. ARTC will continue to consult with emergency services and road authorities to ensure adequate protocols are implemented.

Construction vehicles associated with the Proposal are not likely to impact the road network significantly, although there may be delays with re-routing and closures. Below shows the maximum one-way movements of construction vehicles per peak hour associated with the enhancement sites.

Enhancement site	Light vehicles per peak hour	Heavy vehicles per peak hour
Harefield Yard clearances	47	8
Kemp Street bridge	20	8
Junee Station pedestrian bridge	7	1
Junee Yard clearances	23	8
Olympic Highway underbridge	53	8
Junee to Illabo clearances	60	8

What you could experience during construction:

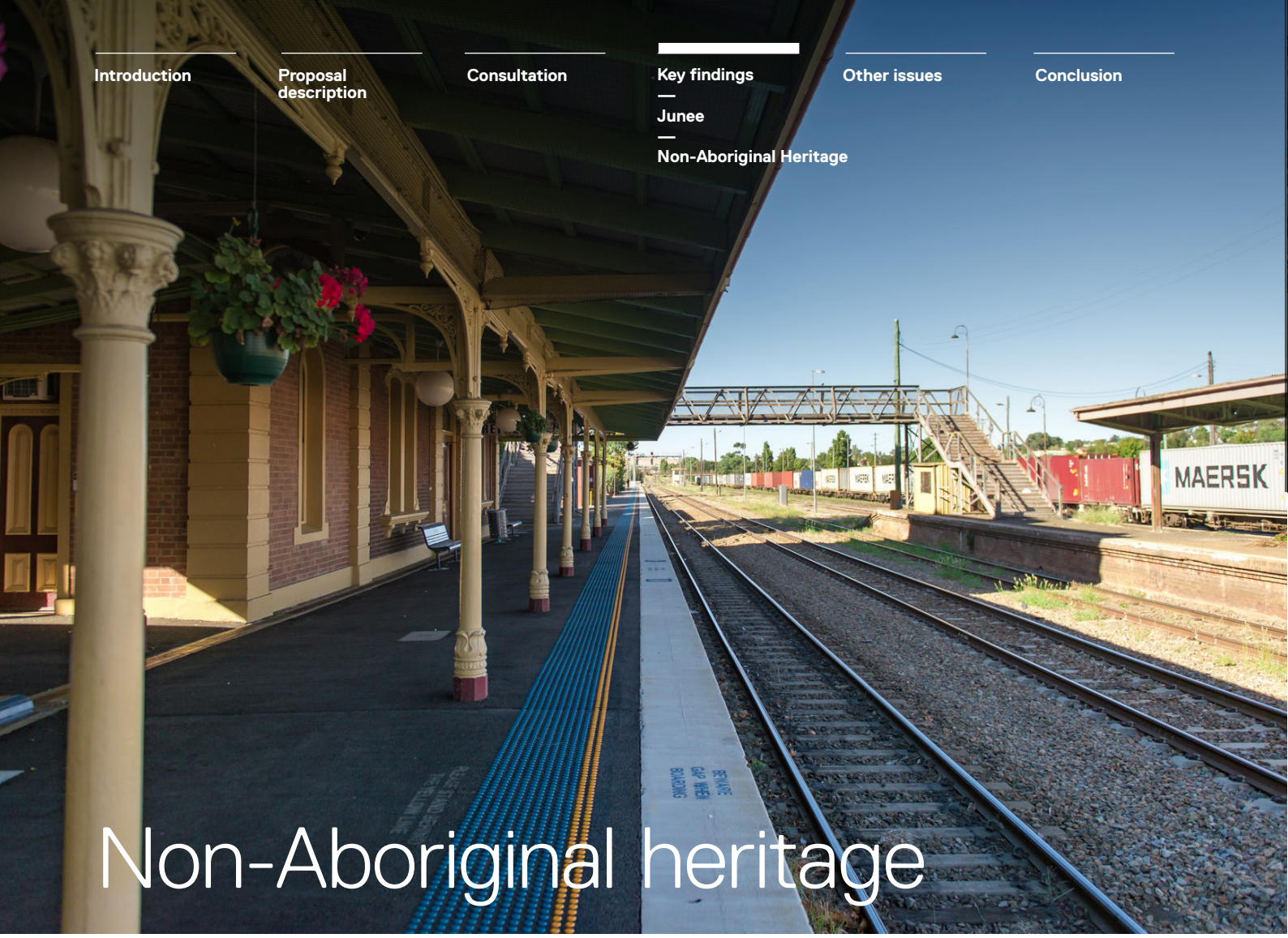
- extended road closures and traffic diversions
- changed road conditions around access points to enhancement sites
- removal of kerbside parking near enhancement sites and on traffic diversions
- removal of parking spots at stations
- minor disruptions to pedestrian access.

What changes will occur once operational:

- minor, permanent changes to the arrangement of the road network
- increased frequency of level crossing closures due to the increased frequency of trains
- safety benefits from the upgrade of two level crossings to have flashing lights and boom barriers.

What we will do:

- develop a traffic, transport and access plan to manage changes during construction
- provide adequate signage for road and pedestrian diversions
- consult with stakeholders prior to and during traffic diversions
- require that construction vehicles park in construction compounds where practicable
- provide traffic management in and around railway stations
- maintain passenger rail services
- maintain pedestrian connectivity during construction.



Non-Aboriginal heritage

The state and locally listed Junee Railway Station, Yard and Locomotive Depot heritage item overlaps with the Junee pedestrian bridge and Junee Yard clearances enhancement sites. The works at Junee Railway Station and Yard avoid any direct impacts to the station and there are negligible impacts on moveable relics.

The Junee pedestrian bridge, which is currently closed, is not individually identified in the state heritage item and will be removed.

The Proposal supports the historical and ongoing use of the rail corridor for freight and passenger transport, but there are potential impacts during construction and operation from vibration, demolition, and aesthetic changes in the Junee precinct.

What you could experience during construction:

- removal of the Junee pedestrian bridge
- temporary construction compounds within the boundaries of heritage items
- vibration impacts due to the proximity of construction work to heritage items.

What changes will occur once operational:

- altered visual appearance to heritage landscape and aesthetic values.

What we will do:

- design modifications to infrastructure within the yards sympathetic to its heritage status
- carry out detailed recording of heritage items and archaeological sites prior to construction
- implement a heritage management plan during construction
- prepare a heritage interpretation strategy
- implement a vibration plan during construction.

Noise and vibration

Construction would result in noise level exceedances at numerous receivers. For majority of the enhancement sites, most of the track and bridge works would occur during rail possessions. Rail possessions generally only occur a few times per year.

The activities with the highest exceedances are associated with works at the Olympic Highway underbridge enhancement site. However, construction noise at the Kemp Street bridge, Junee Yard clearances and Junee Station pedestrian bridge enhancement sites may occur concurrently for several days around the 60-hour rail possession and this will impact overlapping sensitive receivers, resulting in cumulative noise impacts.

Predictive modelling indicates the increase in frequency and length of freight trains and the adjustments to the track may result in exceedances of operational rail noise criteria set by the *NSW Rail Infrastructure Noise Guidelines*.

Two non-residential sensitive receivers, being the Junee North Public School near the Olympic Highway underbridge and the Illabo Public School near the Junee to Illabo clearances, are predicted to experience operational rail noise exceedances.

Most affected sensitive receivers identified in the study area:

- residential dwellings
- schools
- industrial premises
- places of worship
- commercial properties

What you could experience during construction:

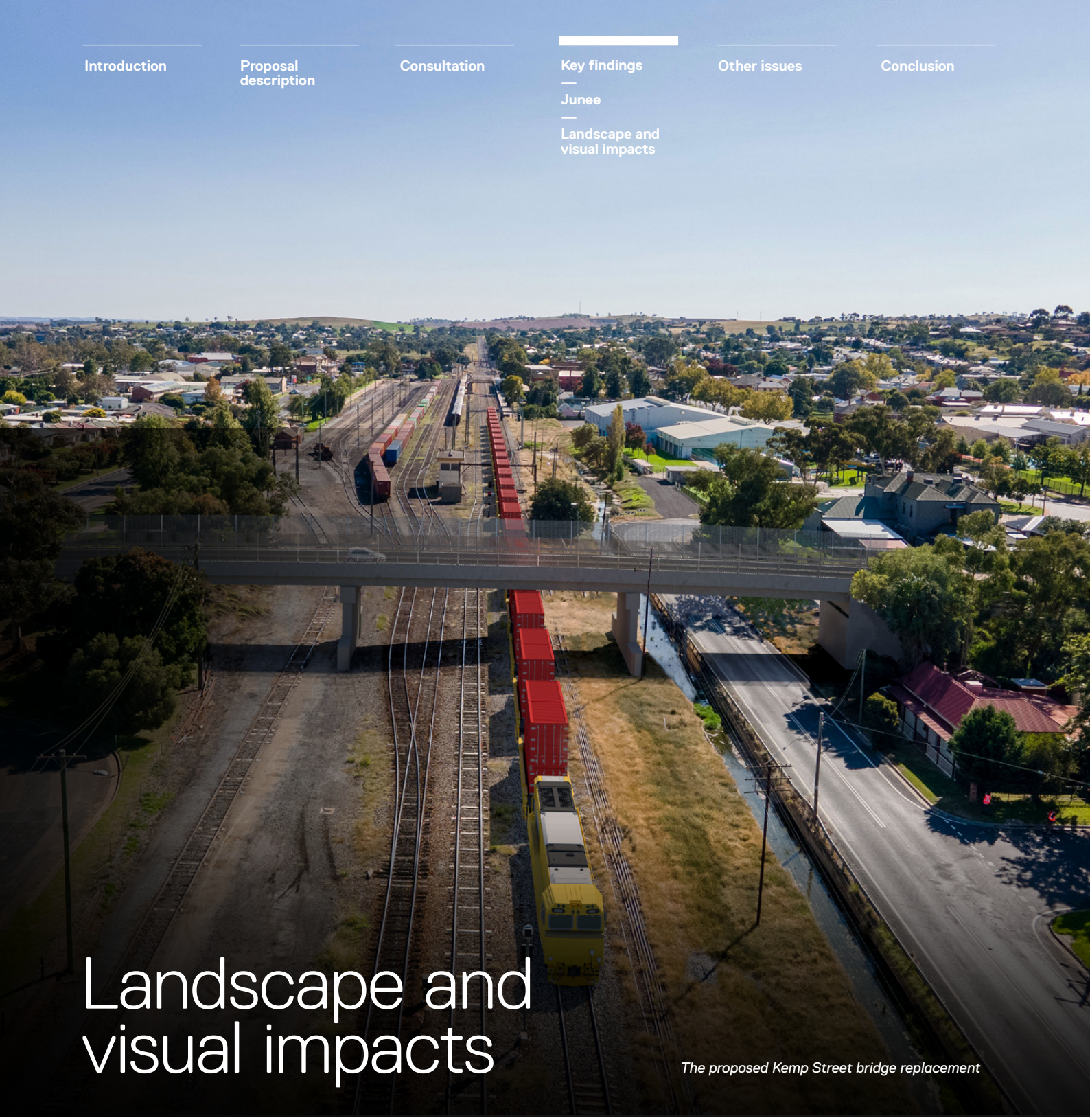
- noise from construction activities
- risk to vibration-sensitive structures, including heritage structures
- sleep disturbance during particular activities
- noise from construction traffic
- traffic detours generating temporarily redistributed noise on different roads.

What changes will occur once operational:

- increased noise exceeding operational rail noise criteria at Junee North Public School and Illabo Public School
- increased noise from operating trains on sections of adjusted track
- noise from train horn and warning bell at two levels crossings to be activated
- changed traffic noise levels due to the Kemp Street bridge replacement.

What we will do:

- limit noisy works during construction to standard working hours where feasible
- communicate clearly any works outside of standard construction hours
- provision of respite periods to reduce ongoing exposure to noise and vibration
- select site laydown, access and stockpile away from noise sensitive receivers
- use plant and equipment with lowest available noise and vibration emissions where practicable
- implement a construction noise and vibration plan
- outline post-operational noise monitoring
- consult sensitive receivers on predicted operational noise to guide feasible and reasonable mitigation measures.



Landscape and visual impacts

The proposed Kemp Street bridge replacement

The Junee Station and town centre is focused around the state heritage listed railway station, which is a key element in the streetscape of the town. As most works are occurring within the rail corridor the impacts to landscape are negligible to minor, except in the case of bridge demolition and construction at both Kemp Street and Olympic Highway underbridge. The visual impacts during construction will be temporary, but bridge works generally take the longest in the proposed construction program.

The track realignment and modifications to gantries and signalling is not expected to alter the view of the existing rail corridor. However, changes to the bridges and level crossing upgrades will alter the visual amenity of the landscape once operational.

Artist impression following proposed removal of Junee Station pedestrian bridge

What you could experience during construction:

- earthworks and ground disturbance
- lighting for night-time construction
- increased heavy vehicle traffic.

What changes will occur once operational:

- altered visual appearance from larger replacement/ modified bridges
- removal of pedestrian bridge
- views of the new boom gates and flashing lights at two level crossings
- changes to recreation space to accommodate modified roads
- more frequent (and some larger) trains passing
- increased lighting from trains travelling at night
- increased street and vehicle lighting on Kemp Street bridge.

What we will do:

- reduce lighting impacts where practicable in the design of bridges
- design bridges to be sympathetic to the surrounding environment
- replacement landscaping and reconfigured open space subject to detailed design
- locate stockpiles and equipment laydown areas with reduced visual impact
- minimise nuisance lighting during construction where practicable
- apply appropriate urban design principles during detailed design.

Other issues

In completing the impact assessment, the key issues are addressed in the EIS and detailed assessments are provided in the technical papers. This includes a summary of the existing environment, the potential impacts of construction and operation, and the proposed measures to mitigate and manage these potential impacts.

In addition to the assessments of key issues, assessments have also been conducted on:

Biodiversity

The existing rail corridor contains little native vegetation cover and the reduction in the extent of native vegetation is unlikely to threaten the persistence of any populations of native plants and vegetation communities. Impacts on biodiversity have been avoided, minimised and will be offset in accordance with the *Biodiversity Conservation Act 2016*.

Socio-economic

Appropriate communication and consultation with the community and other key stakeholders will play a key role in managing the potential impacts during construction. This includes use of recreational open space, traffic and mobility, noise and visual impacts. The construction workforce will be transient and numbers will fluctuate across the construction activities, which may put pressure on local short-term accommodation. A workforce management plan will be implemented to manage the potential impacts. A Social Impact Management Plan will track and report on measures to mitigate social impacts and enhance community benefits during construction, such as local employment and supply of materials. Once operational, improved accessibility will be available with compliant pedestrian bridges.

Land use and property

The Proposal will require the temporary occupation of about 27 hectares of land outside the rail corridor for construction compounds and access. An easement about 25 metres wide will be established in the north-eastern corner of a private property to accommodate a relocated electrical power line in Wagga Wagga. These requirements will be refined during detailed design and construction planning and ARTC will enter into agreements with landholders, councils or public authorities to temporarily lease these areas.

Hydrology and flooding

The Proposal is located within the Murray and Murrumbidgee catchments of the Murray-Darling Basin. At enhancement sites located in flood prone land and where temporary obstruction of overland flows or drainage systems cannot be avoided, further consideration of flood risk will be undertaken to develop the staging of works to ensure proper management of a flood event at all stages of construction. Drainage works have been designed to mimic or improve the existing drainage and flooding conditions, where possible, to minimise operational impacts of the Proposal.

Groundwater

Further groundwater investigations and monitoring will inform design and construction methodologies, particularly for the track lowering sites to reduce and avoid impacts.

Soils and contamination

For enhancement sites where there is a risk of encountering contaminated soil, and more significant excavation is required as part of the Proposal, further investigations will be conducted to inform detailed design and management of materials during construction. Where the risk of asbestos and/or lead-paint has been identified, further assessments will be required prior to construction to determine necessary management or remediation.

Waste

Earthwork requirements will be subject to further refinement during detailed design to minimise the final volume of spoil as far as practicable, and options to reuse spoil and ballast will be investigated prior to construction.

Water quality

Impacts from construction of the Proposal are anticipated to be short term and unlikely to cause changes to the water quality. The implementation of appropriate soil and water construction management measures will minimise these impacts further.

Climate change risk

A preliminary climate change assessment was undertaken to consider climate change risks, opportunities and adaptations to inform the design process. Further consideration of the potential for climate change risks will be undertaken to support detailed design.

Air quality

Standard mitigation measures will apply to reduce the potential for temporary dust emissions from construction works and the movement of construction vehicles. Air quality impacts during operation are expected to be below the relevant impact assessment criteria.

Sustainability

Sustainability principles have been incorporated throughout the design development process. ARTC is committed to achieving an "Excellent" Infrastructure Sustainability (IS) rating for the Proposal. This requires implementing identified sustainability initiatives during detailed design, construction and operation.

Cumulative impacts

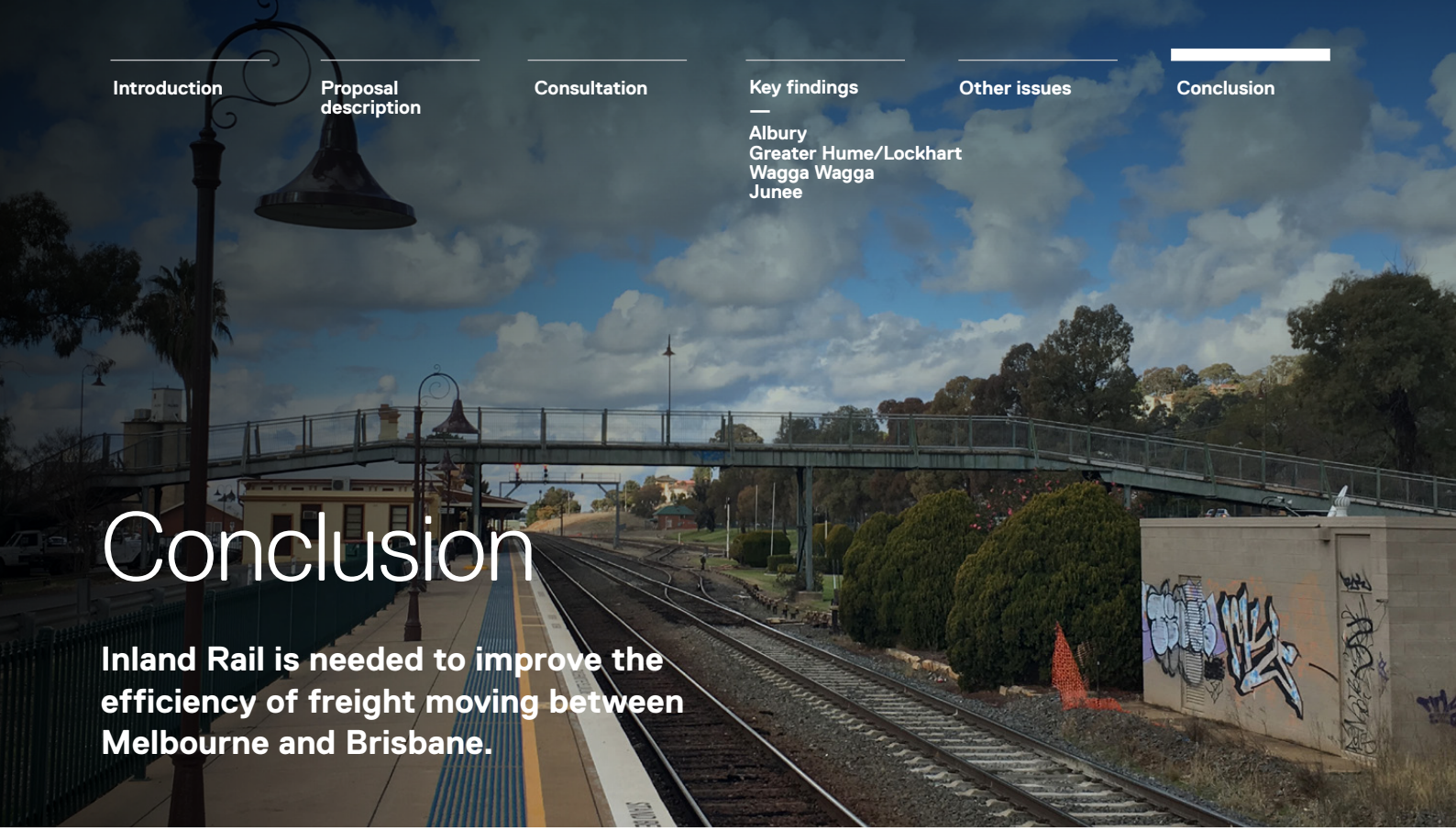
During construction there could be minor cumulative impacts associated with biodiversity, noise, traffic and amenity. Detailed construction planning will be coordinated with the accommodation strategy for the neighbouring Illabo to Stockinbingal project to minimise potential cumulative impacts on the short-term accommodation market.

Aboriginal heritage

Two isolated stone artefacts identified near Yerong Creek and Junee will be avoided during construction and no impacts are predicted. Measures will be implemented to confirm no Aboriginal objects are present prior to starting works on Townsend Street at the Murray River bridge.

Hazard

Potential hazards during construction will be temporary and emergency and incident response plans and procedures will be developed and implemented, including flood and bush fire risk.



Conclusion

Inland Rail is needed to improve the efficiency of freight moving between Melbourne and Brisbane.

Australia's freight task is set to experience significant growth over the coming decades. Demand for freight transport between Melbourne to Brisbane via inland NSW is expected to grow substantially over coming decades, from approximately 4.9 million tonnes in 2016 to around 13 million tonnes, or 1.1 million containers by 2050.

The Proposal, as part of Inland Rail, is needed to respond to the growth in demand for freight transport and address existing freight capacity and infrastructure issues. The Proposal is a critical component of Inland Rail and is required to enable Inland Rail to operate.

What Inland Rail will offer

Inland Rail will address the growing freight task by helping to move freight off the congested road network and moving interstate freight off the congested Sydney suburban rail network. It provides a reliable road-competitive solution to the freight task and enables the commercial and social benefits of rail to be leveraged to meet Australia's long-term freight challenge.

Findings of the environmental impact assessment

The design for the Proposal has been developed with an objective of minimising potential impacts on the surrounding environment. The designs, Proposal elements, management and mitigation measures, are selected to avoid and minimise environmental and/or social impacts.

The residual impacts of the Proposal are outweighed by the long-term benefits including:

- enabling double-stacked freight trains to operate between Albury and Illabo, to substantially increase freight volumes transported by rail
- improving access across the rail corridor in Albury, Wagga Wagga and Junee through the provision of three new DDA compliant pedestrian bridges and the inclusion of shared paths on the new road bridges
- job creation during construction and flow-on benefits to the local economy around the enhancement sites.

The detailed design for the Proposal will be developed with the objective of minimising potential impacts on the local and regional environment, and the local community. The design and construction methodology will continue to be developed with this overriding objective in mind, taking into account the input of stakeholders.

The assessment has identified the potential environmental and social consequences of the Proposal, and identified mitigation measures, where appropriate, to manage potential impacts. If approved, the construction and operation of the Proposal would be in accordance with relevant legislation, the conditions of approval, and the construction and operation environmental management plans.

The potential residual construction and operational impacts of the Proposal are considered manageable with the implementation of the proposed mitigation and management measures.

The benefits of Inland Rail

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