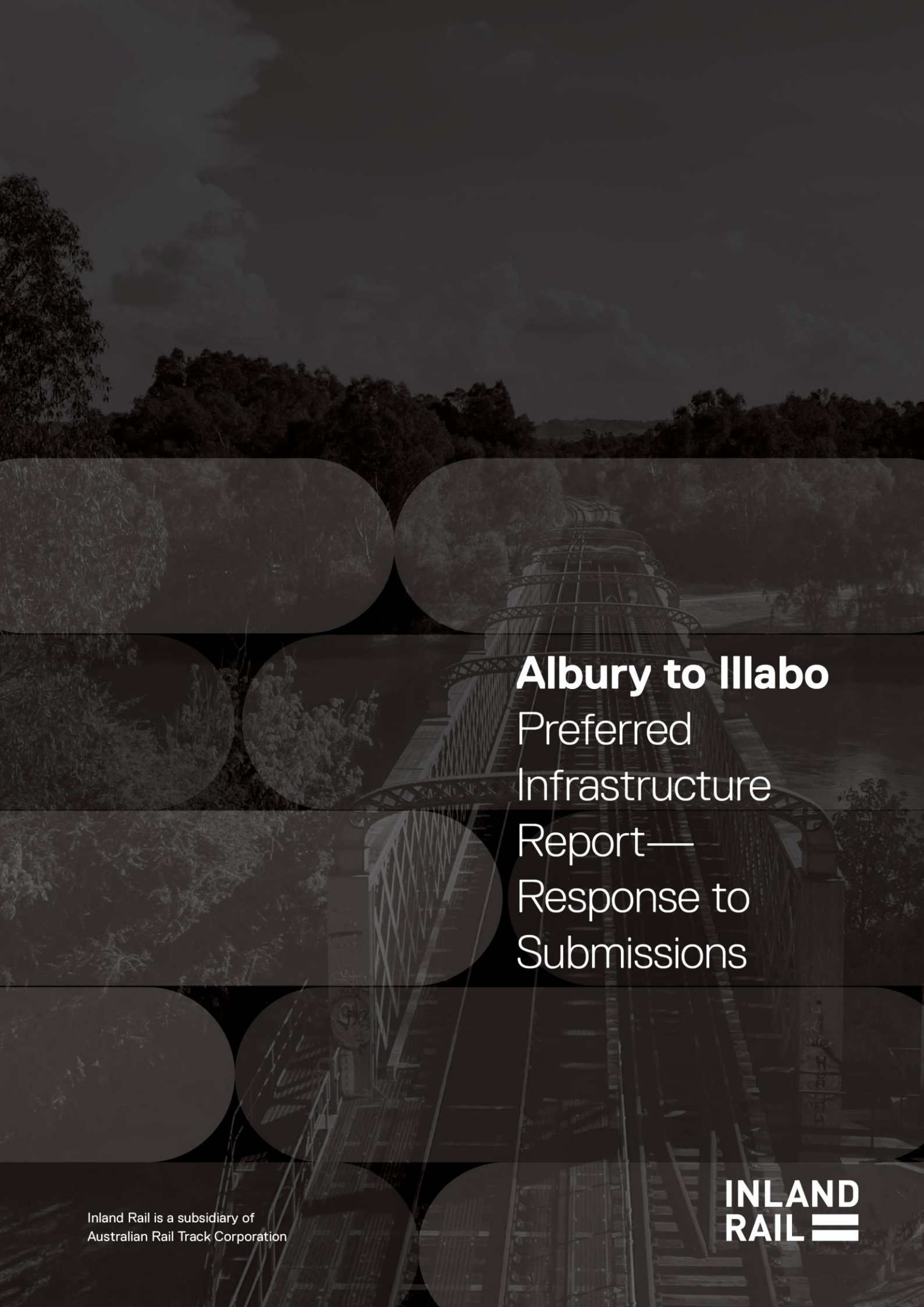


Albury to Illabo
Preferred Infrastructure Report— Response to Submissions

Inland Rail is a subsidiary of
Australian Rail Track Corporation

INLAND RAIL

COVER IMAGE
Aerial overview of the Murray River Railway Bridge facing west.

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.

Contents

Appendices

Tables

Figures

Glossary

Specific terms and acronyms used throughout this Submissions Report are listed and described in the table below.

	Acronym	Definition
	A2I	Albury to Illabo section of Inland Rail
Active level crossing		At-grade road crossing of the rail corridor that uses flashing lights and boom barriers for motorists, and automated gates for pedestrians. These devices are activated prior to and during the passage of a train through a level crossing.
Approval authority		The approval authority for a state significant infrastructure (SSI) application or SSI modification request. This will be the Minister for Planning and Public Spaces or the Minister's delegates in the Department of Environment, Housing and Infrastructure.
Aboriginal Cultural Heritage Management Plan	ACHMP	
Australian Rail Track Corporation Ltd	ARTC	
Biodiversity Assessment Method	BAM	
Biodiversity Development Assessment Report	BDAR	
Bush Fire Management Committee	BFMC	
Biodiversity Offsets and Agreement Management System	BOAMS	
Construction environmental management plan		A site-specific plan developed for the construction phase of a project to ensure that all contractors and sub-contractors comply with the environmental conditions of approval for the project and manage environmental risks properly.
Community Consultative Committee	CCC	
Critically endangered ecological community	CEEC	
Crime Prevention Through Environmental Design	CPTED	
Country Regional Network	CRN	
Critical state significant infrastructure	CSSI	
Construction Traffic, Transport and Access Management Plans	CTTAMPs	
	DCCEEW	The Department of Climate Change, Energy, the Environment and Water. This department includes the NSW Environment Protection Authority, the former DPE—Water group, the former DPE—Biodiversity, Science and Conservation group and Heritage NSW.
Biodiversity, Science and Conservation	DCCEEW—BSC	
Heritage NSW	DCCEEW—Heritage NSW	
Disability Discrimination Act 1992	DDA	
	DPE	The former NSW Department of Planning and Environment. On 1 January 2024, DPE was split within two new departments: the Department of Planning, Housing and Infrastructure (DPHI) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

	Acronym	Definition
	DPHI	The Department of Planning, Housing and Infrastructure. This department includes the former DPE—Planning group and DPE—Crown Lands.
	DPIE	The former NSW Department of Planning, Industry and Environment.
Determination		A decision by an approval authority for an SSI application to either approve the application subject to modifications or conditions or refuse to approve the application.
Enhancement site		Discrete sites within the proposal site that are proposed for infrastructure enhancement.
Environmental impact statement	EIS	The Inland Rail Albury to Illabo Environmental Impact Statement (ARTC, 2022).
Environmental Planning and Assessment Act 1979	EP&A Act	
Environmental Planning and Assessment Regulation 2021	EP&A Regulation	
NSW Environment Protection Authority	EPA	
Environment Protection Licence	EPL	
Gantry		An overhead metal structure with a frame supporting equipment such as a signals, lighting or cameras.
Inland Rail program		The Inland Rail program comprises the design and construction of a new Inland Rail connection between Melbourne and Brisbane, via Wagga, Parkes, Moree and Toowoomba. The route for Inland Rail is about 1,600km in length. Inland Rail will involve a combination of enhancements of existing rail track and the provision of new track.
Local Government Area	LGA	
Locomotive Noise Control Program	LNCP	
Kilometre	km	
Kilometres per hour	km/h	
Main South Line		A major rail line between Sydney and Albury, passing through the Southern Highlands, Southern Tablelands, South West Slopes and Riverina regions of NSW.
Major projects website (Planning Portal)		A part of the NSW Planning Portal, an initiative of the NSW Government to provide public access to planning services and information including documents or other information in the NSW planning database established under the Environmental Planning and Assessment Act 1979 (the EP&A Act). **pp.planningportal.nsw.gov.au/major-projects**
Matter		An element of the environment that may be affected by state significant infrastructure (e.g. air, amenity, biodiversity, economic, social).
Microsimulation model		A model that simulates traffic operations at a vehicle level and replicates vehicular behaviour in a virtual transport network environment.
Minister		NSW Minister for Planning and Public Spaces.
Metre	m	
Mitigation		Actions or measures to reduce the impacts of the project.
Narrabri to North Star Phase 1 Inland Rail Project	N2NS P1	
Noise Catchment Area	NCA	
Noise Management Level	NML	
NSW Environment Protection Authority (NSW EPA)	NSW EPA	
ozone limiting method	OLM	

	Acronym	Definition
Parkes to Narromine Inland Rail Project	P2N	
Passive level crossing		At-grade road crossing of the rail corridor that uses stop or give-way signs for motorists, and 'Look for trains' signs for pedestrians.
Pedestrian bridge		A bridge designed solely for pedestrians to cross a watercourse, rail corridor or road.
Planning Portal (Major projects website)		A part of the NSW Planning Portal, an initiative of the NSW Government to provide public access to planning services and information including documents or other information in the NSW planning database established under the *Environmental Planning and Assessment Act 1979* (the EP&A Act). **pp.planningportal.nsw.gov.au/major-projects**
Planning Secretary		Secretary of the Department of Environment, Housing and Infrastructure.
Preferred Infrastructure Report	PIR	The report prepared at the request of the Planning Secretary that outlines any proposed changes to the proposal to minimise its environmental impact or to deal with any other issue raised during the assessment of the application concerned (see the *State Significant Infrastructure Guidelines—Preparing a Preferred Infrastructure Report*).
The proposal		Proposed enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway between Albury and Illabo for the purpose of meeting Inland Rail specifications. This includes the proposal as described in the EIS and the proposed changes described in the Preferred Infrastructure Report.
The proposal site		The areas that would be directly impacted by the enhancement works for the Albury to Illabo section of Inland Rail. It includes the location of construction worksites, operational rail infrastructure, track realignment, new bridge structures, level crossings and other ancillary infrastructure.
Passenger car unit	PCU	
probable maximum flood	PMF	
project-specific noise levels	PSNL	
Rail possession		A period of time during which a rail line is blocked to trains to permit work to be carried out on or near the line.
Rail Infrastructure Noise Guideline	RING	
Rail Safety Audits	RSA	
serious and irreversible impacts	SAII	
Sydney Coordinated Adaptive Traffic System	SCATS	
Secretary's environmental assessment requirements	SEARs	The Planning Secretary's Environmental Assessment Requirements for the preparation of an EIS for the proposal.
Sensitive receivers		People and land uses in the study area that are sensitive to potential noise, air and visual impacts, such as residential properties, schools and hospitals.
Short stacking		Refers to when a vehicle does not clear the track at a level crossing as the distance between the level crossing and the nearby intersection is insufficient to accommodate the expected (or design) vehicle length with a safety factor of 5 m.
State significant infrastructure	SSI	Infrastructure that is declared to be SSI under section 5.12 of the EP&A Act.
Submission		A written response from an individual or organisation that is submitted to the Department of Environment, Housing and Infrastructure during the public exhibition of an EIS, amendment report, preferred infrastructure report or modification report for SSI.
Submissions Report		A report prepared by the proponent to respond to the issues raised in submissions.

	Acronym	Definition
vibration dose value	VDV	

Note on changes to the NSW Department of Planning and Environment

On 1 January 2024, the NSW Department of Planning and Environment (DPE) was split into two new departments—the Department of Planning, Housing and Infrastructure (DPHI) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

For the purposes of this report, agencies, divisions or groups of the former DPE have been referred to by their current department name. This includes past actions of DPE or advice received during the display of the Environmental Impact Statement or Preferred Infrastructure Report (PIR).

Agency, division or group of the former DPE	Current department	Term used in this report
Planning	DPHI	DPHI
Crown Lands	DPHI	DPHI—Crown Lands
NSW Environment Protection Authority (NSW EPA)	DCCEEW	NSW EPA
Biodiversity, Science and Conservation	DCCEEW	DCCEEW—BSC
Heritage NSW	DCCEEW	DCCEEW—Heritage NSW

Executive summary

Overview

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. The Inland Rail route would involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas (LGAs). Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports and supporting Australian's growth.

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these projects can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete.

ARTC is seeking approval to carry out enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway in the Albury to Illabo (A2I) section of the Inland Rail program (the proposal), to accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high. Enhancement works are required to provide the increased vertical and horizontal clearances required for double-stacked freight trains. Works would include track realignment, lowering and/or modification within the existing rail corridor, modification, removal or replacement of bridge structures (rail, road and/or pedestrian bridges), raising or replacing signal gantries, level-crossing modifications and other associated works.

As the alignment is presently operational, the proposal does not extend to those existing sections of the alignment where no works are required.

Approval process and EIS

The proposal is declared state significant infrastructure (SSI) and critical state significant infrastructure (CSSI) under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act). The proposal is permissible without development consent and is subject to assessment and approval by the NSW Minister for Planning and Public Spaces.

An environmental impact statement (EIS) was prepared to support ARTC's application for approval of the proposal in accordance with the requirements of the EP&A Act and the environmental assessment requirements of the Secretary of the (then) NSW Department of Planning, Industry and Environment (DPIE) (the SEARs) (now DPHI).

The EIS was placed on public exhibition by DPHI for a period of 42 days, commencing on 17 August 2022 and concluding on 28 September 2022. During the public exhibition period, submissions from the interested stakeholders, members of the community and local councils were received as well as advice from NSW Government agencies.

In response to the issues raised during the exhibition period, ARTC issued a Submissions Report alongside a PIR, which had been prepared in response to a direction issued by DPHI. The PIR provided further assessment of traffic and transport, noise and vibration, and air quality impacts from the proposal. Additionally, the PIR also considered changes to the exhibited proposal that arose as a consequence of the further assessments and related submissions.

The PIR was placed on public exhibition by DPHI for a period of 22 days, commencing on 15 November 2023 and concluding on 6 December 2023. Similar to the public exhibition of the EIS, interested stakeholders and members of the community were able to review the PIR online, participate in consultation and engagement activities held by ARTC, and make a written submission to DPHI for consideration in its assessment of the proposal.

Purpose of this report

This Submissions Report documents and considers the issues raised in submissions received by DPHI from the general community, organisations and local councils, as well as advice from government agencies during public exhibition of the PIR, in accordance with the requirements of Division 5.2 of the EP&A Act and as directed by the Secretary of the DPHI (under delegation).

ARTC has considered the content of the submissions and has prepared responses to the issues raised. To support this report, additional or revised assessments were completed to respond to agency advice or stakeholder submissions. This included:

- revisions to the traffic and transport assessment in response to advice or comments received from the Transport for NSW, local councils and the community. This included revisions to incorporate the Origin Destination surveys, adjustments to traffic growth rates within Wagga Wagga and adjustments to mitigation strategies during the closure of Edmondson Street bridge
- revisions to the operational rail noise assessment for some sensitive receivers due to corrections to distance to the rail line or the classification of the receiver type
- additional air quality assessment in response to advice from the NSW EPA, which included a contemporaneous assessment of particulates and nitrogen dioxide emissions
- revisions to the Revised Technical Paper 8: Biodiversity Assessment Development Report in response to advice from the DCCEEW – BSC This included further consideration of prescribed impacts on potential Sloane's Froglet habitat and inclusion of offset obligations as a result of these impacts as well as additional connectivity measures for the Squirrel Glider.

The report also provides an updated set of mitigation measures, which incorporate changes made to respond to issues raised in submissions. For the purpose of this Submissions Report, submissions on issues related to the proposal that fall outside the further assessment of traffic and transport, noise and vibration, and air quality impacts and changes to the exhibited proposal, as outlined in the PIR, are classified as matters beyond the scope of the PIR.

Overview of submissions

Of the 42 community and organisation submissions

3 Submissions provided support for the proposal

24 Submissions objected to the proposal

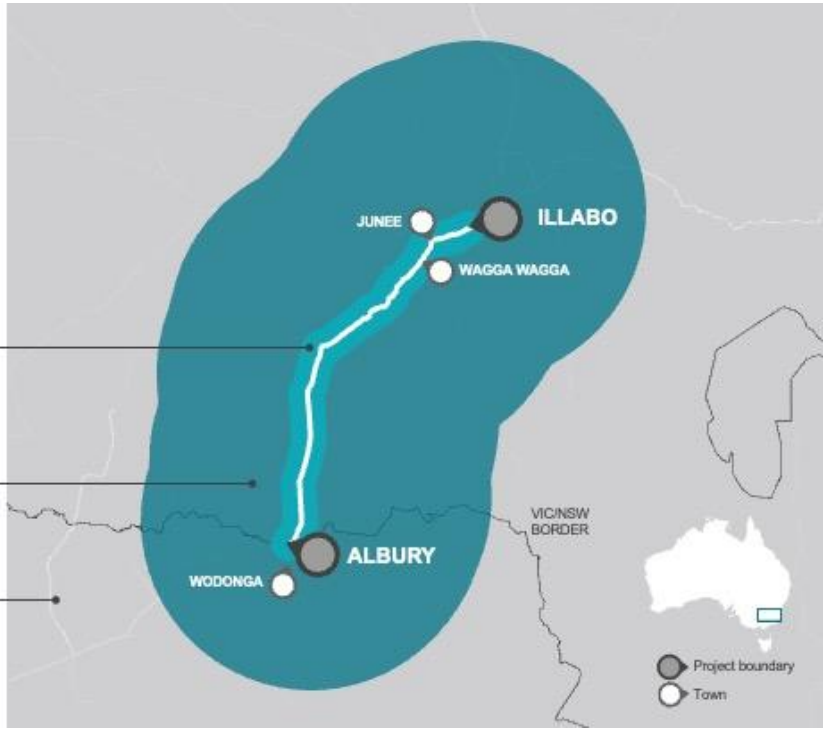
15 Submissions provided comments on the proposal

Distance of submissions from proposal site

95% WITHIN 5KM

2% 5KM – 100KM

0% OVER 100KM

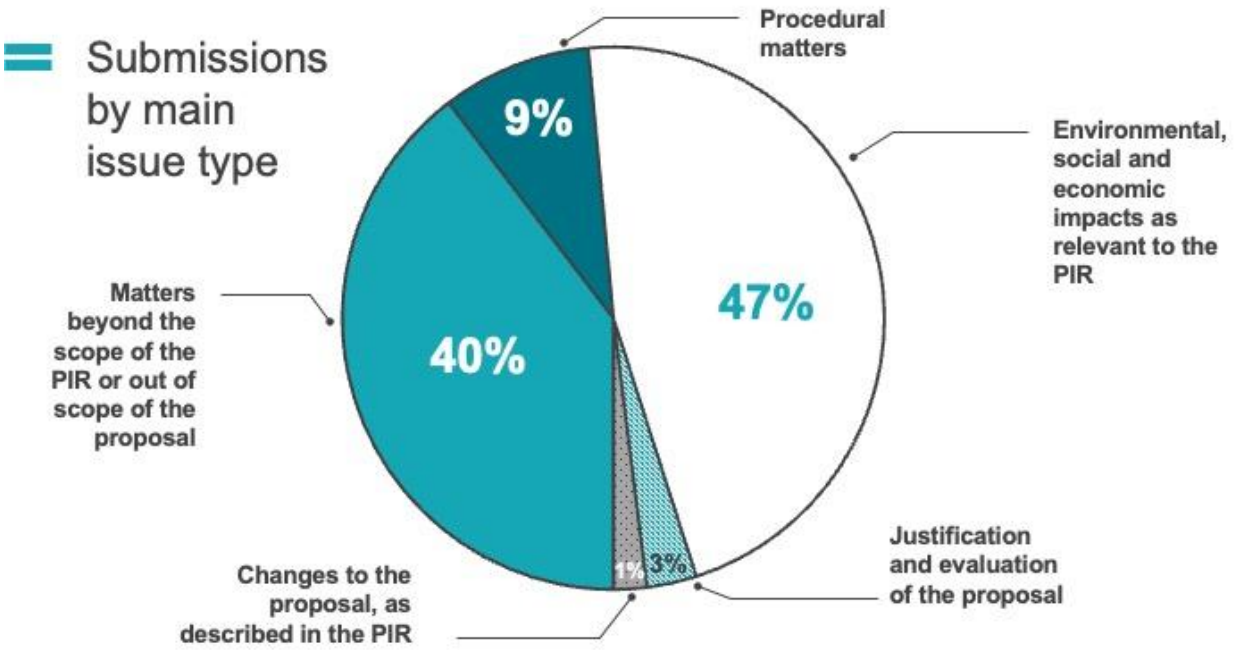


Issues raised

The key issues raised in submissions from the community and organisations included:

- matters beyond the scope of the PIR or of the proposal, including:
  - options and alternatives, such as a bypass of the City of Wagga Wagga
  - operation of the proposal, such as the design of the Edmondson Street road bridge and future train numbers
  - construction noise and vibration
- engagement
- directed assessments completed for the PIR, specifically:

- traffic and transport, with the majority focused on the impacts of the proposal within the City of Wagga Wagga during construction and operation
- operational rail noise and vibration
- operational air quality.



The two submissions received from public authorities (local councils) provided commentary on the proposal, specific to the focus of their LGA and did not indicate an objection to the proposal. Comments provided in the public authority submissions included the following key aspects:

- adequacy of the response provided in the PIR and the EIS Submissions Report to the issues raised by the community or councils, or the complexity of the EIS, PIR and EIS Submissions Report
- operation of the proposal, including train numbers, inclusion of noise barriers and the design of road and pedestrian bridges
- construction of the proposal, including a construction program with durations longer than described in the EIS
- traffic impacts during construction and operation, including impacts at level crossings and the associated social impacts, and mitigation measures
- operational rail noise and vibration, including mitigation measures
- social impacts, associated with traffic impacts or due to the demands for workers or accommodation.
- out of scope matters relating to the Bomen viaduct (Wagga Wagga) and the Olympic Highway Underbridge (Junee).

Advice from NSW Government departments or agencies

Advice was also received from 10 NSW Government departments and agencies. The issues raised were largely dependent on each stakeholder's technical discipline area and/or assets.

Mitigation measures

The updated mitigation measures are in Appendix B: Updated Mitigation Measures of this Submissions Report and supersede those presented in the EIS, the PIR and the EIS Submissions Report.

Conclusion

A copy of this PIR Submissions Report will be published by DPHI on the Major Projects NSW Planning Portal website (Planning Portal) (**pp.planningportal.nsw.gov.au/major-projects/projects/inland-rail-albury-illabo**).

On behalf of the NSW Minister for Planning and Public Spaces, DPHI will review the EIS, the EIS Submissions Report, PIR, the PIR Submissions Report and the accompanying technical report revisions and prepare a draft Environmental Assessment Report for the Planning Secretary, which may include recommended conditions of approval in accordance with the EP&A Act. The Planning Secretary's Environmental Assessment Report will be provided to the Minister, who will then approve the proposal with conditions, or refuse to approve the proposal. The Environmental Assessment Report and the Minister's determination will be published on the Planning Portal website following determination, including conditions of approval, should the proposal be approved.

Subject to approval of the proposal, the detailed design would be developed with the objective of minimising potential impacts on the environment and the community. The design and construction methodology would continue to be developed with this objective in mind, considering the input of stakeholders and the local community, and the conditions of approval.

1. Introduction

This Submissions Report for the Preferred Infrastructure Report (PIR) (PIR Submissions Report) has been prepared for the Albury to Illabo (A2I) section of the Inland Rail program (the proposal). The PIR Submissions Report addresses the direction made by the delegate for the Secretary of the Department of Planning, Infrastructure and Housing (DPHI) in accordance with section 5.17(6)(a) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and has been prepared with regard to the *State Significant Infrastructure Guidelines: Preparing a Submissions Report* (DPE, 2022).

1.1 Inland Rail program

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. The Inland Rail route would involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 LGAs. Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports and supporting Australia's growth.

Australian Rail Track Corporation Ltd (ARTC) is the proponent for Inland Rail. ARTC is fully owned by the Australian Government and was created after the Australian Government and state governments agreed in 1997 to the formation of single entity to manage and operate the national interstate rail network. Following the release of the findings of the Independent Review of Inland Rail in April 2023, Inland Rail Pty Ltd was established as a subsidiary of ARTC to build Inland Rail on behalf of the Australian Government. Further information on ARTC and Inland Rail can be found at artc.com.au and inlandrail.com.au.

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these sections can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete.

An overview of Inland Rail is shown in **artc.com.au** and **inlandrail.com.au**.

This PIR Submissions Report relates to the A2I section of the Inland Rail program (the proposal).

FIGURE 1-1: PROPOSED ALIGNMENT FOR THE INLAND RAIL PROGRAM

1.2 The proposal

The proponent is seeking approval to carry out enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway between Albury and Illabo, to accommodate double-stacked freight trains up to 1,800 m long and 6.5 m high.

Enhancement works are required to provide the increased vertical and horizontal clearances required for double--stacked freight trains. Works include track realignment; lowering and/or modification within the existing rail corridor; modification, removal or replacement of bridge structures (rail, road and/or pedestrian bridges); raising or replacing signal gantries; level crossing modifications; and other associated works.

As the alignment is presently operational, the proposal does not extend to those existing sections of the alignment where no works are required.

The land required for construction comprises the existing railway corridor at the work sites with additional areas at these locations to accommodate construction activities and ancillary facilities, which would be removed on construction completion, along with particular infrastructure. The proposal's final land requirement would maintain the existing operational railway corridor with additions to accommodate any revised infrastructure and associated operational requirements. Clearing the proposal site would occur as necessary to accommodate works and to maintain the safe operational area of the railway.

1.2.1 Location

The proposal is generally within the existing rail corridor (the Main South Line) extending from the town of Albury on the Victoria–NSW border to around 3 km to the north-east of Illabo. The Main South Line links Sydney with Melbourne with the A2I sections opened between 1877 and 1881.

The alignment passes through two major regional towns—Albury and Wagga Wagga in NSW—and several smaller regional towns. Works are proposed at 24 locations along the Main South Line corridor, described as 'enhancement sites'. The name and location of these enhancement sites are identified in Figure 1-2.

Further information on the location of the proposal and the enhancement sites is available in EIS Chapter 3: Location and setting.

1.2.2 Key features of the preferred infrastructure

The key features of the proposal as exhibited in the PIR include:

- adjustments to approximately 44 km of track across 14 enhancement sites to accommodate the vertical and horizontal clearances according to Inland Rail specifications, comprising:
  - realignment of track within the rail corridor at 14 enhancement sites
  - lowering of track up to 1.6 m at three enhancement sites
- changes to bridges and culverts at enhancement sites to allow track realignment as follows:
  - replacement of two road bridges with pedestrian access provided by new separate pedestrian bridges and adjustment to adjoining intersections
  - replacement of three pedestrian bridges
  - demolition of two redundant pedestrian bridges
  - modifications to four rail bridges
- ancillary works, including adjustments to nine level crossings, modifications to drainage and road infrastructure, signalling infrastructure, fencing, signage, and services and utilities.

Construction of the proposal would require:

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

No additional works would be required outside the enhancement sites identified in Figure 1-2 as they meet the clearance requirement for the Inland Rail program.

A full description of the updated proposal is in Appendix A of the PIR.

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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1.2.3 Operation

The proposal would form part of the rail network managed and maintained by ARTC. Train services would be provided by a variety of operators. Current train services run 24-hours per day on this part of the rail network; there is no current restriction on the length of trains other than infrastructure limitations.

1.2.3.1 Train speeds and lengths

The proposal would enable the use of double-stacked trains along its entire length. Inland Rail would operate 24-hours per day and would accommodate double-stacked freight trains up to 6.5 m high and up to 1,800 m in length (see Figure 1-3).

Inland Rail freight trains would travel at speeds up to 115 km/h, which is consistent with current freight train maximum speeds. Trains may travel at speeds less than 115 km/h for operational or safety reasons, including rollingstock capability and performance, management of braking and acceleration on steep grades, and occupancy of the line by other trains.

The approval would limit Inland Rail train operations to 1,800 m, with rail infrastructure built having regard to that limitation.

FIGURE 1-3: INDICATIVE HEIGHT AND LENGTH OF A DOUBLE-STACKED INLAND RAIL FREIGHT TRAIN

1.2.3.2 Train numbers

The average number of freight train movements between Albury and Illabo varies in different sections of the line as there are several connections to other routes, along with terminals, at sites along the alignment. For example, north of Junee yard, the freight train numbers are slightly higher, as regional freight trains connect from the Junee to Griffith rail line onto the Main South Line. Currently, there are up to 12 freight trains per day (combined total of freight trains in both directions). There is some seasonality effect on train numbers due to agricultural commodity shipments.

Anticipated train numbers remain as reported in the EIS and have not been revised, with 2040 retained as the design year for assessment purposes. It is estimated that the operation of Inland Rail would increase freight train movements to a total of 18 freight trains per day in the early phase of Inland Rail's operation when all projects are completed, and up to a total of 20 freight trains per day over the following years on further take up of the service (see Table 1-1 for further information). Train numbers are not expected to immediately increase on completion of construction of the A2I project, given the staged delivery of Inland Rail. A schematic diagram of Inland Rail and the interstate and regional freight rail networks is provided as Figure 1-4, showing the significant connection points. There is some seasonality effect on train numbers due to agricultural commodity shipments.

TABLE 1-1: BREAKDOWN OF TRAIN NUMBERS BY SECTION OF THE PROPOSAL

Section of the proposal	Train service	Daily train numbers		
		Current	2025	2040
Albury yard to Junee yard	Freight	12	15	18
	Passenger	4[1]	4[1]	4[1]
Junee yard to Illabo	Freight	**12**[2]	**18**[2]	**20**[2]
	Passenger	4	4	4

Note:

1. Melbourne to Albury V/Line services that terminate at Albury yard have not been included. It is assumed there is no growth in passenger services.
2. Bold font represents maximum freight train value in each year.

1.2.3.3 Maintenance

ARTC would continue to maintain the line during operations. Maintenance would typically involve minor works, such as bridge and culvert inspections, rail grinding and track tamping, through to major maintenance, such as reconditioning of track and topping up of ballast, as required. Maintenance works and schedules are not proposed to change as a result of the proposal. Approval is not sought for such operational maintenance activities, as other planning and environmental approval controls apply and these activities would continue in accordance with the existing Environment Protection Licence (EPL) that applies to the rail corridor (EPL 3142).

1.2.4 Timing

In response to the Independent Review of Inland Rail, the Australian Government has prioritised completing the sections of Inland Rail between Beveridge in Victoria and Narromine in New South Wales by 2027. In line with the government's response to the review, ARTC is now taking a staged approach to Inland Rail, with a focus south of Parkes on construction and delivery to progressively unlock the benefits of Inland Rail ahead of end-to-end completion. North of Parkes, attention is on obtaining approvals, securing the route and refining cost and delivery arrangements ahead of commitments for construction.

Subject to approval, detailed design and construction planning for A2I would commence shortly after, in mid-2024. Due to the nature of the works, construction of some elements would also commence shortly after approval. Construction is expected to take about 30 months for completion by the end of 2026, with enhancement sites progressively commissioned on completion of construction. Rail operations would continue throughout construction.

1.3 Statutory context

The proposal is declared state significant infrastructure (SSI) and critical state significant infrastructure (CSSI) under Division 5.2 of the EP&A Act. The proposal is permissible without development consent and is subject to approval by the NSW Minister for Planning and Public Spaces under Division 5.2, Part 5 of the EP&A Act.

An EIS was prepared to support ARTC's application for approval of the proposal in accordance with the requirements of Division 5.2 of the EP&A Act. The EIS addressed the Secretary's environmental assessment requirements (SEARs) for the proposal, which were issued by the (then) Department of Planning, Industry and Environment (DPIE) on 14 October 2020. In 2024, the department changed its name to the Department of Planning, Housing and Infrastructure (DPHI).

1.4 EIS and PIR exhibitions

The EIS was placed on public exhibition by DPHI for a period of 42 days, commencing on 17 August 2022 and concluding on 28 September 2022. In response to the issues raised during the exhibition period, ARTC issued a Submissions Report alongside a PIR, which had been prepared in response to a direction issued by DPHI.

The PIR was placed on public exhibition by DPHI for a period of 22 days, commencing on 15 November 2023 and concluding on 6 December 2023. Similar to the public exhibition of the EIS, interested stakeholders and members of the community were able to review the PIR online, participate in consultation and engagement activities held by ARTC, and make a written submission to DPHI for consideration in its assessment of the proposal.

Engagement activities completed by ARTC during the public exhibition of the PIR is provided in section 1.5.

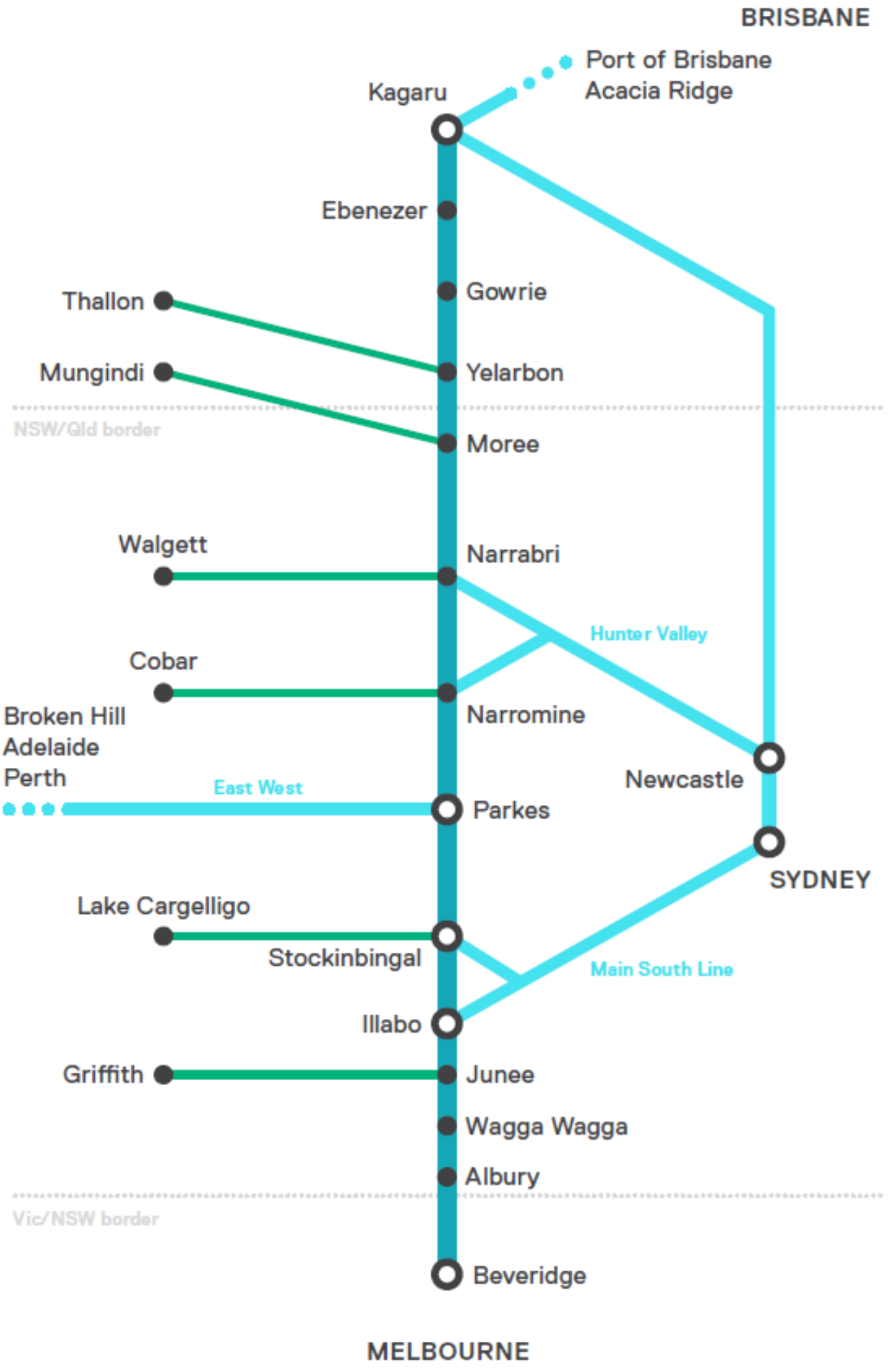

FIGURE 1-4: SCHEMATIC DIAGRAM OF INLAND RAIL, THE INTERSTATE AND REGIONAL RAIL NETWORK

1.5 Engagement

1.5.1 Engagement undertaken during the Preferred Infrastructure Report exhibition

The PIR was placed on public exhibition and made publicly available on the Planning Portal by DPHI between 15 November 2023 to 6 December 2023 (available at: **planningportal.nsw.gov.au/major-projects/projects/inland-rail-albury-illabo**).

A summary of the engagement activities and tools used by ARTC during public exhibition of the PIR is provided in Table 1-2.

TABLE 1-2: CONSULTATION DURING THE PIR EXHIBITION PERIOD

Activity	Detail
Website updates	There were two key updates posted to the proposal-specific part of the Inland Rail website (available at: **inlandrail.artc.com.au/where-we-go/projects/albury-to-illabo/**), including: ▸ notice of upcoming PIR lodgement and public exhibition on 3 November 2023 ▸ notice of first day of the exhibition period and links to access the PIR on the DPHI website and the Summary of Findings on the Inland Rail website on 15 November 2023. There were a total of 2,785 visits to proposal-specific parts of the Inland Rail website during the PIR exhibition period.
Community e-news	A community e-newsletter was sent to all 1,390 registered stakeholders mailing list on 15 November 2023. This comprehensive database of stakeholders included contact details of affected and non-affected landowners, interested community members, business groups, Community Consultative Committee (CCC) members and key stakeholders. The email blast provided an overview of the PIR and exhibition process, links to the PIR and EIS Submissions Report, Summary of Findings document, where to find more information about the proposal, and the process of making a formal submission to the DPHI.
Letters	A total of 1,635 letters were sent out to those predicted to be affected by operational rail noise ahead of the PIR exhibition. The letter contained details of locations, date, and time where community information sessions would be held to support the community to make a submission to the DPHI and to provide an opportunity to seek more information from Inland Rail on the PIR findings.
Advertisements	Advertisements were placed in the Albury Border Mail, Wagga Daily Advertiser and the Junee Independent for three separate campaigns including: ▸ awareness of the upcoming PIR exhibition on 9 November 2023 ▸ notice of the upcoming community drop-in sessions during the PIR exhibition on 15 November 2023 ▸ notice that the PIR exhibition period would close soon on 29 November 2023. An additional two advertisements were placed in the Wagga Daily Advertiser on 24 November 2023 and 27 November 2023 to advise the community that the Wagga Wagga community drop-in session has been rescheduled to 28 November 2023.
Phone and email	ARTC published the community engagement contact details (phone and email) on all public exhibition advertising. This included the community engagement hotline (phone: 1800 732 761) and email inlandrailnsw@artc.com.au. Ongoing engagement via the Inland Rail community engagement hotline (phone: 1800 732 761) and email address (inlandrailnsw@artc.com.au).
Social media	The social media campaign consisted of five geo-targeted paid ads run on Facebook and Instagram, including: ▸ 'Get ready'—promoting public exhibition coming up from 15 November to 6 December 2023 ▸ notification of community information sessions (10–14 November 2023) ▸ 'We're here to help'—promoting PIR now on public exhibition, community information sessions and making a submission (15–23 November 2023) ▸ 'More info available'—directing to the A2I website (24–29 November 2023) ▸ 'Closing soon'—making a submission (30 November to 6 December 2023). Additional social media was produced regarding the postponement and rescheduling of the Wagga Wagga community information session. All posts linked to the proposal-specific part of the Inland Rail website (available at: **inlandrail.artc.com.au/where-we-go/projects/albury-to-illabo**/), which was updated throughout the campaign.

Activity	Detail
Media coverage	A media release was sent to local and industry publications advising of the PIR submission to DPHI and upcoming public exhibition period, including community information sessions on 3 November 2023. Ten interviews were conducted with various media outlets across TV, newspaper, radio and online news platforms, including: ▸ WIN News Wagga Wagga (TV) ▸ Seven News Wagga Wagga (TV) ▸ 7 News Border (TV) ▸ The Border Mail (print) ▸ Wagga Daily Advertiser (print) ▸ Junee Independent (print) ▸ ABC Riverina (radio) ▸ Riotact (online) ▸ Region Riverina (online) ▸ Rail Express (online).
Community drop-in sessions	Four community drop-in sessions were held across the Albury to Illabo alignment to provide interested stakeholders an opportunity to access further information, the Summary of Findings document and to receive guidance on how to make a submission to DPHI. Community information sessions were held at the following locations: ▸ Albury Library Museum on 20 November 2023 (6 attendees) ▸ Henty Library on 21 November 2023 (40 attendees) ▸ Wagga Wagga Library (this event was postponed) on 22 November 2023 (30 attendees). Although this session was postponed, some Inland Rail staff did attend the session to advise community members who were not aware it had been postponed and to provide interested stakeholders an opportunity to access further information. ▸ Junee Athenium Theatre on 23 November 2023 (40 attendees). ▸ Kyeamba Hall at Wagga Wagga Showgrounds (this was the rescheduled event in Wagga Wagga) on 28 November 2023 (130 attendees).

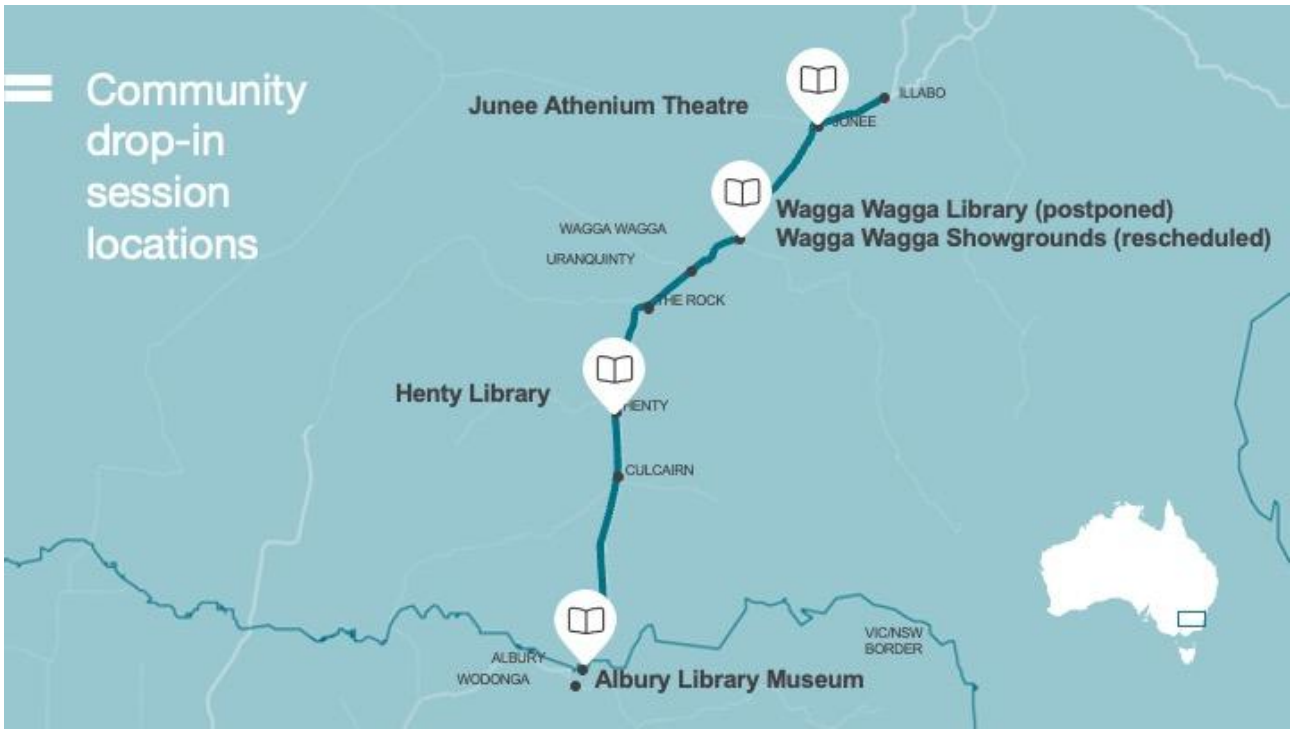

FIGURE 1-5: LOCATIONS OF THE COMMUNITY DROP-IN SESSIONS

1.5.2 Engagement undertaken since the exhibition of the Preferred Infrastructure Report

General engagement with stakeholders since the exhibition of the PIR has consisted of community updates through a newsletter in December 2023 that provided an update on the exhibition of the PIR, next steps in the assessment process and further information on key issues raised in submissions. Other engagement specific to early detailed

design development has involved design meetings on particular enhancement sites with various stakeholders such as Transport for NSW, local councils and UGL Regional Linx.

Refer to Chapter 3 for engagement activities related to closing out issues raised in submissions and agency advice.

1.5.3 Ongoing engagement

Ongoing consultation with the community and key stakeholders will be held in the lead up to, and during, construction (should the proposal be approved). The consultation activities will ensure that:

- landowners, community and stakeholders have a high level of awareness of all processes and advanced notice of activities associated with the proposal
- accurate and accessible information is made available
- a timely response is given to issues and concerns raised by the community
- feedback from the community is encouraged
- opportunities for input are provided.

During construction, a comprehensive communication plan will be developed and implemented. This plan will include the Inland Rail community engagement hotline and email address, along with a 24-hour construction response line. Targeted consultation methods, such as letters, notifications, signage and face-to-face communications, will continue. The Inland Rail website and social media platforms will also include updates on the progress of the proposal.

A complaints management system would also be implemented prior to the commencement of construction. It would be maintained throughout the construction period and for a minimum of 12 months after construction finishes.

1.6 Purpose and structure of this report

ARTC was provided with copies of the submissions received on the proposal during public exhibition of the PIR by DPHI. On 13 December 2023, ARTC was requested to prepare a written response to all issues raised in submissions and agency advice, in accordance with section 5.17(6)(a) of the EP&A Act.

This PIR Submissions Report has regard for the *State Significant Infrastructure Guidelines* (DPE, 2022b), including the form and content requirements for Submissions Reports as outlined in *State Significant Infrastructure guidelines—preparing a Submissions Report* (DPE, 2021). Table 1-3 provided an outline of the report structure.

TABLE 1-3: REPORT STRUCTURE

Guideline requirement	Where addressed in this Submissions Report
Introduction to the proposal and the assessment that has been carried out to date	Chapter 1: Introduction
Breakdown of submissions and categorisation of the issues raised	Chapter 2: Analysis of submissions
A summary of the detailed responses completed in response to submissions or NSW Government agency advice as well as further engagement that has been carried out since public exhibition of the PIR.	Chapter 3: Actions taken since exhibition
A summary of the issues raised in submissions and ARTC's response to the issues raised	Chapter 4: Response to submissions
A summary of the advice received from NSW Government departments or agencies and ARTC's response to the issued raised	Chapter 5: NSW Government department or agency advice
Updated justification of the proposal and conclusion	Chapter 6: Conclusion

Guideline requirement	Where addressed in this Submissions Report
Appendices including	▸ Appendix A: Submissions Register ▸ Appendix B: Updated Mitigation Measures ▸ Appendix C: Updated Construction Environmental Management Plan ▸ Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport ▸ Appendix E: Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) ▸ Appendix F: Addendum Assessment to Technical Paper 14: Air Quality ▸ Appendix G: Revised Technical Paper 8: Biodiversity Development Assessment Report

2. Analysis of submissions and agency advice

This Submissions Report documents and considers the issues raised in submissions received by DPHI from the general community, organisations and local councils, as well as advice from government agencies during public exhibition of the PIR, in accordance with the requirements of Division 5.2 of the EP&A Act and as directed by the Secretary of the DPHI (under delegation).

This chapter provides an analysis of the submissions received, including a breakdown by submitter type and key issues raised.

2.1 Submissions and agency advice received

During the exhibition period of the PIR (15 November 2023 to 6 December 2023), submissions were invited from the community and other stakeholders. The receipt of submissions was coordinated and managed by DPHI. Submissions were received and registered by DPHI and uploaded onto the Planning Portal (available at: **planningportal.nsw.gov.au/major-projects/projects/inland-rail-albury-illabo**). Submissions were received by electronic online submission or by post and were provided to ARTC for review and consideration.

A total of 44 submissions (Figure 2-1) were received and registered on the Planning Portal website according to three categories:

- community — 41 submissions
- organisations — one submission.
- public authorities — two submissions.

Advice was also received from 10 NSW Government departments and agencies, some of which provided more than one response.

A breakdown of the 44 submissions and the advice (total of 54) registered on the Planning Portal website by category type is in Table 2-1.

TABLE 2-1: BREAKDOWN OF SUBMISSIONS OR ADVICE REGISTERED ON THE PLANNING PORTAL WEBSITE BY TYPE

Category	Group	Total
Community	Members of the community	41
Organisations	Representative groups, including community groups	1
Public authorities	Local councils	2
NSW Government department and agency advice	Divisions of DPHI and other NSW Government departments or agencies	10
Total		**54**

FIGURE 2-1: BREAKDOWN OF SUBMISSIONS BY SUBMITTER TYPE

2.2 Approach to analysis of submissions

2.2.1 Community and organisation submissions

The analysis of community and organisation submissions involved three levels of categorisation in the following order:

- categorisation of main issue type
- categorisation of key issue type
- categorisation of sub-issue type.

Issues raised in each submission were assigned a main issue type according to the five main issue types identified by the *State significant infrastructure guidelines—preparing a Submissions Report* (DPE, 2022):

- the proposal
- procedural matters
- environmental, social and economic impacts relevant to the PIR assessments
- justification and evaluation of the proposal
- issues that are beyond the scope of the PIR or are outside of the scope of the proposal.

Each type of issue was then categorised into key issues and then further categorised into sub-issues. For example, a submission relating to construction noise impacts at a residential receiver would be categorised as: main issue—environmental, social and economic impacts; and the key issue—noise and vibration; and the sub-issue—construction noise (see Figure 2-2).

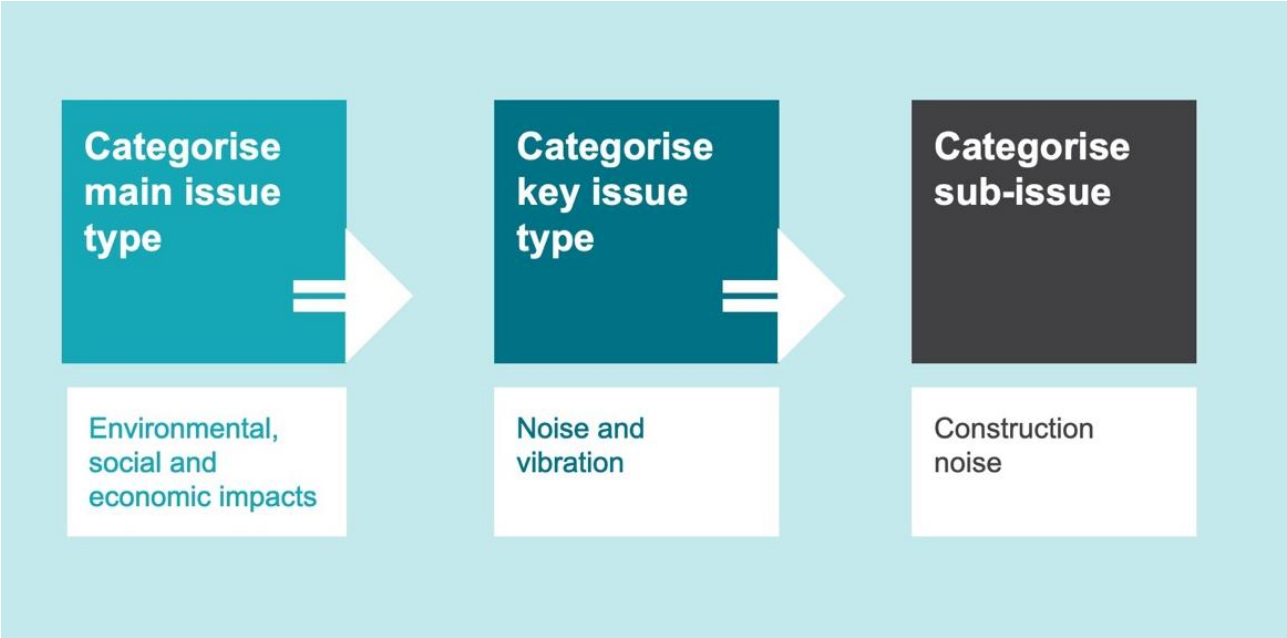

FIGURE 2-2: APPROACH FOR CATEGORISATION OF ISSUES

Responses to the issues raised in submissions from the community, organisations and public authorities are provided in Chapter 4: Response to submissions, according to the key issue and sub-issue categories. Where relevant, input to the responses was sought from the technical specialists who assisted with preparing the EIS and PIR.

Each issue identified in Chapter 4 is presented as a summary of the issues raised by individual submissions. This means that, while the exact wording of a particular submission may not be present in the summary of the issue, the intent of issues raised has been captured. A response has been provided to each grouped issue summary, which may be relevant across multiple submissions.

Appendix A: Submissions register contains a table identifying community and organisation submissions using a unique identifier. For each submission, the table presents a cross reference to where the issues have been addressed in Chapter 4 of this PIR Submissions Report. All submissions are available to view on the Planning Portal (**planningportal.nsw.gov.au/major-projects/projects/inland-rail-albury-illabo**).

2.2.2 Public authority submissions and NSW Government department or agency advice

An assessment of each local council's submission or NSW Government department or agency advice was undertaken, with each submission individually reviewed to understand the issues, and a summary was prepared for each key issue. Issues raised in the submissions or advice were not further categorised into sub-issues as the issues raised were largely dependent on each stakeholder's technical discipline area and/or assets; instead, a direct response to each public authority submission and NSW Government department or agency is provided in section 4.2 and Chapter 5, respectively. Where relevant, input to the responses was sought from the specialists who assisted with preparation of the EIS.

2.2.3 Support, comment or objection

A breakdown of the submissions from the community and organisations providing support, objection and comments is in Figure 2-3.

FIGURE 2-3: BREAKDOWN OF SUPPORT AND OBJECTION FROM THE COMMUNITY AND ORGANISATIONS' SUBMISSIONS

2.3 Community and organisations' submissions

2.3.1 Summary of submissions

Submissions received from the community and organisations are categorised by the main categories in Figure 2-4 and by key issue type in Figure 2-5. Figure 2-6 provides a further breakdown of the issues categorised as matters beyond the scope of the PIR. The key issue types are further categorised in Table 2-2 by sub-issue.

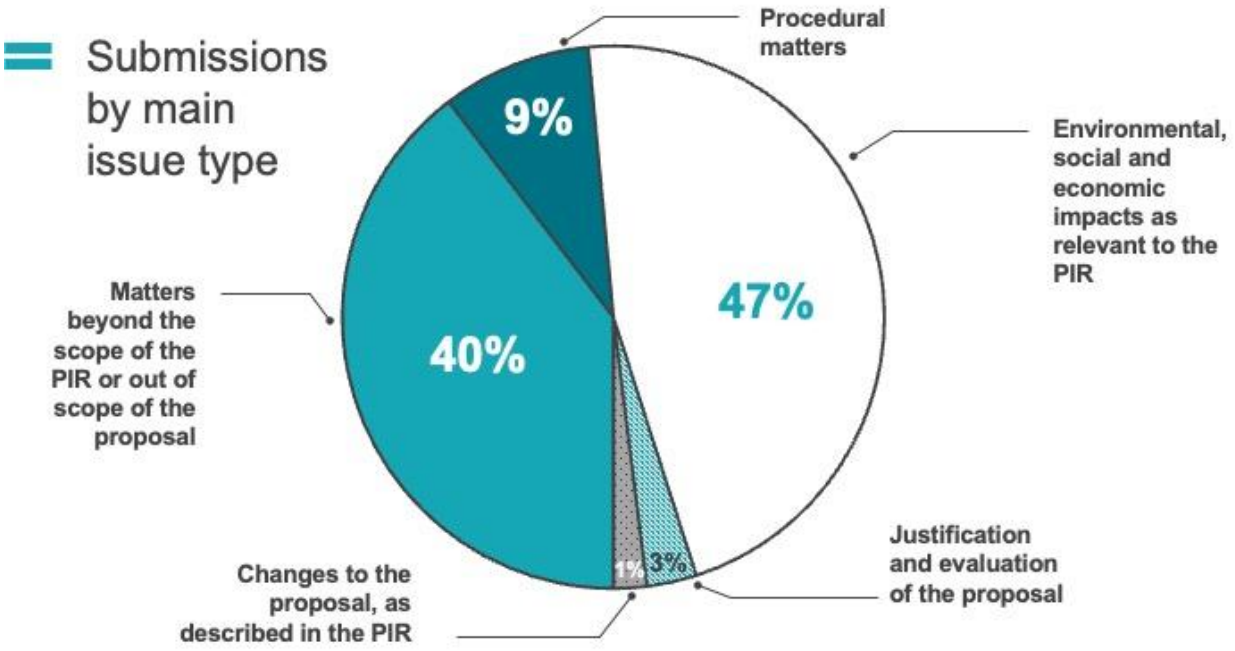

FIGURE 2-4: MAIN CATERGORIES FOR COMMUNITY AND ORGANISATION SUBMISSIONS

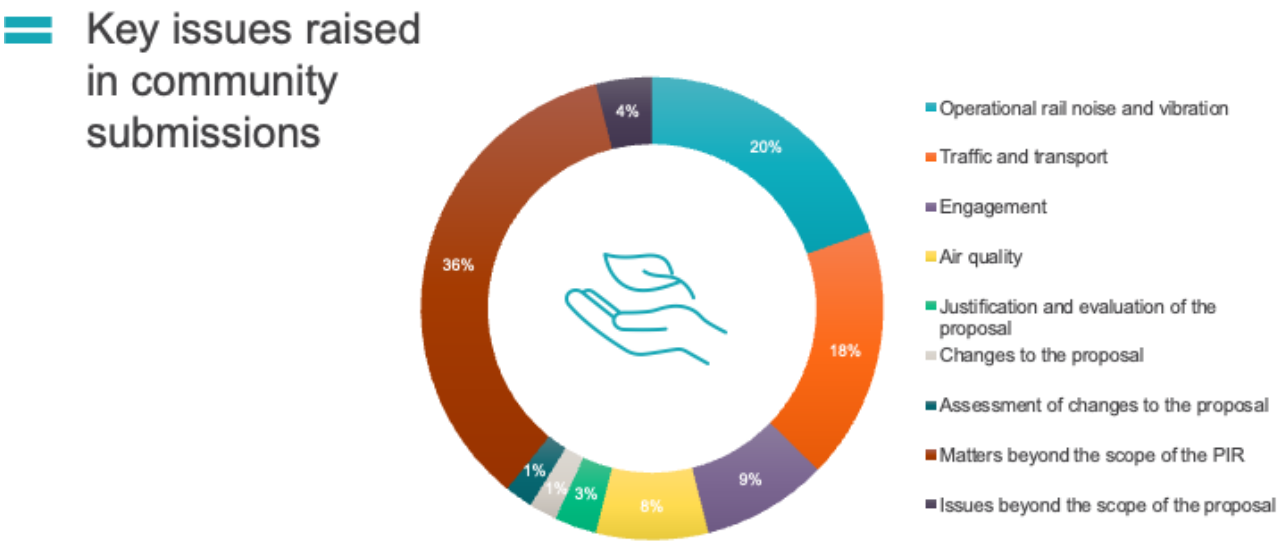

FIGURE 2-5: KEY ISSUES RAISED IN COMMUNITY AND ORGANISATION SUBMISSIONS

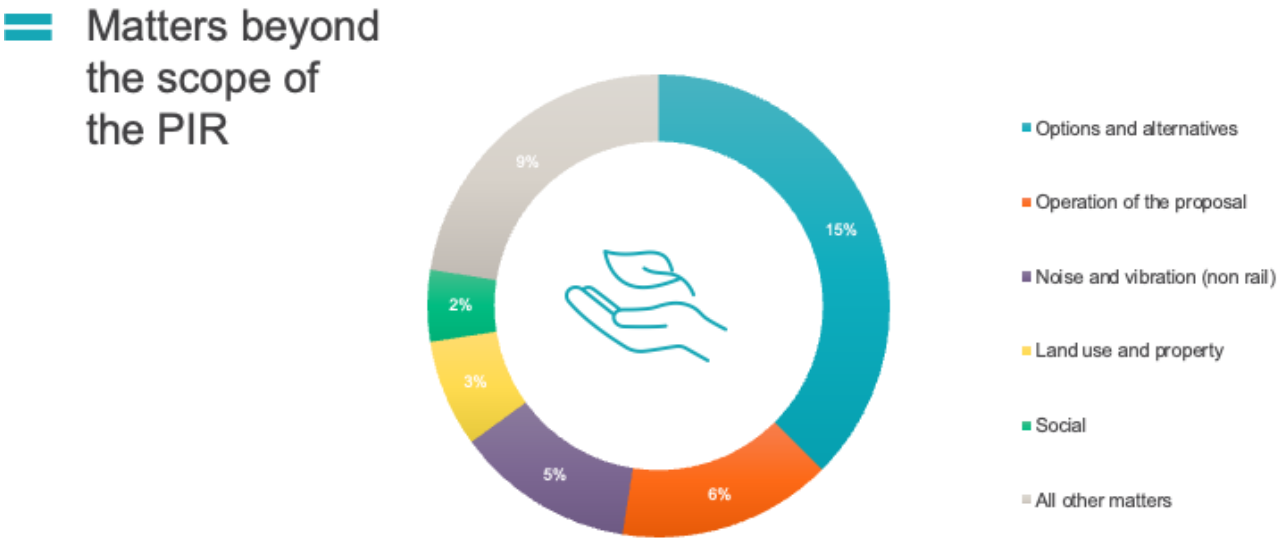

FIGURE 2-6: SUB-ISSUES RAISED IN COMMUNITY AND ORGANISATION SUBMISSIONS CONCERNING MATTERS BEYOND THE SCOPE OF THE PIR

TABLE 2-2: SUMMARY OF KEY ISSUES AND SUB-ISSUES RAISED IN SUBMISSIONS FROM THE COMMUNITY AND ORGANISATIONS

Category	Key issue	Sub-issue	Number of submissions issue was raised in	Percentage of the total number of issues [1]
Procedural	Engagement	Engagement prior to and during the EIS display	5	2.4%
		Engagement since the exhibition of the PIR	13	6.2%
		Subtotal	**18**	**9% (rounded)**
Justification and evaluation of the proposal	Justification and evaluation	N/A	6	2.9%
		Subtotal	**6**	**3% (rounded)**
The proposal	Changes to the proposal	Road and pedestrian bridges	3	1.4%
		Subtotal	**3**	**1% (rounded)**
The economic, environmental and social impacts within the scope of the PIR	Traffic and transport	Impacts within Wagga Wagga—assessment approach	3	1.4%
		Impacts within Wagga Wagga—traffic impacts during closure of Edmondson Street bridge	13	6.2%
		Impacts within Wagga Wagga—construction mitigation and management measures	5	2.4%
		Impacts within Wagga Wagga—operational impacts	7	3.3%
		Other assessments—active transport	1	<1%
		Other assessments—social impacts associated with level crossing closures	9	4.3%
	Operational rail noise and vibration	Assessment approach	4	1.9%
		Impact assessment	18	8.6%
		Mitigation and management	20	9.5%
	Operational air quality	Assessment approach	3	1.4%
		Impact assessment	10	4.8%
		Mitigation and management	3	1.4%
	Assessment of changes to the proposal	Noise and vibration	1	<1%
		Social	1	<1%
		Subtotal	**98**	**47% (rounded)**
Matters beyond the scope of the PIR or out of scope of the proposal	Matters beyond the scope of the PIR	Options and alternatives—Inland Rail Program	3	1.4%
		Options and alternatives—Level crossings	6	2.9%
		Options and alternatives—Wagga Wagga bypass	22	10.5%
		Operation of the proposal	13	6.2%
		Traffic and transport	4	1.9%

Category	Key issue	Sub-issue	Number of submissions issue was raised in	Percentage of the total number of issues [1]
		Noise and vibration	10	4.8%
		Land use and property	6	2.9%
		Visual and landscape	3	1.4%
		Social	5	2.4%
		Hydrology, flooding and water quality	1	<1%
		Other assessment matters	1	<1%
		Support for the proposal	3	1.4%
	Matters beyond the scope of the proposal	Rail infrastructure	3	1.4%
		Other issues	5	2.4%
		Subtotal	**85**	**40% (rounded)**
		Total	**210**	

1 Percentages have been rounded and do not add to 100%

2.4 Locations of community and organisations' submissions

2.4.1 Level of community and organisation interest

The majority (86 per cent) of these submitters were located within the Wagga Wagga LGA. A breakdown of the level of community and organisation interest based on distance of submissions from the proposal site is shown in Figure 2-7.

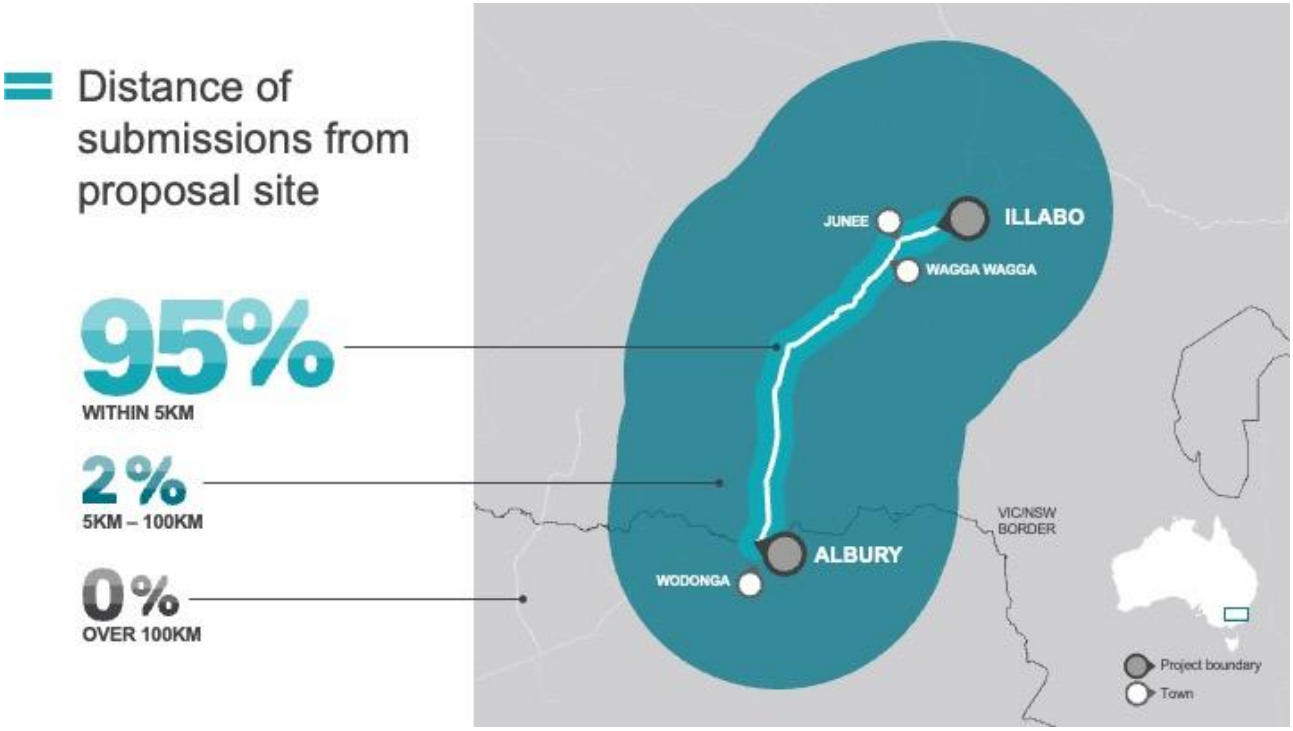

FIGURE 2-7: BREAKDOWN OF THE LEVEL OF COMMUNITY AND ORGANISATION INTEREST BASED ON DISTANCE OF SUBMISSIONS FROM THE PROPOSAL SITE

2.4.2 Key issues in each precinct

As identified in section 2.4.1, the majority of submitters are located within the Wagga Wagga precinct. The key issues raised in this precinct are reflected in the outline of issues presented in Table 2-2, with a focus on:

- the impacts on traffic during construction and operation, particularly impacts at level crossings and impacts during the closure of Edmondson Street road bridge
- the engagement completed by ARTC
- operational air quality impacts
- operational rail noise and vibration (including mitigation)
- issued beyond the scope of the PIR or the proposal, such as the options and alternatives of the proposal (specifically request for a bypass of the City of Wagga Wagga).

For submitters located beyond the Wagga Wagga precinct, the key issues focused on:

- changes to the proposal as detailed in the PIR
- impacts at level crossings, including in rural areas and townships, as well as impacts of driver changeover in Junee
- operational rail noise and vibration impacts, and mitigation measures (including visual impacts)
- operational air quality impacts, and mitigation measures.

2.5 Public authority submissions

2.5.1 Summary of submissions

Submissions were received from the following two local councils in response to the PIR during the exhibition period:

- Wagga Wagga City Council
- Junee Shire Council.

The submissions received from public authorities were reviewed, and each identified issue was summarised and addressed. A response to each public authority submission is provided in section 4.2.

2.6 NSW Government department or agency advice

Advice was received from the following 10 NSW Government departments and agencies in response to the PIR during the exhibition period:

- Transport for NSW
- NSW EPA
- DCCEEW—Water
- DCCEEW—Biodiversity, Science and Conservation
- DCCEEW—Heritage NSW—Aboriginal heritage
- DCCEEW—Heritage NSW—non-Aboriginal heritage
- DPHI—Crown Lands
- NSW Department of Primary Industries (DPI)—Agriculture
- NSW DPI—Fisheries
- NSW Rural Fire Service.

The advice received from these departments and agencies were reviewed and each identified matter was summarised and addressed. A response to each department and agency is in Chapter 5: NSW Government department and agency advice.

3. Actions taken since exhibition

This chapter details the activities that have been carried out by the proponent since the public exhibition of the PIR including further assessment and engagement.

3.1 Detailed responses to submissions

Detailed response to traffic and transport matters

The Addendum Assessment to Technical Paper 1: Traffic and Transport has been updated to address the specific matters raised by Transport for NSW and Wagga Wagga City Council, and is presented in Appendix D. This included revisions to incorporate the Origin Destination surveys, adjustments to traffic growth rates within Wagga Wagga and adjustments to mitigation strategies during the closure of Edmondson Street bridge.

A full response to the matters raised by Transport for NSW and Wagga Wagga City Council is provided in section 5.1 and 4.3.1 respectively.

Detailed response to operational rail noise and vibration matters

The Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) has been prepared to address the specific matters raised by NSW EPA and community submissions, and is presented in Appendix E. This included revisions to the operational rail noise assessment for some sensitive receivers due to corrections to distance to the rail line or the classification of the receiver type.

A full response to the matters raised by the NSW EPA is provided in section 5.2.

Detailed response to operational air quality matters

The Addendum Assessment to Technical Paper 14: Air Quality has been updated to address the specific matters raised by NSW EPA, including a contemporaneous assessment of particulates and nitrogen dioxide emissions. Thisis presented in Appendix F.

A full response to the matters raised by the NSW EPA is provided in section 5.2.

Detailed response to biodiversity matters

The Revised Technical Paper 8: Biodiversity Development Assessment Report has been updated to address the specific matters raised by DCCEEW, and is presented in Appendix G. This included further consideration of prescribed impacts on potential Sloane's Froglet habitat and inclusion of offset obligations as a result of these impacts as well as additional connectivity measures for the Squirrel Glider.

A full response to the matters raised by the DCCEEW is provided in section 5.4.

3.2 Further engagement

Engagement undertaken by ARTC with key stakeholders since the exhibition of the PIR is summarised in Table 3-1.

TABLE 3-1: SUMMARY OF ENGAGEMENT UNDERTAKEN WITH KEY STAKEHOLDERS SINCE THE EXHIBITION OF THE PIR

Stakeholder	Engagement carried out	Engagement outcome
Junee Shire Council	A face to face meeting was held between ARTC and Junee Shire Council on 5 February 2024.	ARTC provided an update on the work carried out to address issues raised in Junee Shire Council's submission on the PIR.
NSW EPA	An online meeting was held between ARTC and the NSW EPA on 9 February 2024.	ARTC provided an update on the work carried out to address air quality and operational rail noise issues raised in the advice from the NSW EPA on the PIR.
Transport for NSW	An online meeting was held between ARTC and Transport for NSW on 7 February 2024.	ARTC provided an update on the work carried out to address comments received on the traffic modelling in the PIR and other transport and traffic related issues raised in the advice from Transport for NSW on the PIR.
Wagga Wagga City Council	A face to face meeting was held between Wagga Wagga City Council on 5 February 2024.	ARTC provided an update on the work carried out to address issues raised in Wagga Wagga City Council's submission on the PIR.

4. Response to submissions

4.1 Community submissions

4.1.1 Engagement

4.1.1.1 Engagement prior to and during exhibition of the EIS

Submission ID numbers

19, 20, 23, 38, 41

Summary of issues

Five submissions raised concerns about the adequacy of community consultation prior to and during exhibition of the EIS.

Four submissions stated they had little to no knowledge of the proposal, despite requests for open hearings, with some submitters stating they received only one form of communication relating to the proposal. Submitters raised concern that not enough consultation had been undertaken with the community, particularly those living close to the railway line, and felt that this was not undertaken early enough in the planning and design process. Submissions expressed general opposition to the proposal due to the lack of proper community consultation and expressed a lack of opportunity to provide meaningful feedback.

One submission stated that they were not provided adequate time to read and review the EIS, and suggested an extension to the submission period for the PIR. Further, concerns were expressed over insufficient evidence within the EIS, and that they did not feel the EIS provided 'accurate, honest information' and 'timely engagement'.

Regarding the approval process, one submitter stated that ARTC had rushed through the approvals process to tick the boxes and had not adequately addressed the interests or concerns of the community.

One submitter raised concern over the complexity of the EIS document for the general public to interpret, and expressed concern that the feedback from the local community on the proposal had not been given due consideration by ARTC.

Response

A proposal to modify existing infrastructure within the rail corridor between Albury and Illabo to accommodate double-stacked freight trains has been in the public domain since 2017. Information regarding the scope of the proposal is available on the Inland Rail website, as well as an interactive map where stakeholders can add comments and questions, which are responded to publicly by the ARTC team. There have been multiple opportunities for the community to provide feedback on the proposal through various phases such as:

- Community events during early phases of the scoping of the proposal: between 2017–2020, the proposal was subject to a different environmental approval pathway, which was via a Review of Environmental Factors under Division 5.1 of the EP&A Act, as opposed to an EIS via Division 5.2 of the EP&A Act. During this time, ARTC held or attended over 20 community events to provide information on the proposal and collect feedback on early designs.
- Engagement during preparation of the EIS and reference design: the proposal was declared SSI in May 2020 and an environmental approval pathway commenced with EIS preparation under Division 5.2 of the EP&A Act. Throughout 2020–2022, ARTC conducted extensive consultation with local landowners, local communities, industry groups, elected representatives, and councils, including Albury, Greater Hume, Lockhart, Wagga Wagga and Junee councils. Engagement activities carried out in this time were used to promote awareness and seek feedback on the design and potential impacts of the proposal. All engagement activities are documented in detail in the EIS Appendix F: Engagement Report.
- Submission on the EIS: The EIS for the proposal was placed on public exhibition between 17 August 2022 and 28 September 2022, which provided 42 calendar days to lodge a submission. During the exhibition period, interested stakeholders and members of the community were able to review the EIS online, participate in consultation and engagement activities held by ARTC and make a written submission to the DPE for consideration in its assessment of the proposal. The EIS Submissions Report documents and considers the issues raised in community, government agencies, organisations and other submissions received by DPE during public exhibition of the EIS.
- Submission of the PIR: The PIR was placed on public exhibition from Wednesday, 15 November 2023 to Wednesday, 6 December 2023, which provided 21 calendar days to lodge a submission. During the exhibition period, interested stakeholders and members of the community were able to review the PIR online, participate in consultation and engagement activities held by ARTC, and make a written submission to the DPE for consideration in its assessment of the proposal. This Submissions Report documents and considers the issues raised in community, government agencies, organisations and other submissions received by DPE during public exhibition of the PIR.

During both the EIS and PIR exhibition, a public town-hall style meeting or open hearing was not held, as more targeted meetings were held on key issues, with the intention to provide more detailed information on the design and potential impacts of the proposal.

Stakeholders did, and continue to, have the opportunity to raise questions and concerns directly with ARTC via phone, email and the enquiry page on the Inland Rail website, with the contact information as follows:

- Phone call: 1800 732 761 (toll-free)
- Email: **inlandrailenquiries@artc.com.au**
- Inland Rail website enquiry page: **inlandrail.artc.com.au/contact/.**

The engagement carried out until the time of the exhibition of the EIS is documented in the EIS Appendix F: Engagement Report. Ongoing engagement for the proposal has been carried out in accordance with the SEARs and relevant engagement guidelines, most notably *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2021).

The SEARs require the EIS to describe the proposal in sufficient detail to enable a clear understanding of it. This includes a description of the proposal, and all components and activities required to construct and operate it, along with a level of assessment of the likely impacts appropriate to the degree of impact, and sufficient detail to ensure that the community, as well as DPHI and other government agencies, can understand and assess impacts. The EIS had been structured, where logical, to identify and assess impacts by enhancement sites.

All EIS documents were written in concise, plain language in order to be understood by the general public. The main body of the EIS is intended to provide a more concise description of the impacts compared to the more detailed technical assessments that form part of the EIS. All chapters provided a clear reference to the more detailed assessments available in the technical papers, should a reader wish to seek additional information to further understand the assessment, the assumptions and/or conclusions.

4.1.1.2 Engagement since exhibition of the EIS

Submission ID numbers

7, 14, 17, 20, 21, 22, 28, 30, 31, 36, 38, 39, 41

Summary of issues

Thirteen submissions raised concerns about the adequacy of community and stakeholder consultation since exhibition of the EIS.

With respect to the community information sessions, the majority of the submissions stated that the promotion of community consultation sessions was poor, with no or late notice provided to the local community, particularly residents in Wagga Wagga near the proposal. Some submissions raised concerns that community information sessions were postponed by ARTC at the last minute with little to no communication to the local community, with some people turning up to the session without being notified that these sessions had been postponed. One submission noted they felt that, because of this, community feedback is not welcomed by ARTC. Further, they felt that at another community information session, ARTC representatives could not answer or provide an explanation for their questions and issues regarding the proposal. One submitter raised concern about the efficiency of the community information session held in Wagga Wagga and suggested that a microphone would be beneficial.

Submissions made comment or expressed concern about how information is provided or sought by ARTC, or the adequacy of the engagement, specifically that:

- ARTC did not provide further updates or consultation following a request from a submitter
- email updates from ARTC have not been received despite subscribing to future updates
- it was unclear to the community as to how to access information about the potential impacts, future community information sessions, or how to object or raise concerns on the proposal
- engagement conducted by ARTC has not communicated the breadth of the works, or the short- and long-term implications for the residents of Wagga Wagga, particularly those living in proximity to the rail line
- ARTC had not asked the community on the lived experience for residents in proximity to the rail line, and how trains impact their lives or their level of ‘human comfort’
- ARTC should provide regular drop-in sessions to enable residents to receive up-to-date information about the proposal, and that sessions outside regular business hours should also be provided
- ARTC should notify residents affected by the proposal by letter or email, and offer residents information on the proposal and potential impacts to their property
- ARTC should empower local residents as part of the decision-making process.

Submissions also raised concern about the adequacy of the response to issues raised by the community in the EIS Submissions Report and PIR, or during the community information session held on 28 November 2023. This included:

- the PIR does not detail how ARTC would address the issues raised and how ARTC would improve current communications, and that major issues raised should be addressed as soon as possible
- a request for the ARTC Inland Rail Engagement Advisor to consult with people who made a submission on the EIS prior to any decision on the proposal
- the level of detail in the PIR is not easy to interpret and the information is hard to access; this was often identified alongside the level of detail presented in the EIS
- the language within the reports is insensitive to concerned residents
- the reports have attempted to 'water down' the lived experience of residents directly affected by the proposal.

One submission stated that ARTC had consulted with the landowner concerning the modifications to the Shire and Carter property access road level crossing (LX605) since the exhibition of the EIS, and it remained unclear if those changes have formed part of the proposal, as no official confirmation has been provided.

One submission stated that ARTC were not being transparent in the PIR in relation to the identification of conceptual noise barriers in Junee, and that ARTC had not informed the CCC about the provision of noise barriers.

Response

Adequacy of consultation

ARTC carried out advance notification through multiple communication channels regarding the upcoming exhibition of the PIR, as outlined in section 4.1.1.1 of this Submissions Report.

The Wagga Wagga community drop-in session was postponed on Wednesday, 22 November 2023 to Tuesday, 28 November 2023. Inland Rail was made aware of potential protest activity at the Wagga Wagga session. It was decided to postpone the event to allow for appropriate arrangements for a re-scheduled event, including a revised location to ensure a safe environment for all those attending. The following engagement activities were carried out to inform the community regarding the postponement and rescheduling of the drop-in session in Wagga Wagga:

- a geotargeted advertisement was placed on social media from 22 November 2023 to 28 November 2023 advising of the rescheduled event details
- a media statement was issued in Wagga Wagga on 21 November 2023 advising of the postponement, and another media statement was issued on 22 November 2023 advising of the rescheduled event details
- an update was made to the proposal-specific part of the Inland Rail website on 21 November 2023 advising of the postponement, and another update to the website was made on 22 November 2023 advising of the rescheduled event details
- an email update was sent to stakeholders on the proposal-specific mailing list on 21 November 2023 advising of the postponement, and another email was sent on 22 November 2023 advising of the rescheduled event details.

Although the Wagga Wagga community drop-in session on Wednesday, 22 November 2023 was postponed, some Inland Rail staff did attend the session to advise community members that were not aware it had been postponed and to provide interested stakeholders an opportunity to access further information.

ARTC values the feedback of the community, and changes were made to the location and time of the rescheduled Wagga Wagga community drop-in session to provide greater benefit to the community. The event venue was changed from the Wagga Wagga Library to Kyeamba Hall, Wagga Showgrounds and this allowed for more room for attendees and a safer environment. The timing of the event was changed based on feedback from the Wagga Wagga community, DPHI to be outside of typical working hours, to allow greater opportunity for the community to attend and was changed from 12 pm–4 pm to 3 pm–7 pm.

The suggestion for the use of a microphone is noted; however, the format of the drop-in session allowed for community members to speak to various ARTC staff on different topic areas and have their specific queries answered. Best endeavours are made to have engagement activities as accessible as possible and ARTC will consider this feedback in the planning of future events.

Some members of the community that attended the community drop-in sessions requested information or a technical response that was of greater detail than could be provided by ARTC in these sessions. ARTC took contact details from these community members and have since provided responses to these community members. If a community member feels they should have received a specific response and did not, they can contact ARTC via phone, email and the enquiry page on the Inland Rail website, with the contact information as follows:

- Phone call: 1800 732 761 (toll-free)
- Email: **inlandrailenquiries@artc.com.au**
- Inland Rail website enquiry page: **inlandrail.artc.com.au/contact/.**

Additionally, if a community member has subscribed to proposal updates and is not receiving them, it is advised that they contact ARTC, using the above contact information, to investigate the issue.

There were various engagement materials available at the community drop-in sessions that community members could take home, including summaries on key impacts such as noise and traffic; a Summary of Findings document, which distils the key impacts of the proposal and provides guidance on how to make a submission to DPHI; and a DPHI document on how to make a submission to DPHI. This information was also available on the Inland Rail website.

Communication of assessment findings

The EIS contained the environmental assessment of the proposal in accordance with the requirements of the EP&A Act and the environmental assessment requirements of the Secretary of DPHI. Engagement regarding the EIS included engagement on all key environmental issues with regard to both the construction and operational phases of the proposal. A PIR has a different purpose to an EIS and is prepared at the request of the Planning Secretary of DPHI and outlines any proposed changes to the SSI to minimise its environmental impact or to deal with any other issue raised during the assessment. The PIR for the proposal was required to provide further assessments of traffic and transport, noise and vibration, and air quality; as such, engagement on the PIR was targeted to the outcomes of the further assessments of traffic and transport, noise and vibration, and air quality.

Community's level of influence on the proposal

As outlined in Section 4.1.1.1, the community has had ongoing opportunities to provide feedback on the proposal, including the lived experience of residing close to the rail line.

Adequacy of the PIR document

The PIR was written in concise, plain language in order to be understood by the general public. It has acknowledged where impacts or exceedances have been identified and has provided cross references to where more detailed technical assessment findings can be reviewed.

Adequacy of ongoing consultation

Submissions suggested changes to timing and methods for community engagement activities regarding the proposal. ARTC has and continue to engage with the community with regular updates on the proposal through website updates, community e-newsletters, media advertising and social media advertising. As the detailed design of the proposal progresses, there will be opportunities for the community to receive updates on the proposal and provide feedback.

The future steps section in the executive summary of the PIR confirmed that the PIR would be placed on public exhibition and submissions from the public would be invited. Once submissions are received, the proponent prepares a Submissions Report.

In Appendix A of both the EIS Submissions Report and this PIR Submissions Report, submitters can find their submission ID and look up the section references of where their issues have been addressed in the Submissions Report. Personal contact details of submitters are not collected to enable an individualised response to each submitter.

Shire and Carter property access road (LX605)

ARTC has engaged with the private property owner, Junee Shire Council and Transport for NSW, after the display of the EIS, on possible alternative designs to that presented in the EIS for the level crossing on the Shire and Carter property access road (LX605). In response to stakeholder feedback on this level crossing, the design solution to address the existing non compliances has been revised (refer to Section 3.2.1.4 and Figure 3-9 of the PIR for the description of this change). The design included in the PIR reflects the design provided to the property owner for comment. Engagement with stakeholders, including the landowner, would continue during detailed design.

Noise barrier engagement

The presentations from the CCC are made publicly available on the Inland Rail website. At the time of the CCC presentation on 18 October 2023, the PIR Appendix D Revised Technical Paper 7: Operational Noise and Vibration (Rail) was still being finalised and details on concept noise walls were not progressed enough for discussion. The overall approach to mitigation for operational rail noise was discussed, including the potential for noise walls as part of the hierarchical suite of mitigation measures.

As outlined in Section 6.2.4 of the PIR, the extent of mitigation or the type of mitigation identified for individual receivers will not be finalised until detailed design, in consultation with the community, and as documented in the operational noise and vibration review.

4.1.2 Justification and evaluation

4.1.2.1 Justification and evaluation of the proposal and Inland Rail

Submission ID numbers

16, 19, 22, 24, 28, 33

Summary of issues

Six submissions commented on the justification and evaluation of the proposal.

One submitter raised concerns regarding the financial viability of the whole of the Inland Rail. The submitter requested that Inland Rail run single-stack trains up to 1.8 km long at the proposed frequency commencing as soon as the intermodal hubs are ready to receive the freight. They stated that this option requires minimal federal funding, gets Inland Rail operational sooner, defers the double-stack issues and provides time to explore bypass routes.

Submitters raised concerns over the justification and evaluation of the proposal, including alternate proposals, costings, and studies of engineering and costs. It was suggested that freight would still need to transported by road, given Inland Rail does not provide direct port access in Brisbane or Melbourne, resulting in the double-handling of freight, which increases handling costs and increases urban congestion, and that this option is not logical or cost effective without port access. Further, submitters were concerned that the ARTC Board does not represent the people or skills necessary for the proposal's success, and questioned what NSW Government oversight there would be for the proposal given it is federally funded.

It was questioned whether the current route of the Melbourne to Brisbane Inland Rail Program provides the greatest economic, social and environmental benefits to regional NSW. Further, submitters questioned if the objectives of the Inland Rail Program have been met with reference to the following objectives—'*improve road safety, ease congestion and reduce environmental impacts by moving freight from road to rail*' and, specific to the proposal, minimising the environmental and community impacts. In doing so, it was stated that the priority placed on a route that provides a less than 24-hour transit time between Brisbane and Melbourne has meant that the route does not provide the greatest benefit to regional NSW with respect to economic, social and environmental outcomes.

There were a number of submissions that expressed general opposition to the proposal stating that the:

- route through Wagga Wagga is not in the best interest of the community and Australia
- local community request a bypass to reduce community impacts.

Response

Justification for the Inland Rail Program

The Inland Rail Program is a nationally significant transport initiative. It will respond to a forecasted increase in demand for freight transport between Melbourne and Brisbane, and provide long-term benefits, including improved productivity; improved network efficiency and reliability; safety improvements; sustainability benefits; and reduced lifecycle costs.

The proposal, and Inland Rail more broadly, is supported and influenced by several long-term strategic plans for transport infrastructure and regional development that have been prepared at the national, state and regional levels. The vision, objectives and development of Inland Rail and the proposal have been undertaken over several years to be consistent with key national and state strategies, policies and plans (described in the EIS Appendix B: Strategic Planning Review). The purpose of the business case was to present an analysis of viability, benefits, costs and risks associated with Inland Rail, to inform Australian Government decision-making processes. Inland Rail is one of the Australian Government's largest infrastructure projects and will enable a change to the way freight is moved around the country. Estimates since the *2015 Inland Rail Program Business Case* continue to forecast increases in freight demand (Bureau of Infrastructure and Transport Research Economics, 2022).

The initial investments in Inland Rail have allowed the constituent Inland Rail projects to progress from simple concept ideas to reference design and detailed design. Each of these phases of a project change the forecast costs. Like many projects, the cost and schedule has been influenced by external factors, including pressure on skills and labour, and increased cost of materials and expertise.

Demand for freight transport between Melbourne and Brisbane via inland New South Wales 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 (Infrastructure Australia, 2018). The proposal is required to enhance and modify rail and other infrastructure along the Inland Rail corridor to allow and support the safe running of double-stacked freight trains between Albury and Illabo. By maximising the use of the existing rail corridor by providing for double-stacked trains, the proposal would minimise the potential for environmental and community impacts during construction and operation.

Alternative options and routes

Section 4.1.2 of the EIS Submissions Report provides a response to submissions concerning the consideration of strategic alternatives to an inland railway and the selection of the Inland Rail alignment.

Two main route alignments were considered between Melbourne and Junee, which prioritised the use of existing rail infrastructure—one alignment was via Shepparton and the other via Albury. Either alignment would be an enhancement or upgrade project, where only some existing infrastructure is required to be modified to accommodate double-stacked freight trains, and minimise the need to establish new rail corridors.

The alignment via Albury was selected as the preferred option, as described in section 6.2 of the EIS. Routes through Albury offered superior outcomes for the key criteria of capital costs and transit time. Although the faster Shepparton route offered a transit time that would be quicker by about 30 minutes, this route attracted a significant extra capital cost (adding over $900 million to the proposal relative to Albury alternatives).

Consideration of a greenfield alignment (either in part or in entirety) for A2I is not in accordance with the objectives and business case of Inland Rail (ARTC, 2015), which aims to maximise the use of existing infrastructure, where possible, and have an overall Inland Rail alignment with a less than 24-hour transit time between Melbourne and Brisbane.

There are no plans to consider changes to the A2I alignment from that endorsed by the Australian Government.

This commitment was reinforced within the *Independent Review of Inland Rail* (Schott, 2023). Recommendation 12 of the Inland Rail Review recognises that if Inland Rail train traffic increases significantly, the possibility to bypass the city should be investigated and easements protected for a new bypass corridor. In current estimates, rail traffic is not expected to increase to a degree that warrants consideration of a bypass of Wagga Wagga. As such, a Wagga Wagga bypass has not been contemplated by government and is not a necessity for this planning approval or assessment of the proposal.

The strategic planning and corridor preservation are joint responsibility of the states, through planning and transport, departments, along with relevant local councils. ARTC would continue to collaborate with planning authorities, including consideration of relevant infrastructure proposals that arise from ongoing monitoring or specific studies.

Inland Rail governance

In line with the Government's response to the Independent Review of Inland Rail (Schott, 2023), ARTC is establishing a new subsidiary—Inland Rail Pty Ltd, which will govern the delivery of the Inland Rail. The Australian Government is committed to ensuring Inland Rail Pty Ltd has the necessary expertise and independent oversight required to deliver on the Government's objectives for Inland Rail. Inland Rail Pty Ltd will have its own dedicated board of directors appointed by ARTC; the six-member board includes the Chair of ARTC as a non-executive director. The members of the new board have been chosen for their skills, qualifications, knowledge and experience, including in the delivery of nationally significant freight infrastructure projects.

Inland Rail is an Australian Government-funded project and, as such, does not involve direct oversight from the NSW Government.

Justification and evaluation of the proposal

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.

A proposal of this scale would inevitably have some impacts on the local environment and community. The proposal would incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable.

The potential remains for there to be residual impacts from the proposal. Though reduced, there is potential for residual impacts associated with construction and rail noise; operational air quality; the loss of some heritage fabric along the existing rail line; longer and more frequent level crossing closures; and the traffic detours during construction at Wagga Wagga and Junee, and changes to open space at Junee. The detailed design for the proposal would be developed with the objective of minimising potential impacts on the local and regional environment and local community, having regard to the principles of ecologically sustainable development defined by clause 193 of the EP&A Regulation.

The design and construction methodology would continue to be developed in alignment with this objective, taking into account the input of stakeholders. The potential residual construction and operational impacts of the proposal are considered manageable with the implementation of the proposed mitigation and management measures.

4.1.3 Changes to the proposal

4.1.3.1 Road and pedestrian bridges

Submission ID numbers

15, 22, 31

Summary of issues

One submission raised concern on the steepness of the road bridges for pedestrians, particularly for school children. Further, it was requested that the bridge provides access for people in mobility vehicles on both sides of the road to respond to current demographics and future aging populations.

One submission expressed concern that the Cassidy Parade pedestrian bridge would impact their property and surrounding properties, and that the pedestrian bridge should be moved from Brookong Avenue to Fox Street to minimise these impacts. In doing so, the current bridge could remain open during construction to minimise disruption to the community, and that the current pathway between the Telstra depot and 22–24 Brookong Avenue can be landscaped to become a small wildlife corridor.

One submission requested the release of the Edmondson Street bridge design and suggested the following design considerations for the Edmondson Street bridge and the Wagga Wagga Station yard:

- the grade of the southern ramp of the proposed new bridge is made consistent with the grade for the northern ramp, which would save construction costs and keep Erin Street open
- partial lowering of the track, with the spoil used in the approach ramps
- use the space in the rail yard immediately to the south of the Wagga Wagga railway station to enable a freight train to pass an idling passenger train.

Response

As described in the PIR, pedestrian bridges for the proposal have been amended, and two new pedestrian bridges are proposed to be constructed adjacent to Edmondson Street road bridge and Kemp Street road bridge. The pedestrian bridges would provide DDA-compliant pedestrian access across the rail line, which would also allow access for people in mobility scooters or similar. A description of the changes to the road and pedestrian bridges included in the proposal is outlined in 3.2.1.1 of the PIR. Accommodating DDA-compliant access across the rail line on both sides of the road bridge could not be accommodated within the available space without impacting adjacent property.

As detailed in section 4.1.4.6 of the EIS Submissions Report, Cassidy Parade pedestrian bridge would be replaced in its current location to ensure a similar level of connectivity is maintained in the long term and that it aligns with Wagga Wagga City Council's *Wagga Wagga Active Travel Plan* (2016).

As described in section 4.1.4.5 of the EIS Submissions Report, the vertical grade of the Edmondson Street bridge was designed to avoid the requirement for adjustment or reconfiguration of adjacent intersections, including Sturt Highway (Edward Street), and achieves the sight distance requirements of *Austroads Guidelines Part 3: Geometric Design* (Austroads, 2021) for a 50 km/h design speed limit. A bridge design with a lower vertical grade would have required the bridge structure to be longer in length, and would have required other intersections to be moved and/or adjusted; therefore, increasing the area of impact and change as the track clearance requirements below the bridge remain. Concept drawings and artist impressions of the Edmondson Street road and pedestrian bridge is provided in Section 3.2.1.1 and Appendix A of the PIR.

As detailed in section 4.1.22 of the EIS Submissions Report, track lowering was considered for the proposal at locations where existing structures did not achieve the minimum clearance requirements; however, this option was not always feasible due to engineering constraints, such as the proximity to nearby stations or other railway infrastructure, which would require significant modifications with this option. In these cases, such as for the Edmondson Street bridge and Wagga Wagga yard clearances, the impacts from the option to lower the track were considered too significant to outweigh its potential benefits, including over the long term.

The proposal includes adjustments to the track in Wagga Wagga Yard to enable freight trains to pass an idling passenger train at Wagga Wagga Station, including future Inland Rail freight trains.

4.1.4 Transport and traffic—Wagga Wagga traffic modelling

4.1.4.1 Assessment approach

Submission ID numbers

28, 30, 31

Summary of issues

Three submissions raised queries or expressed concerns about the preparation of the traffic and transport impact assessment of the PIR; specifically:

- queried if traffic impacts to emergency services have been modelled around the Wagga Wagga Base Hospital
- requested that traffic modelling be completed for Bourke Street and Docker Street, and findings be released to residents and businesses
- stated that the additional traffic assessment in the PIR does not contain adequate detail about potential traffic impacts in Wagga Wagga as:
  - the modelling has not included the results of the Origin Destination survey, as suggested by Transport for NSW, and therefore the assessment cannot predict the impact on the road network
  - it is unclear if the June 2023 data used in the level crossing wait times is representative of train movements during other months of the year.

Response

Traffic impacts to emergency services

The impacts to travel time associated with operation of the proposal are discussed in section 3.5.7 and section 11.2 of the Addendum Assessment to Technical Paper 1: Traffic and Transport for the PIR, and summarised in section 6.1.3.2 and section 6.1.3.4 of the PIR. This includes consideration of potential impacts to accessibility to health services and emergency services from delays due to the changes in the frequency of level crossing closures and waiting time caused by freight trains.

Traffic assessment modelling

Traffic modelling that considers potential traffic impacts to Bourke Street/Docker Street (as well as the surrounding road network) has been included in chapter 3 of the Addendum Assessment to Technical Paper 1: Traffic and Transport for the PIR.

Origin Destination survey

An additional Origin Destination survey has been completed since the finalisation of the assessment presented in the PIR. The results of this survey have now been incorporated in the assessment and are presented in chapter 3 of the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (refer to Appendix D of this report).

Level crossings—queue lengths and delay times

Assessment of queue lengths and delay times at level crossings are included in section 6.1.3.2 of the PIR and sections 3.5.7 to 3.5.10 of Addendum Assessment to Technical Paper 1: Traffic and Transport. For this assessment, instead of determining the level crossing closures time on an assumed speed of the train, it was determined through a review of recorded level crossing closure time data for June 2023 for level crossings relevant to the proposal. For all assessments undertaken in the PIR, observed average weekday level crossing closure durations and frequencies have been adopted for short-term analysis horizons, or as the basis for extrapolation of future-years' level crossing closure durations and frequencies.

The average weekday daytime observed closure durations range from 1:04 to 2:05 minutes and the observed 95th percentile closure durations (24-hour) range from 2:08 to 4:32 minutes.

For future-year (operation) analysis, the average level crossing activation durations have been increased by a factor of 1.5 to allow for running of longer trains (on average) as part of Inland Rail for 2025 and 2040. This factor has been applied based on an estimated 50 per cent increase in train lengths (i.e. 1.2 km to 1.8 km lengths) travelling at existing speeds. This is considered to be a conservative estimate as:

- it assumes an increase in length of all trains in the future (including passenger services, which are not expected to change due to the proposal)
- it is factored against the total observed closure duration, which includes the following allocations expected to remain constant:
  - 30-second pre-train warning flashing lights and boom gate closure period
  - 10-second flashing lights and boom gate closure period after the train has passed.

4.1.4.2 Traffic impacts during closure of Edmondson Street bridge

Submission ID numbers

2, 3, 7, 10, 15, 17, 19, 22, 25, 26, 28, 37, 41

Summary of issues

Thirteen submissions raised concerns relating to impacts to transport and traffic in Wagga Wagga, associated with the closure of Edmondson Street bridge during construction; specifically:

- concerns about traffic and safety impacts from road users using alternative routes through Wagga Wagga during the closure of Edmondson Street bridge, particularly on Bourke Street, Railway Street, and Coleman Street
- concerns about the findings of the additional assessments in the PIR regarding the level of impact, and the increase in delays at intersections and level crossings in Wagga Wagga, increased travel times and impacts to the Wagga Wagga Base Hospital
- concern that the modelling does not accurately reflect the impacts that the closure of Edmondson Street bridge would generate
- impacts due to Edmondson Street bridge would not be short term, noting the bridge would be closed for over 12 months and that delays have occurred on other major projects
- that diverted traffic should not be directed onto roads that have school zones due to safety concerns
- that diverted traffic during construction would lead to issues at some intersections where there are existing performance or safety issues, particularly during peak periods. This includes Coleman Street and Bourke Street intersection, and Coleman Street and MacLeay Street intersection
- diverted traffic on MacLeay Street and Railway Street would conflict with pedestrians and buses associated with nearby educational facilities, and should be directed to Collins Street to avoid these conflicts
- raising concerns about safe access to Kildare Catholic College during construction.

Response

Closure of Edmondson Street bridge and suitability of detour routes

The closure of Edmondson Street bridge during construction of the proposal is predicted to have significant impacts on surrounding roads while temporary diversions are in place. ARTC is committed to implementing mitigation measures to manage these impacts.

Additional traffic impact assessment was undertaken by ARTC as part of the PIR, which includes detailed traffic assessment in Wagga Wagga. Further information about the impacts of the proposal is provided in section 6.1 of the PIR, or Appendix D of this report.

During the replacement of the Edmondson Street bridge, motorists would be diverted to other rail corridor crossings including Docker Street, Pearson Street and Lake Albert Road. The proposal would also generate construction traffic during construction.

The temporary closure of the Edmondson Street bridge and the additional construction traffic volumes would put strains on the intersections of Docker Street and Lake Albert Road with the Sturt Highway, as well as Railway Street with Lake Albert Road, as diverted traffic from the temporary bridge closure cause increases on some of the approaches to these intersections. These pressures are most prevalent in the morning and afternoon peak traffic periods. Additionally, some pressures are observed on Coleman Street on the approach to Docker Street in the morning peak.

To alleviate some of the traffic impacts from construction, additional mitigation measures have been identified and tested in the microsimulation model. A review of intersection performance, and key constraints, was completed to identify feasible mitigation, which could be implemented in consultation with the relevant road authorities. Major infrastructure upgrades such as road widening were not considered appropriate for the mitigation of temporary impacts during construction of the proposal.

The mitigation identified and modelled in the assessment included:

- lengthening and demarcation of the left-turn lane on Railway Street at Lake Albert Road (western approach turn)
- influencing route choice for north-south movements across the rail corridor by encouraging drivers to use Pearson Street bridge crossing via Glenfield Road and Pearson Street between Holbrook Road in the south, and Olympic Highway in the north, as an alternative to the Bourke Street/Docker Street level crossing
- implementing a temporary right-turn movement ban in the AM peak to prevent traffic from Coleman Street entering Bourke Street to travel north in order to reduce queuing on Coleman Street. Additional right-turn bans would also be considered during detailed construction planning for Athol Street, Wooden Street and Lindsay Street to avoid rat-running.

A summary of the mitigation and traffic performance is provided in section 6.1 of the PIR. Intersection performance is also driven by the broader network, and mitigation has down-stream impacts in the network, which may worsen results at adjacent intersections.

The mitigation measures are more effective in minimising queues and delays in the AM peak than the PM peak. Detailed results are provided in Appendix D of this Submissions Report.

Due to the levels of delay predicted at some intersections in the AM and PM peak, the implementation of mitigation measures would not significantly reduce the increase in delay, and delays greater than 20 per cent are still predicted during construction.

In addition to the specific mitigations modelled in the assessment, other potential mitigations will be further considered during detailed design and construction planning for the proposal. These potential mitigations include but are not limited to:

- temporary signals or other signal optimisations where required
- local area traffic management plans
- turn restrictions at selected locations and selected times, such as at Athol Street, Wooden Street and Lindsay Street in Wagga Wagga
- removal of on-street parking/creating clearways at particular times
- improved lane delineations.

This is reflected in further revisions to mitigation measure TT2, which would be implemented alongside the traffic and transport management sub-plan and the mitigation measures identified in the EIS (refer to Appendix B: Updated Mitigation Measures of this Submissions Report). The final suite of mitigations would be determined in consultation with relevant stakeholders (including the relevant roads authority).

The EIS identified that diverted traffic would seek alternative routes. This statement was based on general principles applied to traffic modelling and assessment, and information on traffic behaviour. The use of a microsimulation model has accounted for driver behaviour with traffic re-routing within the model based on the most efficient route. This distribution is factored into the results of the assessment provided in Appendix D of this Submissions Report.

Appropriate wayfinding signage for road diversions will be provided, clearly articulating road closures, changed conditions and alternative routes. Further consultation with stakeholders would also be undertaken to discuss opportunities for broader diversions away from congested roads. Additional measures identified as an outcome of consultation would be implemented during construction, where practical.

Road safety

Changes to road conditions from increased traffic, temporary diversions and new access points (locations where construction vehicles access enhancement sites to and from the public road network) to the enhancement sites from the public road network has the potential to result in impacts to road safety. To moderate any construction impacts to existing or potential safety issues associated with either construction vehicle movements or the additional traffic on local roads from diversions, road safety audits (mitigation measure TT10), road dilapidation reports (mitigation measure TT15), and construction traffic transport and access management plans (mitigation measure TT14 and Appendix B: Updated Mitigation Measures of this Submissions Report) would be required to be undertaken prior to construction. Management with school zones conflicts with construction vehicles, and management of any conflicts with the Kildare College driveway would be managed through the construction traffic transport and access management plans (mitigation measure TT14).

4.1.4.3 Mitigation and management of construction impacts

Submission ID numbers

2, 3, 26, 32, 34

Summary of issues

Five submissions raised concern about the mitigation and management of traffic impacts in Wagga Wagga during construction of the proposal, mainly proposing alternative management measures for traffic during the Edmondson Street bridge closure; specifically:

- requested closure of Coleman Street to prevent diverted traffic entering or exiting Bourke Street, noting existing delays during peak periods. It was noted that this would also address safety concerns given the proximity to the level crossing and sight lines
- comment that traffic signal variations and the left-turn lane at Railway Street and Lake Albert Road intersection will be insufficient to manage traffic impacts
- requested the proposed traffic detour through Wagga Wagga use Collins Street from Wagga Wagga High School and that Macleay Street be closed to local traffic and used for pick up and drop off from educational

facilities\. The submission cites safety concerns during school pick-up and drop-off times, and comments that buses could turn around along Macleay Street, also avoiding increased traffic through Railway Street

- requested a local traffic zone around the Edmondson Street bridge construction area
- requested closure of Erin Street during closure of the Edmondson Street bridge.

Response

As detailed in section 4.1.4.2, consideration of local traffic zones and additional mitigation measures would be determined in consultation with relevant stakeholders (including the relevant roads authority) and implemented during construction (mitigation measure TT2).

The closure of Coleman Street and Erin Street has not been identified as a mitigation measure at this stage but the temporary restriction of right-turn movements from Coleman Street onto Bourke Street during the AM peak has been included as a mitigation measure. Restrictions on some turning movements elsewhere during specific times will be considered when preparing traffic management plans for the area.

4.1.4.4 Operational traffic impacts in Wagga Wagga

Submission ID numbers

14, 15, 17, 19, 28, 35, 37

Summary of issues

Seven submissions raised concern about traffic impacts at level crossings and consequence on the surrounding road network due to more frequent trains and/or longer, double-stacked trains; specifically, that the proposal would lead to:

- delays for road users and safety concerns at level crossings in Wagga Wagga, which would have implications to residents and emergency vehicles
- motorists finding alternative routes through Wagga Wagga to avoid level crossings, leading to congestion or safety concerns along these routes
- commenting on existing delays at level crossings associated with current operation of the rail line.

Two submissions expressed the view that the traffic modelling was misleading, that the assessment was not transparent on the impacts to the City of Wagga Wagga or does not reflect the likely impacts of the proposal.

One submitter is of the view that freight train movements would be double than the expected total number of freight trains in 2040. The submitter also commented on the potential for cumulative impacts across local roads surrounding the level crossings.

Response

Traffic impact assessment

The additional assessment provided in the PIR and Appendix D of this Submissions Report included the use of Wagga Wagga City Council's microsimulation model and data inputs, including additional traffic count and Origin-Destination surveys. The outcomes of this assessment have been summarised in the PIR, with the technical detail included in the appendix of this report.

The traffic impact assessment has considered the effects of the proposal against the base case and predicted future traffic conditions in 2025 and 2040. In these scenarios, the effect of the proposal on the level of service of the relevant road network legs and intersections is not dissimilar to that of future in the absence of the proposal, except in a few instances. These are typically associated with increased delays at intersections close to the Docker Street level crossing or Fernleigh Road level crossing. The results of this assessment are provided in section 3.5.7–3.5.10 of Appendix D of this Submissions Report.

The social impacts associated with extended closures at level crossings during operation of the proposal are discussed in section 4.1.7.2 of this Submissions Report, and section 6.1.3.4 of the PIR. Chapter 11 of the Addendum Assessment to Technical Paper 1: Traffic and Transport contains further detail on social impacts from level crossing closures associated with the proposal.

The Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga do not require modification and are out of scope of the proposal. These level crossings are located on local roads and any modification considered appropriate would need to be carried out by the road manager, Wagga Wagga City Council. ARTC will continue to work collaboratively with Transport for NSW to progress road–rail interface solutions during detailed design.

Train numbers

As a result of changes in the construction schedule outlined in section 3.2.2.2 of the PIR, the proposal is expected to be operational by late 2026. It is noted that the PIR and EIS Submissions Reports have retained the same

assessment years as used in the EIS, being 2020 as the existing scenario, 2025 as the opening year and 2040 as the peak of Inland Rail operations, in order to maintain a consistent reference point. Anticipated train numbers remain as reported in the EIS and have not been revised, with 2040 retained as the design year for assessment purposes.

There is no predicted change in train numbers on the existing rail line between Albury and Illabo prior to the commencement of operation of Inland Rail upon the completion of all projects. As such, changing the opening year would not result in a material change to assessment outcomes.

The existing railway operations on the Main South Line, including the Albury to Illabo section of Inland Rail, do not have a cap on train numbers or frequencies. The current proposal does not seek such a limitation. The CSSI proposal indicates a likely level of operation to inform the identification and assessment of environmental impacts, and the application of appropriate mitigation measures for those impacts. The forecasted train volumes were developed by ARTC and are based on tonnage predictions developed as part of the Business Case (ARTC, 2015). The predicted tonnage, and the resultant definition of trains operations required to transport this, is subject to many assumptions that will continue to develop and evolve as the proposal progresses.

ARTC acknowledges the concern expressed that increased train numbers, including potential future train volumes, could affect residential amenity, community wellbeing and road network operations. The mitigation measures proposed would minimise the anticipated effects of the proposal, in line with NSW policy. ARTC will also continue to manage the proposal in accordance with its EPL for rail operations (EPL #3142) under the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act) and its existing standard operating procedures, including those within its Environmental Management System. Additionally, rollingstock operators, who are responsible for the operation of trains and locomotives on the rail network, will also continue to have obligations to manage the environmental compliance of rollingstock in accordance with their EPLs.

In response to the Inland Rail review, ongoing monitoring of train volumes, forecasts and their effects on surrounding areas as Inland Rail is delivered would occur and would ensure future operations maintain environmental standards.

New mitigation measure TT29 outlines that a review of the number and/or duration of level crossing closures in Wagga Wagga will be carried out at 12 months and at 10 years after the completion of construction of the A2I project. The review data will be shared with Wagga Wagga City Council and Transport for NSW so that the combined influence of train movements and traffic growth on road network performance can be considered in strategic transport planning and infrastructure upgrade programs. ARTC would collaborate with the road authorities in strategic transport planning activities and their preparation of infrastructure upgrade programs.

4.1.5 Transport and traffic—other assessments

4.1.5.1 Active transport

Submission ID numbers

3

Summary of issues

One submission raised concerns about pedestrian safety associated with the use of the Edmondson Street pedestrian bridge and observed traffic movements around Erin Street. The submission noted that Erin Street is used as a ‘short-cut’ and suggested that the street is closed to vehicles permanently. This would provide safe pedestrian access to and from Edmondson Street pedestrian bridge and could provide space for other design changes.

Response

The suggestion is noted; however, the permanent closure of Erin Street does not form part of the scope of the proposal.

4.1.5.2 Social impacts associated with level crossing closures

Submission ID numbers

10, 12, 13, 14, 15, 17, 28, 31, 37

Summary of issues

Nine submissions raised concern about social impacts associated with level crossing closures, specifically that:

- longer and more frequent level crossing closures would result in community severance and impacts to livelihood
- emergency services response times would be impacted due to extended level crossing closure times
- the PIR failed to address the social impacts associated with the extended level crossing closure times.

Response

Social impact assessment

Social impacts associated with extended closures at level crossings during operation of the proposal are discussed in section 6.1.3.4 of the PIR. Chapter 11 of the Addendum Assessment to Technical Paper 1: Traffic and Transport contains further detail on social impacts from level crossing closures associated with the proposal.

Most towns and localities in the study area are divided by the railway and Olympic Highway, creating a physical barrier for residents to get from one side of the town to another. While the proposal does not change the functionality or operational arrangements of any of the level crossings, there will be an increase in frequency and duration of level crossing closures, due to increased train movements and longer trains when Inland Rail Program is fully constructed.

Impacts to severance are expected to be medium across the rail corridor, with minor changes to community severance in most instances, except at Wagga Wagga where moderate changes may be experienced due to the distribution of social infrastructure and residential areas on either side of the rail line (refer to Table 6-18 of the PIR). For Wagga Wagga, it was acknowledged that the increased frequency of the level crossing closures and increased travel time across the level crossings might lead to noticeable inconvenience for residents living in the southern part close to the two-level crossings.

Accessibility to educational, health and emergency services may change due to the changes in the frequency of level crossing closures and waiting time as a result of the proposal. The impact to accessibility varies along the rail corridor depending on the location of residential areas, and educational, health and emergency facilities in relation to the level crossings. Low impacts to accessibility from the proposal are generally expected along the rail corridor. Medium impacts on emergency service access are anticipated in Wagga Wagga and Junee due to the location of the hospitals in these towns.

Regarding accessibility to places of employment, changes in the frequency of level crossing closures and waiting time caused by the freight trains may lead to delays and inconvenience in getting to work. Medium impacts are anticipated for the Docker Street level crossing due to the location of the hospital, and the high proportion of people working in healthcare. Low impacts are expected for all the remaining level crossings within the scope of this analysis.

The traffic impact assessment has considered the effects of the proposal against the base case and predicted future traffic conditions. In these scenarios, the effect of the proposal on the level of service of the relevant road network legs and intersections is not dissimilar to that of future without-proposal state and, as such, does not warrant infrastructure upgrades. The results of this assessment are provided in section 3.5.7–3.5.10 of Appendix D of this Submissions Report.

Impacts to emergency services

Impacts to emergency services are considered in section 4.1.7.11 of the EIS Submissions Report.

Section 11.2.2.3 of the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (Appendix D) identifies that accessibility to emergency services may change due to the changes in the frequency of level crossing closures and waiting time. Medium impacts are anticipated for access to emergency services at level crossings in Wagga Wagga due to the location of the various emergency services. Low impacts are expected for Culcairn and Henty due to the location of all available emergency services on one side from the railway. No impacts are anticipated in the remaining level crossings within the scope of this analysis.

An increase in frequency of level crossing closures may potentially create inconveniences and delays for the emergency services if the closure timing coincides with emergency requests. The traffic delays caused by the level crossing closures are expected to be insignificant at most level crossings except for a less than two-minute increase in travel time for Wagga Wagga in 2040. The actual delay experienced when responding to an emergency would vary depending on the origin and destination of the emergency services vehicles. Further, these vehicles have priority right of way and would incur less delay than the maximum predicted.

As part of the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (Appendix D), further analysis was completed that considered five routes that emergency services may take to access the Wagga Wagga Base Hospital with and without the proposal. This found that there would be a minor increase in 2025 as a result of increased delays at the level crossing, with a maximum increase of 12 seconds in the AM peak, and 4 seconds in the PM peak. In 2040, increased queuing at the Docker Street level crossing would result in further increases in travel time, with a maximum increase of 40 seconds in the AM peak and 14 seconds in the PM peak. In the Midday peak, there would be no discernible difference in travel times for the 5 routes assessed in 2025 or 2040. Further detail is provided in section 3.5.11 of Appendix D.

It is noted that no new level crossings are created by the proposal, and the operation of existing level crossings would already be considered in the route planning by emergency services to manage response times during a closure. The traffic and transport assessment also predicted impacts based on worst-case conditions during peak travel hours, and potential delay outside these times is likely to be significantly reduced.

As outlined in section 5.1.1 of the PIR, ARTC held a briefing on flooding and traffic impacts with emergency services on 12 October 2023. Issues raised by emergency services related to the closure of Edmondson Street bridge, and associated impacts on traffic and level crossings.

During the detailed design phase, consultation with emergency services and the Local Emergency Management Committee will be undertaken to provide further information on train movements and level crossing closures, to assist emergency services in their emergency response and travel planning in the operational stage (mitigation measure TT4).

ARTC will develop an operations communication and engagement plan that builds community awareness of the rail line's operational characteristics, including information on level crossing operations, likely daily train movements and ARTC's ongoing role after construction (mitigation measure SI12). This will include detail to inform educational, medical and emergency facilities. ARTC will continue to monitor and inform the community about potential ways for people to be informed about the time of day in which trains may be passing through a level crossing, to facilitate access and movement around the town.

4.1.6 Operational rail noise and vibration

4.1.6.1 Assessment approach

Submission ID numbers

30, 31, 38, 41

Summary of issues

Four submissions commented on the impact assessment approach for the operational rail noise and vibration impact assessment completed as part of the PIR; specifically:

- that further modelling and monitoring is completed to assess operational noise and vibration impacts
- requested clarifications into the data assessment input; specifically, the conclusion that double-stacked container freight trains would generate similar levels of vibration and ground-borne noise compared to current freight trains
- that the impact assessment findings do not accurately reflect existing noise and vibration conditions (e.g. bunching noise) at some residences.

One submission also queried the process of defining sensitive receivers for the operational (rail) noise and vibration impact assessment, particularly raising concerns about the accuracy of the distance between the railway and the nearest building facades presented in the results table, and subsequent noise and vibration findings.

Response

Modelling and monitoring

Operational noise and vibration have been modelled at all sensitive receivers based on the design-year rail traffic, and impacted receivers eligible for mitigation measures have been identified in the PIR Operational Noise and Vibration Technical Report. Both day and night noise levels have been calculated based on increased traffic for residences; however, non-residential receivers such as schools and churches, are subject only to their normal operating hours (i.e. daytime hours); therefore, only daytime noise levels are presented for those receivers.

The assessment methodology, including details of monitoring completed as part of the assessment, is provided in Chapter 6 of Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of the PIR).

Noise emissions from the railway operations on the proposal were calculated using the SoundPLAN (version 8.2) noise modelling software.

To calculate noise emissions from the operation of rollingstock, the model applied the Nordic Rail Traffic Noise Prediction Method (Kilde 130) methodology. The SoundPLAN modelling software and the Nordic prediction methodology are widely applied in Australia for the prediction of railway noise levels, and are endorsed as acceptable methodologies under the EPA's Rail Infrastructure Noise Guideline (RING).

To confirm the suitability of the noise modelling, a survey of existing rollingstock noise emission levels was undertaken in 2018 at three locations and in 2023 at seven locations within in the A2I alignment. Details of this monitoring and model verification is provided in Appendix B of Appendix D of the PIR.

A vibration monitoring survey was included as Appendix C of the Revised Technical Paper 7, which compared noise and vibration impacts from single- and double-stacked freight trains on noise and vibration emissions. The survey concluded that the variation in noise and vibration emissions was negligible.

Noise emission sources

The assessment of airborne noise considered the noise emissions from locomotive engines idling, and wagon bunching and stretching at the crossing loop.

Building facade distances

ARTC acknowledges that there was an error in the distances between the railway and the nearest building façades presented in the PIR operational rail noise and vibration impact assessment. These distances were not used in the noise model and therefore do not affect the predicted operational noise and vibration impacts, and the proposed mitigation measures at each residence remain the same. The revised tables with updated distances have been included as part of the addendum to the Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of this Submissions Report).

4.1.6.2 Operational rail noise and vibration impacts

Submission ID numbers

2, 6, 10, 12, 13, 14, 15, 17, 25, 27, 28, 32,,34, 35, 36, 37, 40, 41

Summary of issues

Eighteen submissions raised concerns about, or commented on the findings of, the operational rail noise and vibration assessment. The key concerns related to the increased noise and vibration impacts to the surrounding community from more frequent trains and/or longer, double-stacked trains with heavier loads; specifically:

- the increase in operational rail noise and vibration from increased and heavier rail traffic, given the existing noise and vibration levels already experienced by residents, specifically towns and villages such as Culcairn, Henty, Yerong Creek, The Rock and Uranquinty
- impacts of operational rail noise and vibration on amenity, including impacts on passive ventilation and enjoyment of internal areas of residences
- impacts of operational noise and vibration on mental health and wellbeing of residents, particularly considering existing health conditions and occupations (e.g. shift workers)
- impacts from operational rail noise and vibration during the night, including sleep disturbance
- operational rail noise impacts to non-residential receivers, including:
  - schools, including Kildare Catholic College and South Wagga Public School
  - hospitals and other medical services
- the level of impact presented in the PIR that indicates 1,285 residences would be eligible for mitigation, noting that this is an increase from the 15 receivers identified in the EIS

Specific to rail-generated vibration and ground-borne noise, submissions raised issues with:

- vibration on the school community at Kildare Catholic College impacts the structural integrity of buildings, particularly residences of significant age and ones that are heritage listed
- the number of freight trains would be greater than that stated in the PIR, resulting in greater noise impacts than predicted.

One submission expressed concern about a lack of noise and vibration standards for trains.

One submission commented that residents in and around Junee do not consider existing operational rail noise as an issue.

One submission queried why noise and vibration impacts from more frequent trains and/or longer, double-stacked trains with heavier loads in Henty have been excluded from the assessment.

Response

The Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR) provides an assessment of operational noise and vibration from increased train movements for the full length of the Albury to Illabo alignment. This was expanded from the EIS to include the areas potentially impacted by noise and vibration from operation of the proposal beyond the enhancement sites. Receivers sensitive to noise and vibration were identified within approximately 2 km either side of the rail corridor. Additional noise monitoring along the rail corridor to measure rail noise from existing rail operations (refer to section 6.2.2.2 of the PIR) was also undertaken to support the updated assessment. Henty has been included in the additional assessment.

The additional assessment considered the noise and vibration impacts due to increased number of train movements, increased number of idling events and increased operation of level crossings, including warning bells and the use of train horns. The proposal is a rail upgrade project and is not proposing to move roads substantially closer to residential dwellings.

The RING sets out the NSW Government's requirements for what rail projects must consider and, when feasible and reasonable, mitigation must be considered. Noise trigger levels provided in the RING have been set by the NSW EPA to minimise noise exposure from significant redevelopments of existing rail lines, and to manage impacts

to the amenity and wellbeing of communities living near the rail line. Railway noise may be audible at sensitive land uses adjacent to the rail corridor, both externally and internally, even where the noise trigger levels are achieved.

The noise trigger levels are described in section 4.1.11.1 of the EIS Submissions Report. The noise trigger levels are the same as described in Chapter 15 of the EIS and the EIS Technical Paper 7: Operational Noise and Vibration (Rail); however, the interpretation of the criteria has been varied following advice from NSW EPA. Further information regarding the noise trigger levels is provided in Appendix D of the PIR.

Noise levels are not predicted to exceed the noise trigger levels at the majority of the sensitive receivers in the study area. The daytime L_{Aeq} criteria is predicted to be exceeded at 138 residential receivers in 2025, and 190 residential receivers in 2040. The night-time L_{Aeq} criteria is predicted to be exceeded at 60 residential receivers in 2025 and 92 residences in 2040. While L_{Amax} noise levels are not predicted to change as a result of the proposal, existing rail noise levels combined with proposal-related L_{Aeq} increases, generate exceedances of the RING triggers at 1,219 residences in 2025 and 1,285 residences in 2040.

Where exceedances were predicted, the investigation of reasonable and feasible mitigation measures was triggered. The strategy for selecting reasonable and feasible noise mitigation is discussed further in Section 4.1.6.3.

The airborne rail noise criteria is also predicted to be exceeded for both 2025 and 2040 at 28 non-residential sensitive receivers. This includes educational facilities in Wagga Wagga, such as Kildare Catholic College and South Wagga Public School. The RING trigger levels for non-residential receivers are internal noise levels and are, therefore, subject to the quality of the building façade. Façade testing of non-residential receivers will be undertaken to confirm eligibility for noise mitigation.

Train numbers

The existing railway operations on the Main South Line, including the Albury to Illabo section of Inland Rail, do not have a cap on train numbers or frequencies. The current proposal does not seek such a limitation. The CSSI proposal indicates a likely level of operation to inform the identification and assessment of environmental impacts, and the application of appropriate mitigation measures for those impacts. The forecasted train volumes were developed by ARTC and are based on tonnage predictions developed as part of the Business Case (ARTC, 2015). The predicted tonnage, and the resultant definition of train operations required to transport this, is subject to many assumptions that will continue to develop and evolve as the proposal progresses.

ARTC acknowledges the concern expressed that increased train numbers, including potential future train volumes, could affect residential amenity, community wellbeing and road network operations. The mitigation measures proposed would minimise the anticipated effects of the proposal well into the future, in line with NSW policy. ARTC will continue to manage the proposal in accordance with its EPL for rail operations (EPL #3142) under the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act). Rollingstock operators, who are responsible for the operation of trains and locomotives on the rail network, will also continue to have obligations to manage the environmental compliance of rollingstock in accordance with their EPLs.

In response to the Inland Rail review, ongoing monitoring of train volumes, forecasts and their effects on surrounding areas as Inland Rail is delivered would occur and would ensure future operations maintain environmental standards.

Noise standard for trains

Locomotives using the NSW rail network must be approved by the NSW EPA. The NSW EPA's Locomotive Class Register can be found at **epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/amendment-regulation-for-scheduled-activities/locomotive-class-register**.

Rail vibration

The additional vibration impacts associated with the proposal are minimal, and are discussed in Chapter 8 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR). This considered human comfort as well as cosmetic damage for buildings and other structures.

The vibration dose value (VDV) levels from operation of the proposal were estimated based on daily train movements for the 2040 design year and the forecast train speeds. The screening assessment in Table 6-26 in Appendix D of the PIR shows that the human comfort vibration criteria are predicted to be met for most sensitive buildings adjacent to the proposal. Two receivers have been identified within the estimated offset distance. These two receivers are also within the estimated offset distance for existing train operations and may therefore already be subject to existing VDV levels above the preferred criteria for residential receivers. Vibration levels at these receivers will be validated during detailed design. The additional vibration impacts associated with the proposal are minimal.

The ground vibration levels would also be well within vibration levels for damage to building contents, structural and cosmetic damage to buildings, including heritage buildings and structures.

Ground-borne noise

Based on the proposal train speeds and types, ground-borne noise levels at distances greater than 50 m from the track are expected to comply with the assessment criteria. There are 174 sensitive receivers located within 50 m of

the rail corridor between Albury and Illabo; however, airborne noise levels during train pass-by are predicted to be the dominant noise contribution at these locations. Further information on the difference between air- and ground-borne noise levels with noise barriers in place is included in the Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of this Submissions Report).

4.1.6.3 Mitigation and management of impacts

Submission ID numbers

2, 3, 5, 7, 11, 12, 13, 19, 21, 24, 27, 28, 30, 31, 32, 34, 36, 37, 39, 41

Summary of issues

Twenty submissions raised concerns regarding the implementation of mitigation for residential properties and other receivers impacted by operational noise and vibration, specifically:

- the importance of operational noise and vibration mitigation considering existing and predicted levels of rail noise and vibration
- that noise barriers should be considered at additional locations along the rail line through Wagga Wagga (particularly around Coleman Street, Docker Street, and extending the proposed Brookong Avenue noise barrier along Cassidy Parade to Bourke Street and to Little Best Street, as well as around Kildare Catholic College, Erin Earth and South Wagga Public School) to improve outdoor amenity
- landscape and visual impacts (including vegetation removal, vandalism, rubbish dumping, etc.), amenity impacts (views and shading), community severance, and safety considerations relating to proposed noise barriers (such as residual spaces remaining between the rear property line and noise barriers). It was also queried how vandalism and graffiti would be managed and prevented by ARTC
- that noise barriers in Junee would obscure views for train enthusiasts and photographers, which would result in risky behaviours (including unauthorised rail corridor access)
- concerns about noise reflection at residences due to proposed noise barriers
- concerns about property values at residences due to proposed noise barriers
- that noise barriers at Junee would lead to community severance impacts
- support for the Locomotive Noise Control Program (LNCP) and a request for further information on the benefits of the Program and the suggestion that installation of exhaust silencers be mandated for all locomotives using A2I
- that the idling of trains in Wagga Wagga is prohibited and enforced
- that dilapidation reports are completed at affected properties (prior to construction commencing) to document potential operational vibration impacts on buildings
- how operational at-property mitigation is to be costed and funded
- queried the assessment criteria and process for eligibility of at-property or other noise mitigation
- the lack of detail within the operational rail noise and vibration mitigation measures described in the PIR
- the efficacy of proposed noise barriers and information on the expected noise mitigation from proposed noise barriers at affected properties
- at-property treatment should be considered in lieu of noise barriers along Main Street, Junee
- at-property noise mitigation measures need to consider the distinctive style of older buildings.

Response

Rail noise mitigation

The RING sets out the NSW Government's requirements for what rail projects must consider and, when feasible and reasonable, mitigation must be considered. ARTC is applying the following strategy for the proposal as the basis for selecting reasonable and feasible noise mitigation for operational rail noise impacts:

- project-specific noise levels (PSNLs) have been developed to guide the selection of noise mitigation measures for residential receivers that exceed the RING criteria
- source controls (i.e. infrastructure and rollingstock measures) have been investigated first, in line with the RING hierarchy of controls
- noise barriers have been considered where groups of triggered sensitive receivers with noise levels above the PSNLs are apparent. For isolated sensitive receivers, such as single dwellings in rural areas, noise barriers have not been considered
- the noise mitigation for isolated sensitive receivers is expected to include:

- at-property architectural treatments to the building (such as increased glazing and/or facade upgrades) to control rail noise inside building
- upgrades to the receiver property boundary fencing to improve screening of rail noise.

The Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR) examined potential noise barrier options, including within Junee, to demonstrate potential noise mitigation options and assess their effectiveness. The location of these conceptual noise barriers is provided in Figure 68 to 75 of Appendix D of the PIR, and predicted noise levels at all impacted residential receivers before and after mitigation is detailed in Table F1 of the Revised Technical Paper 7.

The determination of whether rail noise barriers would be a reasonable and feasible noise mitigation measure will be made during the detailed design phase in consultation with the affected community, as discussed in section 9.5 of the revised technical report as part of the operational noise and vibration review. The operational noise and vibration review will consider all design, engineering, constructability, environmental, visual and social factors that influence the location, extent, and height of the noise barriers. This is reflected in mitigation measures NV3 and NV4, and revisions have been made to mitigation measure NV4 to identify that community feedback in accordance with the RING will inform the identification of the final mitigation measures.

During the operational noise and vibration review, safety would be considered in confirming the suitability of potential noise barrier locations. ARTC will aim to avoid creating a space between the noise barrier and residential fences where the land is difficult to maintain or becomes a target for rubbish dumping. Unauthorised entry to the rail corridor is illegal and is considered trespassing. ARTC responds to acts of graffiti as funding and resourcing allows. The removal of graffiti that impacts the safe operation of the network is removed as a priority.

Reflection of noise to the opposite side of the track following the establishment of noise barriers is also a consideration but can be managed through the choice of noise barrier materials or addition of absorptive panels.

The current approach for at-property treatments involves upgrades to impacted property facades such as glazing, external doors, and mechanical ventilation to improve indoor amenity. Further consultation will be undertaken with impacted landowners before reaching a final decision on mitigation. Should at-property treatment be required, the scope will be developed in consultation with the property owner and align with existing finishes and/or heritage values.

Noise mitigation measures required for the proposal would be funded by ARTC. This includes the LNCP detailed in Appendix G of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR).

Vibration mitigation

The additional vibration impacts associated with the proposal are minimal. The ground vibration levels would also be well within vibration levels for damage to building contents, structural and cosmetic damage to buildings, including heritage buildings and structures.

Prior to the commencement of the operational noise and vibration review, ARTC will carry out vibration monitoring to confirm compliance with the vibration criteria (NV11). This would inform the operational rail noise and vibration review completed during detailed design (NV3). This would include any reasonable and feasible mitigation, should exceedances be identified through this review (NV4); as such, dilapidation reports for operational vibration are currently not proposed. Dilapidation reports for construction vibration are discussed in Section 4.1.9.6 of this Submissions Report.

4.1.7 Air quality

4.1.7.1 Assessment approach

Submission ID numbers

28, 38, 41

Summary of issues

Three submissions queried the scope and adequacy of the air quality impact assessment.

One submission queried why the air quality assessment was limited to considering properties within 200 m of the railway corridor and why air quality impacts may not be experienced beyond that distance.

One submission expressed that the submitter's property is located closer to the railway than as listed in the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of the PIR) and, as such, queried how the air quality assessment was modelled; specifically, if air quality impacts have been calculated using distance-based modelling or if air quality monitoring was carried out.

One submission queried the exact locations of air quality monitoring carried out as described in the PIR and the EIS. The submission raises concern that the data collected from the monitoring locations to inform the air quality assessment may not account for the air quality conditions at residences adjacent to the railway, where trains have historically stopped and idled, and continue to do so.

Response

Assessment methodology and sensitive receivers

Air quality impacts as a result of the operation of the proposal are detailed in the Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report), and summarised in section 6.3 of the PIR. A case study approach has been undertaken as part of additional assessment within the PIR. The case study approach assessed the expected train operations in an urban setting (Wagga Wagga) and a rural setting (Culcairn and Junee to Illabo) to represent the urban areas and rural areas along the rail corridor between Albury and Illabo.

For both the urban and rural case studies, the study area considers potential air quality impacts within 200 m of the rail track. The assessment reports at the worst-case receiver as well as the indicative exceedance distance of the NO_2 criterion at idling locations. The latter was considered, given the case study assessments identified that predicted exceedances of NO_2 that are attributed to rail operations can occur at idling locations. As shown in Table 6-33 of the PIR, there are no predicted exceedances of the NO_2 criterion at or beyond 200 m.

As detailed in section 4.2 of Appendix F of this Submissions Report, sensitive receivers assessed as being potentially affected by operational emissions have been measured from the approximate centre of the rail track rather than the proposal site boundary, to account for the location of emissions from the operation of trains.

Due to the high density of residential dwellings in Wagga Wagga, gridded sensitive receivers have been included in the model to represent residential dwellings around the track. These gridded sensitive receivers are located approximately 20 m to 200 m from the track, with a spacing of 50 m. Both gridded sensitive receivers and discrete sensitive receivers have been also used for the rural setting. The discrete sensitive receivers are positioned at rural houses within 200 m of the track.

This approach to combine discrete and gridded sensitive receivers provides results from the case study areas that can be considered representative of the entire alignment. The modelled receivers are presented in Figure 4.2 (Culcairn), Figure 4.4 (Wagga Wagga), and Figure 4.6 (Junee) of Appendix F of this Submissions Report.

The results of the assessment for each pollutant are also reported for the sensitive receivers that would experience the highest predicted contribution from rail operations to the total concentration (that is, the emissions from the rail operations with background air quality included).

Methodology to determine the existing air quality environment

The methodology for the updated operational air quality impact assessment is included in Chapter 3 of Appendix F.

The existing air quality surrounding the proposal site has been characterised through descriptions of the region's topography, local meteorology, ambient air quality and potential sensitive receivers.

Background air quality monitoring data was sourced from ambient air quality monitoring stations operated by the relevant regulatory authorities in NSW and the ACT (see section 3.2.4 of the Addendum Air Quality Assessment) as required by the EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2022). Regional air quality is mainly influenced by rural activities, industrial activities, vehicle emissions, railway operations, power generation, waste management and extraction activities. Dust from paved and unpaved roads, and domestic solid and liquid fuel burning in the region, also contribute to the local air shed. A search of the National Pollutant Inventory list (for 2019/2020) identified 25 sources that would contribute emissions to the local air shed.

The contribution from passing and idling trains with and without the proposal in 2020, 2025 and 2040 has been accounted for within modelling, through the development and application of an emissions inventory. This includes Inland Rail freight trains, other freight trains operating along the Main South Line and passenger trains. Further detail is provided in section 3.3.2 of Appendix F.

4.1.7.2 Operational air quality

Submission ID numbers

10, 17, 19, 23, 24, 28, 33, 37, 40, 41

Summary of issues

Eleven submissions raised air quality concerns due to emissions from diesel-operated freight trains, and the resulting impacts to amenity (including odour) and/or health risks to the surrounding community (including schools and at residences). Specifically, submitters expressed concern that the proposal would detrimentally impact local air quality due to:

- more frequent, heavier and/or longer freight trains
- increased train idling in urban areas
- the use of diesel-powered trains, both historically and as part of the Inland Rail

- NO_2 concentrations exceeding assessment criteria during idling, and combined idling and train passing, presented in the Wagga Wagga Urban case study area and the Culcairn Rural case study area
- cumulative impacts with emissions from motor vehicles on the road network.

In raising these concerns, submitters stated that:

- the impacts identified in the PIR have not been addressed by ARTC; in particular, the impacts of idling trains at passing loops
- a number of residences and some schools are located directly adjacent, or in general proximity, to the rail corridor
- idling can already occur for prolonged periods, with existing idling air quality impacts at residences specifically highlighted in some submissions
- emissions associated with diesel combustion have known health risks, including asthma.

Odour from idling trains at a GrainCorp facility in Henty was also identified in one submission.

One submission expressed concern about emissions, and the threat of climate change and continued use of diesel trains.

Response

Rail contributions to local air quality

The assessment has accounted for idling trains and passing trains within each case study area and accounted for the increase in freight train movements due to the operation of Inland Rail. As outlined in section 4.1.7.1, the assessment has considered the worst affected residential sensitive receiver and applied a gridded approach, given the density of sensitive receivers within Wagga Wagga, with the closest point being 20 m from the track. Residential receivers are located at similar distance, or closer, to the rail line than other non-residential receivers.

The assessment identified that air pollutants associated with freight train exhaust that have the greatest potential for impact on sensitive receivers are PM_{10}, $PM_{2.5}$, NO_2, CO, SO_2 and benzene. Air pollutant concentrations have been predicted for future operational years of the proposal (2025 and 2040) and the existing operations (2020) were estimated for comparison. Emissions of SO_2, benzene and CO from the proposal are predicted to result in concentrations well within the assessment criteria during operation. Emissions of PM_{10}, $PM_{2.5}$, NO_2, are predicted to exceed the air quality criteria at the Wagga Wagga urban case study area and the Culcairn rural case study area. No exceedances of air quality criteria are predicted in the Junee to Illabo case study area.

In response to the EPA advice, additional assessment has been completed (provided in Appendix F of this Submissions Report). This found that the:

- rail contribution from idling, or the combination of passing and idling trains, is unlikely to lead to additional exceedances of the 24-hour criteria for PM_{10} and $PM_{2.5}$
- rail contribution during idling, or the combination of passing and idling trains, is the main driver of exceedances for the 1-hour NO_2 criterion. Additional exceedances attributed to the proposal by 2040 were determined to occur in 135 hours of the year in the urban case study (Wagga Wagga) and 45 hours of the year in the rural case study—representing around 1.5 per cent and 0.5 per cent of the year, respectively.

A review of the predicted exceedances of the 1-hour NO_2 criterion found that exceedances at any given sensitive receiver would occur when metrological conditions were unfavourable, in terms of wind direction, wind speed and atmospheric stability, which would lead to the low dispersion of emissions. This would typically occur at night.

However, the assumption that a high emitting locomotive (which drives the NO_2 contribution) is idling for every hour of a year at one location is not considered to properly reflect rail operations. In reality:

- it is more likely that the crossing loop for idling is more likely to be used during the day, when unfavourable metrological conditions are less likely
- the rollingstock operating consists of a mix of locomotive classes with that emit different levels of NO_2, and that the Inland Rail freight trains would be more likely to be on the main track, with other train services held in the crossing loop (with the exception of passenger trains).

To further determine the likely number of hours in which exceedances could occur, a realistic operational scenario was considered which factored in the probability of the unfavourable meteorological conditions coinciding with a train in the crossing loop, and the likelihood of an exceedance based on the train fleet compositions (based on the more likely scenario that the Inland Rail train is on the main track with other train services held in the crossing). The assessment then considered the differences based on the expected number of trains in 2040 to the number of trains in 2020. This determined that the number of additional exceedances of the NO_2 (1-hour) criterion attributed to the proposal would potentially occur in 11 hours of the year in the urban case study (Wagga Wagga) or in 1 hour of the year in the rural case study (Culcairn)—representing 0.1 per cent and 0.01 per cent of the year, respectively.

ARTC will manage operational air quality impacts in accordance with ARTC's existing EPL (EPL #3142) and its standard operating procedures, including those within the ARTC Environmental Management System (EMS). Separately, additional mitigation measures proposed for the proposal include establishing an Air Quality Monitoring Program for 12 months at a representative train idling location to measure existing levels of PM_{10}, $PM_{2.5}$ and NO_2; this program would monitor air quality, identify exceedances, investigate exceedances, and (if/where required) consult with train operators to explore options to reduce exceedances (revised mitigation measure AQ3). Prior to operation of Inland Rail, air quality modelling will be undertaken to validate assessment findings (mitigation measure AQ4).

No additional passing loops are included for the proposal.

Road network contributions to air quality

The assessment has focused on the contribution from the use of the rail line and has not accounted separately for contributions from idling vehicles on the road network. Contributions from the road network generally have been accounted for in the use of background ambient air quality data.

Climate change and greenhouse gas emissions

The strategic alternatives to Inland Rail are summarised in section 6.1 of the EIS. Electrification of the proposal has not been considered as it would not achieve the objectives of the *Inland Rail Program Business Case* (2015). The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise our economy.

Chapter 25 of the EIS included a preliminary greenhouse gas (GHG) assessment of Scope 1 sources. Scope 1 emissions are direct GHG emissions, being emissions that are produced from sources that are owned or controlled by the company. The proposal would bring a small increase in GHG emissions through combustion of diesel fuel by plant, equipment and vehicles during construction and maintenance, and loss of carbon sequestration through vegetation clearance. As locomotives on the rail network are not in the direct control of ARTC, this source of GHG emissions was not considered further.

The Inland Rail Program is, however, expected to reduce carbon emissions by 750,000 tonnes per year from 2050 and bring a net GHG emission improvement by moving a higher proportion of freight from road to rail. The modal shift from road to Inland Rail will reduce the carbon emissions of Australia's freight industry. As Inland Rail sections come online, carbon emissions would be proportionately reduced as freight movements via rail increases.

Odour emissions

Matters concerning idling trains at the GrainCorp facility is a matter for GrainCorp. Idling times and locations are at private facilities are not managed by ARTC.

4.1.7.3 Mitigation and management of impacts—operation

Submission ID numbers

28, 38, 41

Summary of issues

Three submissions questioned the approach to mitigating the operational air quality impacts identified in the PIR; specifically:

- that ARTC should complete a review of operational procedures now, given the contribution by freight trains to air quality exceedances is already known
- the certainty that the air quality issues would or can be resolved, given that the PIR has deferred responsibility to train operators and improvements to the rollingstock overtime
- a desire to see the NSW EPA manage air quality impacts for existing and future operations.

One submission highlighted the importance of air quality mitigation measures being implemented to reduce potential impacts to an acceptable level for the community.

Response

Maintenance and operation of trains

While likely operational impacts have been assessed in the EIS and PIR, the maintenance and operation of trains is the responsibility of the rollingstock operators. During operation of the proposal, it is expected that existing trains that have reached their operational life would be retired from use and replaced by new models that would be required to comply with the latest air emission limits, as specified in EPLs required for rollingstock operators' under the *Protection of the Environment Operations Act 1997* (NSW). These EPLs require new trains to comply with stricter noise and air emission limits, while existing trains are covered by legacy operational controls. The operation of Inland Rail will necessitate changes to operational patterns on the rail network, which provides an opportunity to further consider sequencing of train movements and utilisation of crossing loops in close proximity to sensitive

receivers, to reduce air quality impacts. ARTC notes that various rollingstock operators are working on programs for locomotive fleet renewal and business decarbonisation.

Mitigation measures

Further discussion on mitigation strategies is provided in response to the EPA's advice (refer to section 5.2.4 of this Submissions Report).

4.1.8 Assessment of changes to the proposal

4.1.8.1 Social

Submission ID numbers

28

Summary of issues

One submission raised concern that the construction timeframe and duration for the project in Wagga Wagga had been extended; in particular, that Edmondson Street bridge enhancement site would now take 14 months instead of the 11 months identified in the EIS. This would mean that the community would be impacted for longer, particularly for residents located in proximity to Edmondson Street bridge enhancement site. The submission also raised concerns that construction of the proposal may take longer than outlined in the PIR.

Response

As described in section 3.2.3 of the PIR, the construction schedule for the proposal has changed due to a range of factors, such as specialised resource planning, revised staging of bridge closures and scheduling construction around 60-hour rail possessions, as well as changes to the proposal made as part of the PIR. While some changes, such as staging of bridge closures, would reduce social impacts from reducing diversion distances, the increase in duration of construction at most enhancement sites may result in higher levels of impact due to the longer exposure to construction impacts such as amenity, access and safety.

As detailed in section 3.2.2.2 of the PIR, ARTC acknowledges that the construction of the proposal, from Albury to Illabo, is expected to take about 30 months (rather than 16 months as detailed in the EIS) for completion by the end of 2026, with enhancement sites progressively commissioned following construction. The change in construction duration reflects the reliance of various work sites on the longer possession periods. In Wagga Wagga, the duration of works at most of the enhancement sites has increased by around three to four months (except at Cassidy Parade pedestrian bridge enhancement site, where the program has increased by 18 months to a duration of 2 years).

The social impacts of these changes were reviewed against the social impact ratings assigned in EIS Technical Paper 4: Social (refer to section 7.2.5 of the PIR). The changes in the construction schedule are most relevant to the impact categories of way of life (mobility and accommodation), and health and wellbeing (amenity, safety and hazards).

With respect to these impact categories, the social impacts associated with way of life (mobility and accommodation) during construction were assessed as very high for the Wagga Wagga precinct in EIS Technical Paper 4: Social. While the changes to the construction schedule may result in some change to the level of impacts, the conclusion of a very high level of impact for the Wagga Wagga precinct would remain, therefore, the social impact rating and assessment did not change as a result of PIR changes.

Impacts on health and wellbeing associated with the extended construction program are considered to be generally consistent and significant impacts from the extended duration are not anticipated given:

- the quantum of construction work has not changed and peak construction activities would continue to be timed with scheduled possession periods, resulting in periods of reduced activity at Cassidy Parade pedestrian bridge enhancement site, where the program has been more significantly increased
- additional construction noise and vibration impacts associated with the new pedestrian bridge at Edmondson Street alongside the road bridge would be minor
- the estimated peak construction traffic volumes are not proposed to change despite the extension of the presence of construction traffic and activity
- the revised pedestrian bridge construction sequencing (which is to be confirmed during detailed design) would limit social impacts that may otherwise arise from reductions in connectivity (refer to section 6.1.2.5 of the PIR and mitigation measures TT4 and TT12).

Based on the consideration provided above, changes to the proposal construction schedule would not result in changes to the social impact ratings assigned in EIS Technical Paper 4: Social, and no additional mitigation measures are required. Mitigation measures, as detailed in Appendix B: Updated Mitigation Measures of this Submissions Report, would be implemented to minimise social impacts during the extended construction period for

the proposal. The proposed construction timeframe would continue to be refined through detailed construction planning.

4.1.8.2 Noise and vibration

Submission ID numbers

28

Summary of issues

One submission raised concerns about construction noise and vibration impacts, particularly during the night-time period and the duration of impact, given the extended construction program. The submission also stated that the technical language used in the PIR and supporting technical paper made it difficult for the general public to understand the anticipated noise and vibration impacts to properties; specifically, clarification on the implications of the changes to the construction footprint or proposal design and how many receivers would be impacted by the proposal.

Response

Construction noise

An Addendum Assessment to Technical Paper 6: Noise and Vibration (Non-rail) (Appendix G of the PIR) has been prepared to support the PIR and assesses the (non-rail) noise and vibration impacts of the proposal during construction; particularly, due to changes to the proposal site and extension of the construction program. Section 7.2.6 of the PIR provided a summary of this assessment.

Changes to the proposal site have resulted in a minor increase to the predicted number of impacted residential receivers during construction works (refer to Table 7-5 of the PIR). The majority of the changes to the proposal site were minor adjustments to account for bridge or level crossing design changes or adjustments to the construction compound within the Wagga Wagga Showground.

This assessment found that:

- where the proposal site adjustments were considered minor (i.e. in the order of 10–30 m), they would be unlikely to change the noise levels predicted at the most impacted receiver or the number of receivers predicted to be impacted
- at Edmondson Street bridge and Kemp Street bridge enhancement sites, the construction of the additional pedestrian bridge would require additional construction activity (such as piling); however, these activities would not change the noisiest or 'worst-case' activity (being earthworks). As such, the change in location of construction activity would not change the worst-case impacts predicted at the surrounding receivers
- at Cassidy Parade pedestrian bridge enhancement site, the extension of the proposal site would result in the receiver closest to the proposed change being potentially exposed to construction noise approximately 8 dB louder than originally predicted
- at the Pearson Street bridge enhancement site, the change in compound location within the Wagga Show Campground would increase the number of highly affected residential receivers (without mitigation) but there would be a reduction in impacted receivers located to the west of the enhancement site
- changes to the construction program would not change the predicted noise levels but they may increase or decrease the duration of exposure to some work stages; however, the construction schedule would continue to involve intermittent work proposed during track possessions. As such, although start-to-finish work durations are extended, each work period would be interspersed with long periods of down time where no work would be undertaken.

As described in the EIS, primary construction hours of 6 am to 6 pm Monday to Sunday, and on public holidays, are proposed where works would not need to occur on, or immediately adjacent to, active rail lines. These construction activities would be undertaken outside primary construction hours, as well as during rail possessions, to ensure worker safety. Rail possessions are scheduled to be up to 60 hours and would work on a 24-hour rotating shift basis for the duration. Temporary track occupancy authorisations would also be used, comprising 5–9 hour windows in which train services are not scheduled. The PIR has not changed the requirements for these construction hours or possession periods.

It is acknowledged in the EIS that construction would result in exceedances of relevant criteria at numerous receivers around the proposal site, and that these exceedances would vary between enhancement sites depending on the type and intensity of the construction activities required. Where works are required during the night, the assessment has identified exceedances of the sleep disturbance criterion. These exceedances are discussed in the EIS Chapter 15—Noise and Vibration, Technical Paper 6: Noise and Vibration (Non-rail) and in the EIS Submissions Report.

The predicted noise levels represent the worst-case scenario in which the loudest equipment is operating at the closest point to receivers. In practice, actual construction noise levels at individual receivers would be lower for most

of the construction period, as noise-generating activities are undertaken at varying locations within each enhancement site. The louder and more intrusive works (such as piling or earthworks) would also typically occur during possessions and track occupancy authorisations, and the scheduling for rail possessions and rail closures would usually provide respite periods for sensitive receivers.

Exceedance of noise criteria for all periods would occur, despite implementation of reasonable and feasible mitigation measures, particularly for works in and around urban areas. The highest noise impacts are predicted to be experienced during rail possessions, particularly in Albury and Wagga Wagga, due to the scale of works and number of nearby receivers. In most cases, the duration of the construction activities would be relatively short lived as they are constrained by rail possession duration. Further, the scheduling for rail possessions and rail closures would usually provide respite periods for sensitive receivers.

Implementation of standard and site-specific noise and vibration mitigation measures would reduce the impact on receivers as far as is reasonable and feasible. Where appropriate, this would include using temporary noise barriers, using quieter equipment, staging work to avoid extended periods of disruption, and providing respite periods and alternative accommodation if required.

These measures would be informed through location- and activity- specific construction noise and vibration reviews (mitigation measure NV1), and will be guided by the noise and vibration management subplan of the CEMP (mitigation measure NV5). The statements will confirm noise and vibration auditing and monitoring requirements, and corrective measures will be implemented as required.

Vibration

Construction vibration from the proposal has been conservatively assessed based on worst-case assumptions. The assessment has considered minimum safe working distances for different plant and equipment based on thresholds, above which impacts based on human response or cosmetic damage to structures (including heritage structures) may occur. These safe working distances are used as a screening assessment to identify where mitigation and management may be required (refer to Table 5-1 of the Addendum Assessment to Technical Paper 6: Noise and Vibration (Non-rail) (Appendix G of the PIR).

The proximity of vibration-generating works has the potential to change due to the proposed changes to the proposal site presented in the PIR. The predicted receivers within the safe working distances for ground vibration (excluding start up and shutdown) were reviewed with the proposed changes, and the following changes were identified:

- at Pearson Street bridge enhancement site in Wagga Wagga, the number of receivers potentially subject to human comfort effects decreases from 53 to 50
- at Cassidy Parade bridge enhancement site in Wagga Wagga, the number of receivers potentially subject to human comfort effects increases from 58 to 65
- at Kemp Street bridge enhancement site in Junee, the number of receivers potentially subject to human comfort effects increases from 82 to 84 and the number of receivers potentially subject to cosmetic damage increase from 15 to 18.

The vibration-generating construction works at each enhancement site would be temporary and the level of vibration would only occur for relatively short periods of time. Existing mitigation measures identified in the EIS for construction-phase vibration impacts would remain applicable (see section 4.1.12.6 for more detail).

These measures would be informed through location- and activity- specific construction noise and vibration reviews (mitigation measure NV1) and will be guided by the noise and vibration management subplan of the CEMP (mitigation measure NV5). The statements will confirm noise and vibration auditing and monitoring requirements, and corrective measures will be implemented as required.

Communication of assessment findings

The PIR was written in concise, plain language in order to be understood by the general public. It has acknowledged where impacts or exceedances have been identified and has provided cross references to where more detailed technical assessment findings can be reviewed.

4.1.9 Beyond the scope of the PIR or beyond the scope of the proposal

4.1.9.1 Options and alternatives—the Inland Rail Program

Submission ID numbers

24, 28, 37

Summary of issues

Three submissions commented on the selection of the Inland Rail route as well as the electrification of the freight line.

One submission stated that the proposed Inland Rail route is not the most suitable, and suggested that a more suitable route would be Shepparton to Parkes along existing rail corridors, as no acquisition would be required and would service the Murrumbidgee irrigation area more readily. The submission also questioned if double-stacked containers need to be catered for, given most freight transported cannot be containerised.

Two submissions queried why electrification of the Inland Rail network has not been considered, commenting that electrifying the Inland Rail (or developing a new, electric Inland Rail) would reduce greenhouse gas emissions, reduce reliance on fossil fuels and diesel consumption, and minimise air quality and noise and vibration impacts.

Response

The strategic alternatives to Inland Rail are summarised in section 6.1 of the EIS and discussed further in the EIS Submissions Report. Three strategic options were assessed by the 2015 *Inland Rail Program Business Case* and included progressive road upgrades, upgrade of the existing east coast railway, and development of an inland railway. One of the targets of the *Inland Rail Program Business Case* was to optimise use of existing rail infrastructure.

Two main route alignments were considered between Melbourne and Junee, which prioritised the use of existing rail infrastructure—one alignment was via Shepparton and the other via Albury. Either alignment would be an enhancement or upgrade project, where only some existing infrastructure is required to be modified to accommodate double-stacked freight trains, and minimise the need to establish new rail corridors. The alignment via Albury was selected as the preferred option, as described in section 6.2 of the EIS.

Routes through Albury offered superior outcomes for the key criteria of capital costs and transit time. Although the faster Shepparton route offered a transit time that would be quicker by about 30 minutes, this route attracted a significant extra capital cost (adding over $900 million to the proposal relative to Albury alternatives). Consideration of a greenfield alignment (either in part or in entirety) for A2I is not in accordance with the objectives and business case of Inland Rail (ARTC, 2015), which aims to maximise the use of existing infrastructure, where possible, and have an overall Inland Rail alignment with a less than 24-hour transit time between Melbourne and Brisbane.

There are no plans to consider changes to the A2I alignment from that endorsed by the Australian Government. The route was agreed between the Australian and New South Wales governments in the Bilateral Agreement for Inland Rail, signed on 4 May 2018.

Development of an electrified freight line would not meet the objectives of the Inland Rail Program Business Case.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the Australian economy. The modal shift from road to Inland Rail will reduce the carbon emissions of Australia's freight industry. As Inland Rail sections come online, carbon emissions would be proportionately reduced as freight movements via rail increases.

4.1.9.2 Options and alternatives—Wagga Bypass

Submission ID numbers

3, 4, 10, 12, 13, 14, 15, 17, 22, 23, 24, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 41

Summary of issues

Twenty-two submissions requested that a bypass of Wagga Wagga must be investigated (and costed) and/or implemented as part of the proposal. Submissions expressed that a bypass of Wagga Wagga must be considered as an alternative to the proposal for a number of reasons including (but not limited to), rail noise and vibration impacts, traffic impacts at level crossings, and social impacts (including response times for emergency services, social cohesion and connectivity). Further, submissions stated that the benefits of Inland Rail to the economy must be considered against the long-term impacts to the City of Wagga Wagga.

Some submitters expressed the view that a bypass would be more cost effective and efficient for freight operations, as trains would not be limited to 80 km/hr; it would not require the level of mitigation currently required by the proposal during construction and operation; and building on a floodplain would provide longer term benefits by avoiding impacts on the City of Wagga Wagga. Submitters expressed the view that the cost of developing a bypass of Wagga Wagga is considered justified considering the expected long-term operation of Inland Rail and the increase in population within the City of Wagga Wagga. It was also questioned if the existing rail infrastructure can cater for longer, more frequent, and heavier trains, and if the long-term costs of maintenance had been considered when selecting the preferred design.

It was also requested that ARTC clearly identifies the trigger for when a bypass would ultimately be provided for the City of Wagga Wagga, alongside suggesting or querying the acquisition of easements to protect this option. Some submitters expressed the importance of identifying the location of easements and cost for a future Wagga Wagga bypass, in the context of the recommendations of an independent review of the inland Rail Program completed in 2023.

Many submissions raised that they support Inland Rail; however, do not support the proposal's current route through Wagga Wagga. Some submissions queried the ineligibility of Wagga Wagga for a bypass, noting the

development of bypasses and new track at other locations as part of the Inland Rail Program. One submission raised feelings of inadequacy for the route selection process, commenting that bypasses of other locations, such as Parkes and Toowoomba, have been provided while Wagga Wagga has not.

Some submissions expressed dissatisfaction with the proposal's route options, and alternative assessment and selection process, requesting that options for a Wagga Wagga bypass be considered and developed in consultation with the community. Some submissions commented that they feel the lack of consideration of a Wagga Wagga bypass is a failing of government and council. Submissions identified that the route options process had not adequately considered the social and amenity impacts to the City of Wagga Wagga and its residents.

One submission commented that bypassing Wagga Wagga would meet the proposal's objectives while resolving the requirement to modify transport infrastructure for Inland Rail through Wagga Wagga. One submission suggested limiting freight train height between Melbourne and Illabo to reduce expenditure on rail upgrades and redirect funding to a Wagga Wagga bypass.

One submission expressed that the Response to Submissions Report did not adequately respond to the concerns of residents regarding the costing and planning of a Wagga Wagga bypass.

Response

As outlined in section 4.1.2 of the EIS Submissions Report, the development and selection of the Inland Rail alignment between Melbourne and Junee is provided in the *North–South Rail Corridor Study Executive Report* (Department of Transport and Regional Services, 2006) and *Melbourne– Brisbane Inland Rail Alignment Study* (ARTC, 2010), and is summarised in section 6.2 of the EIS.

Within the *North–South Rail Corridor Study Executive Report* (Department of Transport and Regional Services, 2006), the feasibility of 136 possible route options was investigated within a 'north–south rail corridor' covering all sections of the existing rail network in Victoria, NSW and Queensland that currently form, or could potentially form, part of a freight route between Melbourne and Brisbane. Two key criteria (capital cost and journey time) were used to establish a shortlist of route options for consideration (ARTC, 2010).

Two main route alignments were considered between Melbourne and Junee, which prioritised the use of existing rail infrastructure—one alignment was via Shepparton and the other via Albury. The alignment via Albury was selected as the preferred option, as described in section 6.2 of the EIS. Routes through Albury offered superior outcomes for the key criteria of capital costs and transit time. Consideration of a greenfield alignment (either in part or in entirety) for A2I is not in accordance with the objectives and Business Case of Inland Rail (ARTC, 2015), which aims to maximise the use of existing infrastructure, where possible, and having an overall Inland Rail alignment with a less than 24-hour transit time between Melbourne and Brisbane.

Consideration and analysis of a bypass of towns was not contemplated and would not be proportional to the assessed effects of the proposal along the existing freight rail line, nor does it achieve the objective of maximising the use of existing infrastructure.

There are currently no plans to consider changes to the A2I alignment from that endorsed by the Australian Government. The route was agreed between the Australian and NSW governments in the Bilateral Agreement for Inland Rail, signed on 4 May 2018. This commitment was reinforced within the *Independent Review of Inland Rail* (Schott, 2023). Recommendation 12 of the Inland Rail Review recognises that if and when Inland Rail train traffic increases significantly, the possibility to bypass the city should be investigated and easements protected for a new bypass corridor. In current estimates, rail traffic is not expected to increase to a degree that warrants consideration of a bypass of Wagga Wagga. As such, a Wagga Wagga bypass has not been contemplated by government and is not a necessity for this planning approval or assessment of the proposal.

4.1.9.3 Options and alternatives—level crossings

Submission ID numbers

4, 14, 19, 23, 24, 28

Summary of issues

Six submissions expressed that road–rail interfaces should be grade separated, with most submissions requesting the Bourke Street/Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga be grade separated.

Submissions commented that if the Inland Rail route must traverse Wagga Wagga, then grade separations should be considered, particularly to minimise potential impacts to future growth areas in and surrounding Wagga Wagga. Submissions expressed the view that the inclusion of grade separations in Wagga Wagga would reduce impacts to traffic and emergency services associated with traffic delays at Bourke Street/Docker Street level crossing and the Fernleigh Road level crossing during operation of the proposal.

One submission suggested the incorporation of grade separations into the proposal's design in Wagga Wagga, raising concerns about severance and impacts to pedestrian movement across the rail line at level crossings with delays, particularly where the train line intersects lower socio-economic areas of Wagga Wagga.

One submission commented that all level crossings at road–rail interfaces should be upgraded or separated as part of the proposal (including level crossings at Culcairn, Henty, Yerong Creek, The Rock and Uranquinty) to reduce potential noise and vibration impacts, and traffic delays at level crossings in these locations. One submission commented that the removal of level crossings in Victoria due to safety issues has been ignored in NSW.

Response

Level crossing treatments and grade separation

As described in section 4.1.2 and 4.1.7.9 of the EIS Submissions Report, level crossings that require no work as a result of the proposal do not form part of the proposal scope. Only level crossings that are required to be modified to accommodate double-stacked freight trains are included in the proposal scope, e.g. changes to accommodate track realignment.

The Office of the National Rail Safety Regulator (ONRSR) administers and regulates the safety of the Australian railway industry under rail safety national law. ARTC uses a consistent safety-based methodology to design the road–rail interface treatments across the Inland Rail Program, as documented in the Inland Rail Road–Rail Crossing Strategy and outlined in Appendix A of the EIS Technical Paper 1. This approach is aligned with rail safety national law and ONRSR guidelines, which require the risks to safety to be minimised so far as is reasonably practicable. This safety-based methodology has been audited by the ONRSR in June 2020 and there were no findings or recommendations.

Consideration of the road–rail interface treatment at level crossings (including provision of grade separations) that are out of scope does not form part of the proposal, as grade separations are not directly necessary to provide the horizontal and vertical clearances required to accommodate the double-stacked freight trains. Applying the safety-based methodology to the level crossings within the scope of the proposal, the outcomes indicated that grade separation at these level crossings is not justified from a cost–benefit perspective.

The Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga do not require modification, and are out of scope of the proposal. These level crossings are located on local roads and any modification considered appropriate would need to be carried out by the road manager—Wagga Wagga City Council. ARTC will continue to work collaboratively with Transport for NSW to progress road–rail interface solutions during detailed design.

Safety issues at level crossings

With regard to the safety issues associated with level crossings, the approach to considering level crossing options has taken into account relevant NSW and Australian level crossing policies, which emphasise the need to minimise the number of level crossings, as far as reasonably practicable. The ONRSR's level crossing policy upholds that no new level crossings should be constructed. Construction of level crossings do not form part of the proposal.

At level crossings within the study area of the proposal, the majority of existing level crossings are 'active crossings' that have flashing lights and boom barriers for motorists, and, where provided, automated gates for pedestrians. Where level crossings are controlled by flashing lights and boom barriers, this constitutes the highest form of level crossing control in the Australian Standard *AS 1742.7 Manual of Uniform traffic control devices*. As such, while modifications for track realignment may be required to achieve track clearances, no further safety upgrades would be required as part of the proposal at these level crossing locations.

Where the proposal requires modification of level crossings within the study area that are currently 'passive crossings' (that is level crossings with stop or give-way signs for motorists, and 'Look for trains' signs for pedestrians), these level crossings would be upgraded to active crossings as part of the proposal. These upgrades from passive to active level crossings would constitute the highest form of level crossing control in the Australian Standard *AS 1742.7 Manual of Uniform traffic control devices*.

4.1.9.4 Operation of the proposal

Submission ID numbers

10, 14, 15, 17, 18, 22, 24, 26, 27, 28, 37, 39, 41

Summary of issues

Thirteen submissions raised concerns or queries about the operation of the proposal, including questioning the operational train numbers, concerns over the design of pedestrian and road bridges, and querying the operational impacts to (and interactions between) freight trains for Inland Rail and other train services.

Many submitters queried the number of trains that would use Inland Rail in the future; specifically:

- expressing concerns that the number of freight train movements during operation of the proposal would exceed those assessed in the EIS and PIR, resulting in significant impacts to communities along the rail corridor
- expressing concerns that the predicted number of freight train movements during operation of the proposal are not accurate, and would be higher to meet demands of private rail operators. One submitter is of the view that freight train movements would be double than the expected total number of freight trains in 2040

- expressing concerns that there has been a lack of guarantee about a maximum number of freight train movements during operation
- commenting on the difference between anticipated northbound and southbound train movements presented in the PIR; specifically, why there are more trains travelling north from Junee.

Many submissions also raised questions and concerns regarding the design of Edmondson Street road bridge. The steepness of the proposed taller road bridge was cited as a potential road safety issue due to:

- the proximity of the Sturt Highway and Best Street intersection, steepness of the grade and presence of pedestrian crossing and school drop-off activities north of the Edmondson Street bridge
- the proximity of the left-hand turn into Erin Street and the right hand turn into the Mt Erin Boarding School south of the Edmondson Street bridge.

Submissions queried how Inland Rail would impact passenger rail services or existing freight services, with some submitters expressing that they do not accept the findings that there would be no impacts to passenger trains resulting from operation of the proposal. One submitter expresses their view that operation of the proposal would lead to impacts to passenger services, which would impede future development of a fast rail for Wagga Wagga.

Submissions raised concerns about the human and environmental consequences of train derailments during operation of the proposal. One submission queried the operational maintenance requirements and commitments of ARTC during operation of the proposal, considering more frequent trains and/or longer, double-stacked trains with heavier loads, commenting that a lack of track maintenance may lead to train accidents and derailments.

One submission expressed objection to the proposed works at Wornes Gate Road level crossing (LX1472), querying the justification of works at the location and commenting that the existing crossing is adequate.

Response

Train numbers

There is no predicted change in train numbers on the existing rail line between Albury and Illabo prior to the commencement of operation of Inland Rail upon the completion of all projects. It is estimated that the operation of Inland Rail would increase freight train movements up to a total of 18 freight trains per day in the early phase of Inland Rail's operation when all projects are completed, and up to a total of 20 freight trains per day over the following years upon further take up of the service.

The existing railway operations on the Main South Line, including the Albury to Illabo section of Inland Rail, do not have a cap on train numbers or frequencies. The current proposal does not seek such a limitation. The CSSI proposal indicates a likely level of operation to inform the identification and assessment of environmental impacts and the application of appropriate mitigation measures for those impacts. The forecasted train volumes were developed by ARTC and are based on tonnage predictions developed as part of the Business Case (ARTC, 2015). The predicted tonnage, and the resultant definition of trains operations required to transport this, is subject to many assumptions that will continue to develop and evolve as the proposal progresses.

ARTC acknowledges the concern expressed that increased train numbers, including potential future train volumes, could affect residential amenity, community wellbeing and road network operations. The mitigation measures proposed would minimise the anticipated effects of the proposal, in line with NSW policy. ARTC will also continue to manage the proposal in accordance with its EPL for rail operations (EPL #3142) under *Protection of the Environment Operations Act 1997* (NSW) (POEO Act) and its existing standard operating procedures, including those within its Environmental Management System. Additionally, rollingstock operators, who are responsible for the operation of trains and locomotives on the rail network, will also continue to have obligations to manage the environmental compliance of rollingstock in accordance with their EPLs. In response to the Inland Rail review, ongoing monitoring of train volumes, forecasts and their effects on surrounding areas as Inland Rail is delivered would occur, and would ensure future operations maintain environmental standards.

The difference in train movements between Junee to Illabo compared to areas south of Junee is due to the additional movements connecting to the Main South Line from the Junee-Griffith rail line. These services would continue with the operation of Inland Rail.

Edmondson Street bridge

The vertical grade of the Edmondson Street bridge was designed to avoid the requirement for adjustment or reconfiguration of adjacent intersections, including Sturt Highway (Edward Street), and achieves the desirable minimum sight distance requirements of *Austroads Guidelines Part 3: Geometric Design* (Austroads, 2021) for a 50 km/h design speed limit.

Detailed design will consider safety of adjoining intersections in accordance with relevant standards and guidelines.

A bridge design with a lower vertical grade would have required the bridge structure to be longer in length and would have required other intersections to be moved and/or adjusted, thus increasing the area of impact and change as the track clearance requirements below the bridge remain.

Passenger services

As outlined in Appendix A of the PIR, train timetabling would be the responsibility of operators. Current passenger services between Melbourne and Sydney would continue to operate along the Main South Line. Passenger rail services would continue and would still have priority over freight services, with no planned modifications to the existing passenger stop locations, service frequency or schedule required as part of the proposal's operation; however, ARTC has an ongoing task to review all service schedules when new services are added, and small modifications to how the rail line operates can be expected as part of normal operational procedures. Inland Rail trains would receive priority of way over other train types (excluding passenger trains) and would typically be the train continuing on the main line while a lower priority train waits in the crossing loop.

Derailments

In the event of an incident such as train derailment, ARTC would respond in accordance with its safety management procedures. Potential operational hazards and risks associated with the rail corridor, including accidents involving hazardous cargo, would be managed by undertaking the design with an appropriate emphasis on safety, according to relevant design standards and requirements. The transport of hazardous materials and dangerous goods would be the responsibility of the freight operators, and would be undertaken in accordance with relevant standards and regulatory requirements (including the *Australian Dangerous Goods Code* (National Transport Commission, 2020)) and ARTC's standard operating procedures.

Wornes Gate Road level crossing (LX1472)

The Australian Level Crossing Assessment Model (ALCAM) is the nationally accepted risk tool for level crossings, which looks at a range of factors including road and rail volumes and speeds, heavy vehicle use, sighting distances and road/rail geometry. ALCAM assessments were undertaken for public road level crossings in the proposal scope, thus providing a baseline risk score.

As described in section 6.3.6 of the EIS Technical Paper 1: Traffic and Transport, the Wornes Gate Road level crossing (LX1472) was identified as requiring upgrade from a passive to active crossing for road traffic, based on the findings of the ALCAM assessment. This level crossing is minimally used and is not the primary access point for any private property. The level crossing may be modified to accommodate the realigned track and upgraded from a passive to an active level crossing; however, ARTC's preferred design solution would be permanent closure of this level crossing, subject to stakeholder agreement.

Consultation would continue separately with relevant stakeholders on the potential permanent closure of this level crossing, as part of ARTC's operational responsibilities, but the potential closure of the level crossing is not part of the scope of the proposal.

4.1.9.5 Transport and traffic

Submission ID numbers

14, 18, 27, 32

Summary of issues

Four submissions made comment concerning traffic impacts.

One submission expressed concern about road safety at level crossings on the Olympic Highway at towns such as Culcairn, Henty, Yerong Creek, The Rock and Uranquinty due to traffic accumulating at level crossings during extended level crossing closures.

One submission expressed concern about the duration of level crossing closures at Yerong Creek when longer and more frequent freight train movements would occur in the future, given this is the only crossing in the town. The submission identified that trains idle in Yerong Creek within the current crossing loop to allow passing trains, and that trains pass through Yerong Creek at low speeds. The submission suggested that extending the crossing loop and changing the signal arrangements should address this concern of longer wait times while enabling emergency access between train movements.

One submission stated that residents in Junee are more concerned about the duration of level crossing closures during train driver changeovers at LX607 Olympic Highway, than rail noise impacts.

One submitter requested permanent closure of the western end of Erin Street during operation of the proposal, following completion of the Edmondson Street bridge replacement, citing road safety concerns associated with road users taking Erin Street as a short cut, commenting that this may exacerbated during operation.

Response

As discussed in section 4.1.12.3, level crossings that require no work as a result of the proposal do not form part of the proposal scope. Only level crossings that are required to be modified to accommodate double-stacked freight trains are included in the proposal scope, e.g. changes to accommodate track realignment.

As detailed in section 6.1.3.4 of the PIR, most towns and localities in the study area are divided by the railway and Olympic Highway, creating an existing physical barrier for residents to get from one side of a town or city to another. While the proposal does not change the functionality or operational arrangements of any of the level crossings, an increase in frequency and duration of level crossings closures due to increased train movements is expected, which will eventuate following full operation of the Inland Rail Program.

With regard to the safety issues associated with level crossings, the approach to considering level crossing options has taken into account relevant NSW and Australian level crossing policies. The existing level crossings on the Olympic Highway at towns such as Culcairn, Henty, Yerong Creek, The Rock and Uranquinty are 'active crossings' that have flashing lights and boom barriers for motorists, and, where provided, automated gates for pedestrians. Where level crossings are controlled by flashing lights and boom barriers, this constitutes the highest form of level crossing control in the Australian Standard *AS 1742.7 Manual of Uniform traffic control devices*. As such, while modifications for track realignment may be required to achieve track clearances at some level crossings, no further safety upgrades would be required as part of the proposal at these level crossing locations.

The PIR indicates that given that the western part has a disproportionally low number of services, it is possible that residents living in Yerong Creek may experience minor change to community severance due to increased frequency of level crossing closure; as such, the community severance impact is expected to be medium.

Accessibility to educational, health and emergency services might change due to the changes in the frequency of level crossing closures and waiting time from the proposal. The impact to accessibility varies along the rail corridor depending on the location of residential areas and educational, health and emergency facilities in relation to the level crossings. Low impacts to accessibility from the proposal are generally expected along the rail corridor. Medium impacts on emergency service access are anticipated in Wagga Wagga and Junee due to the location of the hospitals in these towns.

Mitigation measure TT4 requires ARTC to consult further with emergency services and local emergency management to provide further information on train movements and level crossing closures, to assist emergency services in their emergency response and travel planning in the operational stage. Further, mitigation measure SI12 requires the following to address the social impacts of level crossings:

- development of an operations communication and engagement plan that builds community awareness of the rail line's operational characteristics, including information on level crossing operations, likely daily train movements and ARTC's ongoing role after construction. Special attention should be given to informing educational, medical and emergency facilities
- continued engagement with the community about potential ways for people to be informed about the time of day in which trains may be passing through a level crossing, to facilitate access and movement around the town. The proposed measures will support the mitigation of the social impacts caused by the longer and more frequent level crossings closures. No further mitigations are proposed.

Train idling at Junee

As detailed in section 4.3.3.3 of the EIS Response to Submissions, the social impact assessment acknowledged that the continual use of Junee Station for crew changes, and the increase in waiting time due to train movement, may result in social severance being experienced as a noticeable change for local residents.

As stated in the EIS Submissions Report, while operational impacts have been assessed, train timetabling and driver changes are the responsibility of operators and are not within the jurisdiction of ARTC; however, ARTC is continuing to engage with operators, with several meetings held in November and December 2023 to investigate solutions to reduce the frequency and the duration of level crossing closures at LX607 Olympic Highway. In accordance with mitigation measure SI9, should any reasonable and feasible solutions be identified, ARTC would undertake any necessary works through separate approvals (as required).

Closure of Erin Street

The temporary closure of Erin Street is required for construction of the proposal; however, the extent of closure is limited to the construction phase, and access to properties within Erin Street would be maintained. The temporary restriction of right-turn movements from Coleman Street onto Bourke Street during the AM peak has now been included as a mitigation measure (revised mitigation measure TT2). Restrictions on some turning movements elsewhere during specific times will be considered when preparing traffic management plans for the area.

4.1.9.6 Noise and vibration

Submission ID numbers

1, 3, 7, 8, 15, 25, 32, 34, 36, 41

Summary of issues

Ten submissions raised concerns about construction noise and vibration impacts of the proposal that are not related to design changes and additional assessments detailed within the PIR. Most submissions raised concerns about noise and vibration impacts at residential properties in Wagga Wagga and Junee during construction (relating to both construction noise and construction traffic noise levels), requesting assurances about impacts to residential properties.

Specifically, multiple submissions requested dilapidation reports be completed at their residential properties prior to construction commencing, to provide assurance that construction noise and vibration does not have adverse impacts on dwellings. Many of these submitters commented that they have concerns about damage to dwellings due to the building's age or style.

One submission raised concerns about construction noise impacts to non-residential sensitive receivers such as South Wagga Public School, Kildare Catholic School and Wagga Wagga High School.

Some submissions expressed concern about the level of impact of construction noise at affected receivers, including during the day-time period. Submissions also raised concerns about sleep disturbance from construction activities during the evening and night-time periods.

Submissions raised concerns about impacts to properties within Wagga Wagga associated with traffic noise from construction vehicles or diverted traffic during closure of Edmondson Street bridge, including along Erin Street, Macleay Street, Railway Street, Bourke Street and Coleman Street.

One submission commented that the PIR does not consider management of operational road noise in Junee, raising concerns about traffic noise impacts at residential properties along George Street, Ducker Street, and Hill Street following removal of vegetation for construction of the Kemp Street bridge.

One submission requested permanent closure of the western end of Erin Street following completion of the Edmondson Street bridge replacement, commenting that Erin Street is used as a short cut, and traffic noise impacts would be exacerbated during operation.

Response

Construction noise

Section 15.5.1 of the EIS, and the updated assessments provided in the EIS Submissions Report, identified that construction noise levels in the Wagga Wagga and Junee precincts are predicted to exceed relevant construction NMLs at residential receivers and during most work stages. Sleep disturbance impacts have been predicted to occur during most night-time work stages. Exceedances of noise management levels (NMLs) were also identified at educational establishments, including the schools in proximity to the enhancement sites in the Wagga Wagga precinct. More detail is provided in Technical Paper 6: Noise and Vibration (Non-rail).

Where noise is above the construction NMLs, all feasible and reasonable work practices to minimise noise would be implemented and all potentially affected receivers would be informed. If no quieter work method is feasible and reasonable, consultation would be had with occupants of affected residences, including consideration of any respite periods that would be provided. Consultation with the surrounding community on noise impacts and mitigation strategies has commenced and would inform the final mitigation and management strategies for the proposal.

Feasible and reasonable management measures would be informed through location- and activity-specific construction noise and vibration reviews (mitigation measure NV1). The statements will also confirm noise and vibration auditing and monitoring requirements.

Construction vibration

Construction vibration from the proposal has been conservatively assessed in the EIS based on worst-case assumptions, and in the PIR for where changes in the proposal site or scope has changed. The assessment has considered minimum safe-working distances for different plant and equipment based on thresholds, above which impacts based on human response or cosmetic damage to structures (including heritage structures) may occur. These safe-working distances are used as a screening assessment to identify where mitigation and management may be required.

The mitigation approach for managing potential impacts to vibration includes completion of condition surveys for structures within safe working distances, to confirm their condition prior to and following construction of the proposal (mitigation measure NV2). Condition surveys will confirm how susceptible the structure is to potential damage from vibration. Alternative construction methods that generate less vibration will be investigated and may be substituted, where appropriate, and attended vibration measurements will be undertaken at the commencement of vibration-

generating activities to confirm that structural vibration limits are within the acceptable range. Site activities will be modified where practicable to avoid exceeding the applicable criteria (mitigation measures NV1, NV2 and NV10).

The mitigation approach would be implemented to proactively manage the potential for vibration impacts occurring; however, in the unlikely event that vibration-related damage to a structure occurs, the damage would be rectified by the construction contractor to its pre-construction condition at no cost to the property owner (mitigation measure NV10).

Construction road traffic noise

ARTC acknowledges that additional road traffic (including heavy vehicles for materials and equipment delivery, and light vehicles to transport workers) generated during the construction phase of the proposal may impact receivers along the proposed transport routes. An increase in road traffic noise during construction of less than 2 dB would generally be considered acceptable—this corresponds to an approximate increase in traffic of 60 per cent.

The *Noise Criteria Guideline* (NCG) (RMS, 2015) states that where road traffic noise levels are likely to increase by more than 2 dB, road traffic noise levels should be further assessed against existing target noise abatement levels for roads not subject to redevelopment, specifically, 60 dB L_{Aeq} (15 hour) for arterial/sub-arterial roads, and 55 dB L_{Aeq} (9 hour) for local roads.

Construction traffic associated with the Wagga Wagga precinct on public roads (see Table 5.26 of Technical Paper 6) is likely to comply with the road traffic noise goals at all sites. While exceedances are expected to be over the 2 dB increase, predicted noise levels would not be expected to exceed road base criteria; therefore, potential noise impacts to receivers along these roads are not expected.

The EIS also identified that diverted traffic on alternative routes due to the closure of Edmondson Street bridge would likely generate road traffic noise greater than 2 dB, and above the road base criteria for receivers within 20 m of the affected roads.

A construction noise and vibration management plan (CNVMP) will be prepared and implemented as part of the CEMP (mitigation measure NV5). The plan will outline measures, processes and responsibilities to manage and monitor noise and vibration, including from construction traffic and noise from road detours during construction, if and where identified.

Operational road noise

The proposal would not generate additional road traffic during operation.

The assessment of road traffic noise for Kemp Street bridge during operation of the proposal was included in section 15.6.1 of the EIS and in the EIS Technical Paper 6 (section 6.2). The results show that noise levels are predicted to reduce at properties immediately adjacent to bridges.

Decreased noise levels have been predicted for receivers located in very close proximity to the bridge. At these locations, screening from low-height noise sources (tyres and engines) is provided by the bridge platform itself. Although the increase in bridge height reduces the extent of noise absorbed by the ground for receivers close to the alignment, this loss is negligible due to the short distances to these receivers.

A minor increase was predicted for receivers at greater distances (Pretoria Avenue), in the order of 0.1 dB, but these increases were within the assessment criteria.

The permanent closure of Erin Street is not in the scope of the proposal.

4.1.9.7 Land use and property

Submission ID numbers

6, 12, 13, 22, 27, 41

Summary of issues

Six submissions expressed concerns about the impact operation of the proposal may have on property values surrounding or impacted by operation of the proposal, associated with more frequent trains and/or longer, larger, double-stacked trains with heavier loads.

Most submissions raise concern about the potential impact of operation of the proposal on the value of their properties in Wagga Wagga, generally attributing noise impacts as a key issue. Some of these submissions queried how they would be compensated for impacts to property value, expressing feelings of disadvantage for residents living along the rail line.

One submission raised concern about potential impacts to property values associated with the proposed noise barrier, to be installed as an operational noise and vibration mitigation measure, along the rail line at Junee. The submitter comments that the noise barrier would decrease property values by impacting the visual experience from residences, exchanging typical views for a concrete wall.

Response

An additional operational noise assessment for the full length of the rail corridor between Albury and Illabo was completed (refer to section 6.2 of the PIR). This assessment identified additional receivers that require consideration of mitigation measures to address potential exceedances of operational rail noise criteria. Additional air quality assessment was also completed as part of the PIR (refer to section 6.3 of the PIR) and additional mitigation has been identified (refer to section 4.1.18.3 of the EIS Submissions Report).

The final suite of operational rail noise mitigation would be determined as part of the operational rail noise review (NV3) and informed by community feedback. Where at-property treatment is identified, these would be developed in consultation with the individual property owners (NV4).

A proposal of this scale would inevitably have some impacts on the local environment and community, and it is acknowledged that the potential for residual impacts remains. The proposal would incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable. As outlined in the EIS Submissions Report, property values are driven by a range of multiple factors and impacts to property values are not required to be considered under the EP&A Act. The EP&A Act requires the consideration of social and economic impacts, which has been considered in the EIS Chapter 13 (Social) and Chapter 14 (Economic).

4.1.9.8 Social

Submission ID numbers

23, 24, 31, 37, 41

Summary of issues

Five submissions raised concern about social impacts associated with the operation of the proposal. This included concerns about community severance and economic impacts to the City of Wagga Wagga, and impact to property values and amenity, as well as that noise and vibration and air quality impacts would have subsequent impacts on the wellbeing of residents of Wagga Wagga. One submitter also made comment on social impacts in Wagga Wagga associated with the disruption to residents during replacement of bridges.

These issues were often raised in the context for why a bypass should be provided for the City of Wagga Wagga.

Response

Social impacts

As detailed in section 6.1.3.4 of the PIR, most towns and localities in the study area are divided by the railway and Olympic Highway, creating an existing physical barrier for residents to get from one side of a town or city to another. While the proposal does not change the functionality or operational arrangements of any of the level crossings, an increase in frequency and duration of level crossings closures due to increased train movements is expected, which will eventuate following full operation of the Inland Rail Program.

In the City of Wagga Wagga, the proposal does not include new level crossings or other significant changes to the road network that would introduce a new source of community severance beyond the construction period. Comments relating to the alignment of the proposal and justification of the alignment, including the Wagga Wagga bypass, are discussed in section 4.1.12.2.

The longer and more frequent level crossing closures at Docker Street and Fernleigh Street would result in extended waiting times at the level crossings and associated traffic impacts at nearby intersections. The predicted impacts are greater in 2040 than 2025 due to the additional train services proposed and the increased growth in background traffic volumes. Emergency vehicles would be subject to the same increased frequency in level crossing closures as identified for other vehicles crossing the rail corridor at Docker Street and Fernleigh Street. Alternative routes through grade-separated crossings are available at Edmondson Street, Pearson Street and Lake Albert Road. Responses to submissions concerning social impacts due to level crossing closures is discussed in section 4.1.7.2 of this report.

During operation, the proposal would deliver broader social benefits through indirect business and employment benefits associated with Inland Rail, such as the diversification of businesses in the area, and potential to increase Indigenous participation and employment through procurement from Indigenous businesses and services. Local benefits would also be delivered through improvements to safety and accessibility across the rail corridor through the provision of three new DDA-compliant pedestrian bridges in Wagga Wagga; however, the operation of the proposal would have some localised low-to-moderate adverse impacts (prior to mitigation) to health and wellbeing (primarily due to potential noise level changes), as well as impacts to community and surroundings (due to aesthetic changes associated with new bridge structures and/or the change in freight movements), and impacts to mobility and increased community severance (due to changes in the frequency of level crossing closures and/or delays).

In response to these potential impacts, key initiatives would include a community investment program, which would explore ways with the local community to enhance aesthetic value, cultural heritage and community identity, and cohesion across the social locality. A communication and engagement plan would also be implemented to build

community awareness of the rail corridor's operational characteristics, including information on the likely timing of level crossing closures, likely daily train movements, and ARTC's ongoing role after construction.

It is acknowledged that there remains the potential for residual impacts from the proposal. This includes construction and rail noise, operational air quality, the loss of some heritage fabric along the existing rail line, longer and more frequent level crossing closures, and the traffic detours during construction at Wagga Wagga and Junee. The design and construction methodology would continue to be developed in alignment with this objective, taking into account the input of stakeholders. The potential residual construction and operational impacts of the proposal are considered manageable with the implementation of the proposed mitigation and management measures.

Social impacts in Wagga Wagga during replacement of bridges

Social impacts to residents of Wagga Wagga associated with the replacement of bridges are discussed in section 4.1.11.1. As a result of changes to the construction schedule (as described in section 3.2.3 of the PIR), the staging of bridge closures would reduce social impacts from reducing diversion distances; however, the increase in duration of construction at most enhancement sites may result in increased impacts due to the longer exposure to construction impacts such as amenity, access and safety.

Nonetheless, while the changes to the construction schedule presented in the PIR may result in some change to the level of impacts, changes to the proposal construction schedule would not result in changes to the social impact ratings assigned in EIS Technical Paper 4: Social; as such, no re-assessment for these impacts was required as part of the PIR and no additional mitigation measures are required.

4.1.9.9 Landscape and visual

Submission ID numbers

1, 27, 28

Summary of issues

Three submissions raised concerns about the operational visual impacts of the proposal.

One submission expressed concern about the removal of existing bridges in Wagga Wagga, due to the visual impact from the removal of existing bridges, and commented that the proposed, elevated Edmondson Street bridge would not fit in with the landscape, being more noticeable and less aesthetic than the existing bridge. The submission also expressed concern that solutions to address the visual and landscape impacts had not been identified and were subject to further assessment.

One submission expressed concern about the removal of vegetation for the new Kemp Street bridge. The submission queried what visual mitigation would be implemented following construction, to address the visual and privacy impacts of the bridge.

One submission expressed concern about the impact of the proposal on landscape plantings in the town of Junee and raised concerns about visual impact from potential vandalism of the proposed noise barrier in Junee, querying how ARTC would prevent and manage vandalism of the proposed assets.

Response

Wagga Wagga precinct

The operational landscape and visual amenity impacts associated with the proposal at the enhancement sites within the Wagga Wagga precinct are described in section 17.5.3 of the EIS. Generally, the operational impacts to landscape character at Cassidy Parade pedestrian bridge, Edmondson Street bridge, Wagga Wagga Station pedestrian bridge and Wagga Wagga yard clearances were assessed to be minor to moderate adverse. Viewpoints at these enhancement sites were assessed in the EIS to experience minor to high–moderate adverse visual impacts during operation of the proposal. These assessments were also updated in the PIR to reflect the proposed changes (refer to section 17.5.4 of the EIS).

The Landscape and Urban Design Reports for the bridges in the Wagga Wagga precinct (provided in the appendices of EIS Technical Paper 10: Landscape and Visual Impact Assessment) did identify the design responses to address impacts to amenity. These responses would be further developed in accordance with the urban design and landscape plan (mitigation measure LV2).

Junee precinct

The operational landscape and visual amenity impacts associated with the proposal at the enhancement sites within the Junee precinct are described in section 17.5.4 of the EIS. The operational impacts to landscape character at Kemp Street road bridge were assessed to be moderate adverse. Viewpoints at the enhancement site were assessed in the EIS to experience moderate adverse visual impacts during operation of the proposal. This assessment was also updated in the PIR to reflect the inclusion of a separate pedestrian bridge at Kemp Street (refer to section 17.5.4 of the EIS).

The Landscape and Urban Design Report for the Kemp Street bridge (provided in Appendix C of EIS Technical Paper 10: Landscape and Visual Impact Assessment) identified design responses to address impacts to amenity, such as replacement landscaping along Kemp Street between Ducker Street and Edgar Street. These responses would be further developed in accordance with the urban design and landscape plan (mitigation measure LV2).

Removal of trees within the construction area would be replaced at a ratio of 2:1 in locations within the enhancement sites or in the general locality to the enhancement sites, as determined in consultation with stakeholders and relevant local council (mitigation measure L9), and disturbed areas would be progressively rehabilitated in accordance with the urban design and landscape plan, and individual property agreements, where relevant (mitigation measure LV5).

Noise barriers

The requirement for noise barriers is subject to further consideration. This includes engagement with local councils concerning the preferred solution to address exceedances to the PSNLs, which will give consideration to urban design and visual impacts.

The approach to noise barriers and visual impacts is subject to further assessment in the Operational Noise and Vibration Report (ONVR) (refer to Section 4.1.6.3 of this Submissions Report). This is reflected in mitigation measures NV3 and NV4 and will consider all design, engineering, constructability, environmental, visual and social factors that influence the location, extent, and height of the noise barriers.

4.1.9.10 Hydrology, flooding and water quality

Submission ID numbers

31

Summary of issues

One submission questioned how stormwater would be managed for the proposal, and queried if modelling on flooding and stormwater impacts has been completed.

Response

Impacts to hydrology, flooding and water quality associated with the proposal are summarised in Chapter 18 of the EIS, supported by Technical Paper 11: Hydrology, Flooding and Water Quality, and discussed further in the EIS Submissions Report (including Appendix D of that report) and the PIR (in the context of the proposed changes). The assessment included quantitative or qualitative flooding assessment for each enhancement site based on the hydraulic complexity of the existing conditions and the nature of the proposed work.

Within enhancement sites, the changes to the drainage network have been designed to mimic the existing drainage and surface water flow conditions at the sites.

During operation of the proposal, there would be minor changes to flood conditions, overland flows and afflux conditions where the vertical alignment of existing track has been altered. In many cases, changes would result in minor improvements to existing rail flood immunity; however, where track lowering is proposed, the design would provide flood immunity in the 1% AEP event. Where flood storage is predicted to be reduced as a result of operational infrastructure, impacts would be minor to negligible.

Overall, the project would satisfy the impact criteria set out for the proposal, with the exception of Wagga Wagga yard clearances where an increase in afflux was predicted (refer to section 18.2.3 of the EIS for the impact criteria). Due to the minor nature of the impact at this location, flood mitigation options would be investigated at the detailed design stage to reduce the afflux to be within the quantitative design limits. Flood mitigation options might include an upgrade to the capacity of the drainage network, the inclusion of storage basins to reduce the amount of water diverted to the industrial area, and/or the inclusion of balancing culverts across the rail to mimic the existing flood conditions. This is reflected in mitigation measure HFWQ4.

4.1.9.11 Cumulative impacts

Submission ID numbers

37

Summary of issues

One submission expressed that the assessment does not consider cumulative transport and traffic impacts, and cumulative noise and vibration impacts, associated with Inland Rail and the extra truck movements anticipated as part of the establishment of the Wagga Wagga Riverina Intermodal Freight and Logistics Hub.

Response

The Wagga Wagga Riverina Intermodal Freight and Logistics Hub was identified and considered in the cumulative impact assessment presented in EIS Chapter 26. The proposal would not substantially change the distribution of traffic on the road network in Wagga Wagga, and therefore would not contribute to cumulative road noise or traffic impacts.

4.1.9.12 Support for proposal

Submission ID numbers

1, 10, 29

Summary of issues

Three submissions expressed support for the upgrade of existing rail infrastructure, or for the concept of the development of an inland rail, for movement of rail freight between Melbourne and Brisbane. One submission commented on the improved efficiency of rail freight and the positive environmental impacts associated with the operation of Inland Rail.

Response

The support for the proposal and the Inland Rail Program is noted.

4.1.9.13 Out of scope—rail infrastructure

Submission ID numbers

14, 17, 21

Summary of issues

Three submissions commented on or identified out-of-scope matters relating to rail infrastructure in the region; specifically:

- comment on speed limits and the current deteriorating condition of the North Wagga Wagga viaduct, commenting that there has been no consideration or costings provided for upgrade of the asset
- querying if assessments of the existing rail infrastructure have been carried out, to assess the capacity for existing rail infrastructure to accommodate more frequent, heavier and/or longer freight trains as part of the operation of the proposal
- raising concerns about the closure of Wornes Gate Road level crossing (LX1472) and subsequent impacts to livestock movements, emergency access and access for operational rail maintenance.

Response

As outlined in the EIS Submissions Report, the proposal relates to carrying out of enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway between Albury and Illabo, to accommodate double-stacked freight trains up to 1,800 m long and 6.5 m high. The comments and suggestions identified in the submissions are beyond the scope of this proposal.

Condition of the North Wagga Wagga viaduct

Relevant reporting identified that, with the completion of maintenance activities, the viaduct is structurally sound and can accommodate Inland Rail trains. Currently, ARTC is undertaking maintenance work to re-rail and re-transom the viaduct. These works are necessary not only for Inland Rail operations but also the existing operations on the railway and, therefore, form part of the day-to-day operational maintenance tasks of ARTC. The reporting is commercial in confidence as it relates to ARTC's expenditure with contracted engineering companies and the overall expenditure of maintenance funding over time.

The maintenance work being undertaken by ARTC is scheduled to be completed by May 2024. Pending completion of this work, a temporary speed restriction has been imposed on this section of the railway network to maintain

safety. This speed restriction would be removed once work is completed. All aspects of work undertaken on the railway undergo engineering checks and assurance reviews to maintain safe operating conditions.

Condition of the rail infrastructure

Rail infrastructure between Albury and Illabo has been reviewed for its suitability for use by double-stacked, 1800 m long trains and, where required, horizontal and vertical clearance works have been identified as part of the proposal.

Wornes Gate Road level crossing

While ARTC's preferred design solution would be permanent closure of this level crossing (subject to stakeholder agreement), this has not been included in the scope of the proposal. Consultation with relevant stakeholders would continue separately to this proposal (refer to section 4.1.12.4 of this report).

4.1.9.14 Out of scope—other issues

Submission ID numbers

22, 24, 28, 33, 39

Summary of issues

Five submissions made comment on matters not relevant to the proposal. These included:

- the need to consider high-speed trains as part of the Inland Rail Program
- the limitations of current passenger train services from Wagga Wagga and the need to develop an electrified, fast rail passenger network, assisting to reach national emissions targets
- that Inland Rail does not reduce heavy vehicle traffic movements between Sydney and Adelaide (moving east-west through Wagga Wagga)
- objection to deliveries of contaminated waste to Wagga Wagga via Inland Rail
- changes to livestock crossings, commenting that livestock crossings should not be closed.

Response

As outlined in the EIS Submissions Report, the proposal relates to carrying out of enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway between Albury and Illabo, to accommodate double-stacked freight trains up to 1,800 m long and 6.5 m high. Projects, proposals and other matters as raised in these submissions are beyond the scope of this proposal.

4.2 Organisation and community group submissions

4.2.1 Wagga Wagga Residents and Ratepayers Association

4.2.1.1 Project options and alternatives—Wagga Bypass

Summary of issues

The submission comments that a bypass of Wagga Wagga must be investigated (and costed) and/or implemented as part of the proposal. Specifically, the submission expressed that a bypass of Wagga Wagga must be considered as an alternative to the proposal's current route commenting that the cost of a rail bypass could be financially viable considering:

- cost of required infrastructure upgrades
- cost of future mitigation and management of potential impacts associated with operation of Inland Rail through Wagga Wagga
- impacts to the health and wellbeing of the residents of Wagga Wagga associated with operation of Inland Rail.

The submission also:

- expressed the view that the cost of developing a bypass of Wagga Wagga is justified considering the expected long-term operation of Inland Rail and the expected growing population of Wagga Wagga
- commented that recommendations of an independent review of the Inland Rail Program completed in 2023 have not been adopted
- raised concerns (as described in the Wagga Wagga City Council EIS submission) that issues and questions about the evaluation of a Wagga Wagga bypass remain unresolved
- identified (using a map) a suggested Wagga Wagga rail bypass route, proposed to avoid the Wagga Wagga Central Business District by traversing the city parallel to the west as a new line, then tracking west from the

Teys Wagga Wagga Abattoir at Bomen, to run alongside the Olympic Highway until the Gobbagombalin Bridge. From there it is suggested the rail route should track south until rejoining the current rail line at the Kapooka Bridge

- identified (using a map) Wagga Wagga heavy vehicle bypass route.

The submission also requests access to an engineer's report evaluating the structural integrity of the north Wagga viaduct and proposed costing for the upgrades to the Bourke Street level crossing relating to the need to bypass Wagga Wagga, citing future infrastructure cost and impacts to Wagga Wagga as future consequences if the bypass is not proven to be adequately elevated. The submission stated that these documents have been previously requested from ARTC and have not been supplied. The submission also requested the total cost of the required infrastructure upgrades to the Bomen-Kapooka bridge section.

Response

The alternatives and proposal options are discussed in Chapter 6: Alternatives and Proposal Options of the EIS, as well as section 4.1.2 of the EIS Submissions Report.

As detailed in the EIS and the EIS Submissions Report, the *North–South Rail Corridor Study Executive Report* (Department of Transport and Regional Services, 2006) and the subsequent *Melbourne–Brisbane Inland Rail Alignment Study* (ARTC, 2010) considered the feasibility of routes and established a shortlist of options for consideration. Two key criteria were adopted—capital cost, including to maximise the use of existing infrastructure where possible, and journey time, with the Inland Rail alignment achieving a less than 24-hour transit time. .

The Albury-Illabo route, utilising the Main South Line passing through Albury, Wagga Wagga and Junee, was adopted by the Australian Government as the proposal. This route forms the proposal in the CSSI application to the NSW Government and no alternative alignment options have been considered since. No alternative alignments are currently planned.

As a CSSI, the Albury to Illabo proposal is being assessed as a planning proposal under the CSSI section of the EP&A Act which is an assessment of the merits and effects of the proposal against the established planning and environmental policy frameworks, rather than a strategic planning process that establishes patterns of development and reserves infrastructure corridors. While the SEARs require consideration of proposal alternatives, the assessment in the EIS outlines the alignments considered in establishing the preferred route (as reported on in the Business Case and earlier documents). Additional detailed analysis of other options in the EIS itself is unwarranted.

Inland Rail notes that strategic planning and corridor preservation are a joint responsibility of the states, through planning and transport departments along with relevant local councils. ARTC would continue to collaborate with planning authorities, including consideration of relevant infrastructure proposals that arise from ongoing monitoring or specific studies.

New mitigation measure TT29 outlines that a review of the number and/or duration of level crossing closures in Wagga Wagga will be carried out at 12 months and at 10 years after the completion of construction of the A2I project. The review data will be shared with Wagga Wagga City Council and Transport for NSW so that the combined influence of train movements and traffic growth on road network performance can be considered in strategic transport planning and infrastructure upgrade programs. ARTC would collaborate with the road authorities in strategic transport planning activities and their preparation of infrastructure upgrade programs.

There are no plans to consider changes to the A2I alignment from that endorsed by the Australian Government. The route was agreed between the Australian and New South Wales (NSW) governments in the Bilateral Agreement for Inland Rail, signed on 4 May 2018. This commitment was reinforced within the *Independent Review of Inland Rail* (Schott, 2023). Recommendation 12 of the Inland Rail Review recognises that if and when Inland Rail train traffic increases significantly, the possibility to bypass the city should be investigated and easements protected for a new bypass corridor. In current estimates, rail traffic is not expected to increase to a degree that warrants consideration of a bypass of Wagga Wagga. As such, a Wagga Wagga bypass has not been contemplated by government and is not a necessity for this planning approval or assessment of the proposal.

Structural integrity of the Rail viaduct in Wagga Wagga

Relevant reporting identified that, with the completion of maintenance activities, the viaduct is structurally sound and can accommodate Inland Rail trains. Currently, ARTC is undertaking the identified maintenance work, which is to re-rail and re-transform the viaduct. These works are necessary not only for Inland Rail operations, but also the existing operations on the railway, and therefore form part of the day-to-day operational maintenance tasks of ARTC. The reporting is commercial in confidence as it relates to ARTC's expenditure with contracted engineering companies and the overall expenditure of maintenance funding over time.

The maintenance work being undertaken by ARTC is scheduled to be completed by May 2024. Pending this work, a temporary speed restriction has been imposed on this section of the railway network to maintain safety; this restriction would be removed once work is completed. All aspects of work undertaken on the railway undergo engineering checks and assurance reviews to maintain safe operating conditions.

Bomen to Kapooka upgrade

The proposal requires enhancement works at discrete sites along the existing alignment between Albury and Illabo. For most of the track, no works are required to accommodate the Inland Rail double-stacked trains; therefore, no cost estimation for an upgrade from Bomen to Kapooka is available as no works are proposed as part of Inland Rail.

Independent review

In response to the Independent Review of Inland Rail, the Australian Government has prioritised completing the sections of Inland Rail between Beveridge in Victoria and Narromine in NSW by 2027. In line with the government's response to the review, ARTC is now taking a staged approach to Inland Rail, with a focus south of Parkes on construction and delivery to progressively unlock the benefits of Inland Rail ahead of end-to-end completion. North of Parkes, attention is on obtaining approvals, securing the route and refining cost and delivery arrangements ahead of commitments for construction.

4.2.1.2 Support for the proposal

Summary of issues

The submission acknowledges potential benefits that Inland Rail would bring to the City of Wagga Wagga and the surrounding communities.

Response

This submission is noted.

4.2.1.3 Operational traffic impacts in Wagga Wagga

Summary of issues

The submission raised concern about traffic impacts at level crossings and consequence on the surrounding road network due to more frequent trains and/or longer, double-stacked trains; specifically expressing:

- concerns regarding the extended ongoing delays and potential road accidents at the Bourke Street level crossing, stating that these issues have been poorly considered within the PIR
- concerns for road safety and potential accidents associated with road users trying to rush through or find alternative routes to avoid level crossings due to extended delays
- the view that the traffic assessment indicates that the Bourke Street level crossing should be grade separated due to increased delays
- concerns about increased delays at level crossings impacting response times for emergency services, particularly as Wagga Wagga expands south.

The submission also queried if road accidents impacting traffic flow around the Bourke Street level crossing (or the alternative crossings at Pearson Street bridge, Edmondson Street bridge and Lake Albert Road) have been captured in the traffic modelling.

Response

Level crossing delays and grade separation

Level crossings that require no work as a result of the proposal do not form part of the proposal scope. Only level crossings that are required to be modified to accommodate double-stacked freight trains are included in the proposal scope, e.g. changes to accommodate track realignment. The PIR included a risk assessment of level crossings subject to high traffic volumes, which included Docker Street/Bourke Street and Fernleigh Road level crossings (section 10.1 of Appendix D of this Submissions Report). This is discussed further in this section.

The traffic impact assessment has considered the effects of the proposal against the base case and predicted future traffic conditions in 2025 and 2040. In these scenarios, the effect of the proposal on the level of service of the relevant road network legs and intersections is not dissimilar to that of future in the absence of the proposal, except in a few instances. These are typically associated with increased delays at intersections close to the Docker Street level crossing or Fernleigh Road level crossing. The results of this assessment are provided in section 3.5.7–3.5.10 of Appendix D of this Submissions Report.

As part of the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (Appendix D), further analysis was completed that considered five routes that emergency services may take to access the Wagga Wagga Base Hospital with and without the proposal. This found that there would be a minor increase in 2025 as a result of increased delays at the level crossing, with a maximum increase of 12 seconds in the AM peak, and 4 seconds in the PM peak. In 2040, increased queuing at the Docker Street level crossing would result in further increases in travel time, with a maximum increase of 40 seconds in the AM peak and 14 seconds in the PM peak. In the Midday peak, there would be no discernible difference in travel times for the 5 routes assessed in 2025 or 2040. Further detail is provided in section 3.5.11 of Appendix D.

Safety issues at level crossings

With regard to the safety issues associated with level crossings, the approach to considering level crossing options has taken into account relevant NSW and Australian level crossing policies, which emphasise the need to minimise the number of level crossings, as far as reasonably practicable. The ONRSR's level crossing policy upholds that no new level crossings should be constructed. Construction of level crossings do not form part of the proposal.

At level crossings within the study area of the proposal, the majority of existing level crossings are 'active crossings' that have flashing lights and boom barriers for motorists, and, where provided, automated gates for pedestrians. Where level crossings are controlled by flashing lights and boom barriers, this constitutes the highest form of level crossing control in the Australian Standard *AS 1742.7 Manual of Uniform traffic control devices*; as such, while modifications for track realignment may be required to achieve track clearances, no further safety upgrades would be required as part of the proposal at these level crossing locations.

Additionally, a risk assessment of safety issues during operation for level crossings subject to high traffic volumes has been completed (as detailed in section 10.1 of the revised Addendum to Technical Paper 1: Traffic and Transport (Appendix D of this report). The assessment found that at the level crossings at Docker Street and Fernleigh Road in Wagga Wagga and on Olympic Highway (Balfour Street) in Culcairn, all three crossings are controlled by flashing lights and boom barriers, which is the highest form of level crossing control in the Australian Standard *AS 1742.7 Manual of Uniform traffic control devices*. All three level crossings are compliant for both sight distances and short stacking.

There would be no changes to level crossing treatments within Wagga Wagga. The Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga do not require modification and are out of scope of the proposal. These level crossings are currently controlled with flashing lights and boom barriers, which is the highest form of level-crossing protection in Australia. The level crossings are located on local roads and any modification considered appropriate would need to be carried out by the road manager, Wagga Wagga City Council.

ARTC will continue to work collaboratively with Transport for NSW to progress road–rail interface solutions during detailed design for level crossings that are in the scope of the proposal. In accordance with mitigation measure TT11, input would be sought from relevant stakeholders (such as local councils and Transport for NSW) prior to finalising the detailed design of those aspects of the proposal that affect the operation of road and other transport infrastructure under the management of these stakeholders.

4.2.1.4 Operation of the proposal

Summary of issues

The submission raised concerns and queries about the operation of the proposal, including about operational train numbers and the design of pedestrian and road bridges; specifically:

- expressing concerns that the number of freight train movements during operation of the proposal would exceed those assessed in the EIS and PIR, resulting in unassessed impacts to Wagga Wagga
- expressing concerns that the predicted number of freight train movements during operation of the proposal is not accurate
- querying the assessment and approval process to allow for more frequent, longer trains after 2040.

The submission also raised questions and concerns regarding the design of the Edmondson Street road bridge. The steepness of the proposed taller road bridge was cited as a potential road safety issue due to the proximity of the Sturt Highway and Best Street intersection. The submission also commented on the proposed pavement material for the bridge, querying whether a proposed alternative pavement type to slow traffic would still be effective for heavy vehicles, high traffic numbers or during heavy rain.

Response

Train numbers

As a result of changes in the construction schedule, outlined in section 3.2.2.2 of the PIR, the proposal is expected to be operational by late 2026. It is noted that the PIR and EIS Submissions Report have retained the same assessment years as used in the EIS, being 2020 as the existing scenario, 2025 as the opening year and 2040 as the peak of Inland Rail operations, in order to maintain a consistent reference point. Anticipated train numbers remain as reported in the EIS and have not been revised, with 2040 retained as the design year for assessment purposes.

There is no predicted change in train numbers on the existing rail line between Albury and Illabo prior to the commencement of operation of Inland Rail upon the completion of all projects. As such, changing the opening year would not result in a material change to assessment outcomes.

The existing railway operations on the Main South Line, including the Albury to Illabo section of Inland Rail, do not have a cap on train numbers or frequencies. The current proposal does not seek such a limitation. The CSSI proposal indicates a likely level of operation to inform the identification and assessment of environmental impacts and the application of appropriate mitigation measures for those impacts. The forecasted train volumes were

developed by ARTC and are based on tonnage predictions developed as part of the Business Case (ARTC, 2015). The predicted tonnage, and the resultant definition of trains operations required to transport this, is subject to many assumptions that will continue to develop and evolve as the proposal progresses.

ARTC acknowledges the concern expressed that increased train numbers, including potential future train volumes, could affect residential amenity, community wellbeing and road network operations. These likely impacts have been assessed and the mitigation measures proposed would minimise the anticipated effects of the proposal, in line with NSW policy.

ARTC will also continue to manage the proposal in accordance with its EPL for rail operations (EPL #3142) under the POEO Act and its existing standard operating procedures, including those within its Environmental Management System. Additionally, rollingstock operators who are responsible for the operation of trains and locomotives on the rail network, will also continue to have obligations to manage the environmental compliance of rollingstock in accordance with their EPLs.

In response to the Inland Rail review, ongoing monitoring of train volumes, forecasts and their effects on surrounding areas as Inland Rail is delivered would occur and would ensure future operations maintain environmental standards.

New mitigation measure TT29 outlines that a review of the number and/or duration of level crossing closures in Wagga Wagga will be carried out at 12 months and at 10 years after the completion of construction of the A2I project. The review data will be shared with Wagga Wagga City Council and Transport for NSW so that the combined influence of train movements and traffic growth on road network performance can be considered in strategic transport planning and infrastructure upgrade programs. ARTC would collaborate with the road authorities in strategic transport planning activities and their preparation of infrastructure upgrade programs.

Edmondson Street bridge

The design of the replacement bridge at Edmondson Street is required to provide a vertical clearance of 7.1 m of the rail line to enable double-stacked container trains to safely operate. The vertical grade of the Edmondson Street bridge was designed to avoid the requirement for adjustment or reconfiguration of adjacent intersections, including Sturt Highway (Edward Street), and achieves the desirable minimum sight distance requirements of *Austroads Guidelines Part 3: Geometric Design* (Austroads, 2021) for a 50 km/h design speed limit. A bridge design with a lower vertical grade would have required the bridge structure to be longer and would have required other intersections to be moved and/or adjusted; therefore, increasing the area of impact and change as the track clearance requirements below the bridge remain.

Tie-in works would be required to integrate the new road bridge with the existing road network, including pavement, line-marking and road drainage. These works would extend to the Edmondson Street intersection with Edward Street and Little Best Street to the north of the bridge. The intersection arrangement with Little Best Street would remain the same and would not result in a change in sight distance for cars joining Edmondson Street from Little Best Street. For this intersection and cars entering Edmondson Steet from private driveways located south of Erin Street, the sight distances would remain compliant with the requirements of the guidelines. The increased height of pedestrian bridges in Wagga Wagga would make them more visually prominent (as discussed in the EIS Technical Paper 10); however, this is not considered to pose a hazard to road safety on surrounding streets as they would not obstruct sightlines for motorists to the intersection. Detailed design will consider safety of adjoining intersections in accordance with relevant standards and guidelines.

4.2.1.5 Traffic impacts during closure of Edmondson Street bridge

Summary of issues

The submission raised concerns about impacts to traffic in Wagga Wagga associated with the closure of Edmondson Street bridge during construction; specifically:

- raising concerns about traffic and safety impacts from road users using alternative routes through Wagga Wagga during closure of the Edmondson Street bridge, particularly on Lake Albert Road, Bourke Street or Pearson Street
- raising concerns that diverted traffic during construction would lead to issues on roads where there are existing performance or safety issues, particularly during peak periods
- commenting that traffic signal variations will be insufficient to manage traffic impacts.

Response

Closure of Edmondson Street bridge and suitability of detour routes

The closure of Edmondson Street bridge during construction of the proposal will have significant impacts on surrounding roads while temporary diversions are in place. ARTC is committed to implementing mitigation measures to manage these impacts.

Additional traffic impact assessment was undertaken by ARTC as part of the PIR, which includes detailed traffic assessment in Wagga Wagga. Further information about the impacts of the proposal is provided in section 6.1 of the PIR, or Appendix D of this report.

During the replacement of the Edmondson Street bridge, motorists would be diverted to other rail corridor crossings including Docker Street, Lake Albert Road and Pearson Street. The proposal would also generate construction traffic during construction.

The temporary closure of the Edmondson Street bridge and the additional construction traffic volumes would put strains on the intersections of Docker Street and Lake Albert Road with the Sturt Highway, as well as Railway Street with Lake Albert Road, as diverted traffic from the temporary bridge closure causes increases on some of the approaches to these intersections. These pressures are most prevalent in the morning and afternoon peak traffic periods.

To alleviate some of the traffic impacts from construction, additional mitigation measures have been identified and tested in a microsimulation model. A review of intersection performance, and key constraints, was completed to identify feasible mitigation, which could be implemented in consultation with the relevant road authorities. Major intersection upgrades, such as road widening, were not considered appropriate for the mitigation of temporary impacts during construction of the proposal.

The mitigation identified and modelled in the assessment included:

- lengthening and demarcation of the left-turn lane on Railway Street at Lake Albert Road (western approach turn)
- influencing route choice for north-south movements across the rail corridor by encouraging drivers to use Pearson Street bridge crossing via Glenfield Road and Pearson Street between Holbrook Road in the south, and Olympic Highway in the north, as an alternative to the Bourke Street/Docker Street level crossing
- implementing a temporary right-turn movement ban in the AM peak to prevent traffic from Coleman Street entering Bourke Street to travel north, in order to reduce queuing on Coleman Street. Additional right-turn bans would also be considered during detailed construction planning for Athol Street, Wooden Street and Lindsay Street to avoid rat-running.

A summary of the mitigation and traffic performance is provided in section 6.1 of the PIR. Intersection performance is also driven by the broader network, and mitigation has down-stream impacts in the network, which may worsen results at adjacent intersections.

The mitigation measures are more effective in minimising queues and delays in the AM peak than the PM peak. Detailed results are provided in Appendix D of this Submissions Report.

Due to the levels of delay predicted at some intersections in the AM and PM peak, the implementation of mitigation measures would not significantly reduce the increase in delay and delays greater than 20 per cent are still predicted during construction.

In addition to the specific mitigations modelled in the assessment, other potential mitigations will be further considered during detailed design and construction planning for the proposal. These potential mitigations include but are not limited to:

- temporary signals or other signal optimisations where required
- local area traffic management plans
- turn restrictions at selected locations and selected times, such as at Athol Street, Wooden Street and Lindsay Street in Wagga Wagga
- removal of on-street parking/creating clearways at particular times
- improved lane delineations.

This is reflected in further revisions to mitigation measure, TT2, which would be implemented alongside the traffic and transport management sub-plan and the mitigation measures identified in the EIS (refer to Appendix B: Updated Mitigation Measures of this Submissions Report). The final suite of mitigations would be determined in consultation with relevant stakeholders (including the relevant roads authority).

The proposal does not require the closure of Pearson Street bridge. Works at this enhancement site involve track lowering the rail line below the bridge. Vehicles could continue to use Pearson Street to cross the rail line during the closure of the Edmondson Street bridge.

The EIS identified that diverted traffic would seek alternative routes. This statement was based on general principles applied to traffic modelling and assessment, and information on traffic behaviour. The use of a microsimulation model has accounted for driver behaviour with traffic re-routing within the model based on the most efficient route. This distribution is factored into the results of the assessment provided in Appendix D of this Submissions Report.

Appropriate wayfinding signage for traffic restrictions, road closures and road diversions will be provided, clearly articulating alternative routes. Consultation would also discuss opportunities for broader diversions away from

congested roads. Additional measures identified as an outcome of consultation would be implemented during construction, where practicable.

Road safety

Changes to road conditions from increased traffic, temporary diversions and new access points (locations where construction vehicles access enhancement sites to and from the public road network) to the enhancement sites from the public road network has the potential to result in impacts to road safety. To moderate any construction impacts to existing or potential safety issues associated with either construction vehicle movements or the additional traffic on local roads from diversions, road safety audits (mitigation measure TT10), road dilapidation report (mitigation measure TT15), and construction traffic transport and access management plans (mitigation measure TT14 and Appendix B: Updated Mitigation Measures of this Submissions Report) would be required to be undertaken prior to construction.

4.2.1.6 Operational rail noise and vibration impact

Summary of issues

The submission raised concerns related to the increased noise and vibration impacts to the surrounding community in Wagga Wagga associated with more frequent trains and/or longer, double-stacked trains with heavier loads. The submission specifically comments on potential operational rail noise impacts to non-residential receivers, including schools in Wagga Wagga.

Response

Operational noise from increased train movements

The Revised Technical Paper 7: Operational Noise and Vibration (Rail) assessment (refer to section 6.2 and Appendix D of the PIR) provides an assessment of operational noise and vibration from increased train movements for the full length of the Albury to Illabo alignment. This was expanded from the EIS to include the areas potentially impacted by noise and vibration from operation of the proposal beyond the enhancement sites. Receivers sensitive to noise and vibration were identified within approximately 2 km either side of the rail corridor. Additional noise monitoring along the rail corridor to measure rail noise from existing rail operations (refer to section 6.2.2.2 of the PIR) was also undertaken to support the updated assessment.

The RING sets out the NSW Government's requirements for what rail projects must consider and, when feasible and reasonable, mitigation must be considered. Noise trigger levels provided in the RING have been set by the NSW EPA to minimise noise exposure from significant redevelopments of existing rail lines, and to manage impacts to the amenity and wellbeing of communities living near the rail line. Railway noise may be audible at sensitive land uses adjacent to the rail corridor, both externally and internally, even where the noise trigger levels are achieved.

The additional assessment considered the noise and vibration impacts due to increased number of train movements, increased number of idling events and increased operation of level crossings, including warning bells and the use of train horns.

Noise levels are not predicted to exceed the noise trigger levels at the majority of the sensitive receivers in the study area. The daytime L_{Aeq} criteria is predicted to be exceeded at 138 residential receivers in 2025, and 190 residential receivers for 2040. The night-time L_{Aeq} criteria is predicted to be exceeded at 60 residential receivers in 2025 and 92 residences in 2040. While L_{Amax} noise levels are not predicted to change as a result of the proposal, existing rail noise levels combined with proposal-related L_{Aeq} increases generate exceedances of the RING triggers at 1,219 residences in 2025 and 1,285 residences in 2040.

Where exceedances were predicted, the investigation of reasonable and feasible mitigation measures was triggered The strategy for selecting reasonable and feasible noise mitigation is discussed in Section 4.1.6.3 of this Submissions Report.

The airborne rail noise criteria is also predicted to be exceeded for both 2025 and 2040 at 28 non-residential sensitive receivers. This includes educational facilities in Wagga Wagga, such as Kildare Catholic College and South Wagga Public School. The RING trigger levels for non-residential receivers are internal noise levels and are, therefore, subject to the quality of the building façade. Façade testing of non-residential receivers will be undertaken to confirm eligibility for noise mitigation.

Active and passive recreation areas have been assessed, and predicted daytime noise levels for sports fields and open space associated with educational facilities adjacent to the A2I alignment are all within the 65 dBA $L_{Aeq(15hour)}$ criterion.

Ground-borne noise

The assessment of ground-borne noise in the Revised Technical Paper 7: Operational Noise and Vibration (Rail) assessment concluded that the majority of receivers are not predicted to exceed trigger levels as the airborne noise contribution is dominant. Further assessment is presented in the Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of this Submissions Report).

The comparison indicated that for the majority of dwellings, airborne noise levels would be expected to be significantly higher than ground-borne noise, with external noise levels typically 30 dB greater than ground-borne noise levels. At these levels, ground-borne noise would be unlikely to be greater than airborne noise inside sensitive receiver buildings, as only specifically designed and constructed residential buildings can achieve close to 30 dB of attenuation.

Additional analysis showing residual façade noise levels at sensitive receivers with noise barriers in place is provided in Attachment C of Appendix E of this Submissions Report (Addendum Revised Technical Paper 7: Operational Noise and Vibration (Rail)). The analysis concluded that, even with mitigation in place, airborne noise levels are likely to be dominant at receivers within the 50 m buffer from the rail line.

Further assessment of airborne and ground-borne noise levels will be undertaken in the ONVR (mitigation measure NV3).

4.2.1.7 Operational air quality

Summary of issues

The submission raised air quality concerns due to emissions from freight trains and the resulting impacts to amenity and/or health risks to the residents of Wagga Wagga; specifically, expressing concern that the proposal would detrimentally impact local air quality due to NO_2, PM_{10}, $PM_{2.5}$, concentrations exceeding assessment criteria in some scenarios presented in the Wagga Wagga urban case study area.

The submission raised concern that air quality impacts to Wagga Wagga during operation of Inland Rail have not been adequately assessed, raising concern about potential operational air quality impacts to residents of Wagga Wagga if private rail operators are responsible, at their own discretion, for managing air quality impacts through replacing old fleet, or similar.

The submission also queried if the assessment considers emissions from road traffic during extended traffic delays at level crossings associated with the operation of Inland Rail, and if the assessment considers impacts to air quality during periods of no wind.

Response

The additional assessment completed for the PIR did identify that the 24-hour PM_{10} and $PM_{2.5}$ concentrations are predicted to exceed for passing trains, idling trains, and the combination of passing and idling trains at Wagga Wagga Urban case study area. These exceedances are mainly driven by elevated background concentrations, which already exceed or approach the assessment criteria. The NO_2 concentrations are predicted to exceed the assessment criteria during idling (1-hour) and combined idling and train passing (1-hour and annual) at the Wagga Wagga Urban case study area and the Culcairn Rural case study area. Train passing is also predicted to result in 1-hour NO_2 exceedance for the year 2040 in the Culcairn Rural case study area.

The assessment has focused on the contribution from the use of the rail line and has not accounted for contributions from idling vehicles on the road network. Contributions from the road network generally have been accounted for in the use of background ambient air quality data. The assessment has used meteorological data collected by the Bureau of Meteorology at Wagga Wagga Airport and Albury Airport, including wind speed.

In response to the EPA advice, additional assessment has been completed (provided in Appendix F of this Submissions Report). This found that the:

- rail contribution from idling or the combination of passing and idling trains is unlikely to lead to additional exceedances of the 24-hour criteria for PM_{10} and $PM_{2.5}$
- rail contribution during idling or the combination of passing and idling trains is the main driver of exceedances for the 1-hour NO_2 criterion. Additional exceedances attributed to the proposal by 2040 was determined to occur in 135 hours of the year in the urban case study (Wagga Wagga) and 45 hours of the year in the rural case study—representing around 1.5 per cent and 0.5 per cent of the year, respectively.

A review of the predicted exceedances of the 1-hour NO_2 criterion found that exceedances at any given sensitive receiver would occur when metrological conditions were unfavourable, in terms of wind direction, wind speed and atmospheric stability, which would lead to the low dispersion of emissions. This would typically occur at night.

However, the assumption that a high emitting locomotive (which drives the NO_2 contribution) is idling for every hour of a year at one location is not considered to properly reflect rail operations. In reality:

- it is more likely that the crossing loop for idling is more likely to be used during the day, when unfavourable metrological conditions are less likely
- the rollingstock operating consists of a mix of locomotive classes with that emit different levels of NO_2, and that the Inland Rail freight trains would be more likely to be on the main track, with other train services held in the crossing loop (with the exception of passenger trains).

To further determine the likely number of hours in which exceedances could occur, a realistic operational scenario was considered which factored in the probability of the unfavourable meteorological conditions coinciding with a

train in the crossing loop, and the likelihood of an exceedance based on the train fleet compositions (based on the more likely scenario that the Inland Rail train is on the main track with other train services held in the crossing). The assessment then considered the differences based on the expected number of trains in 2040 to the number of trains in 2020. This determined that the number of additional exceedances of the NO_2 (1-hour) criterion attributed to the proposal would potentially occur in 11 hours of the year in the urban case study (Wagga Wagga) or in 1 hour of the year in the rural case study (Culcairn)—representing 0.1 per cent and 0.01 per cent of the year, respectively.

During operation of the proposal, it is expected that existing trains that have reached their operational life would be retired from use and replaced by new models that would be required to comply with the latest air emission limits, as specified in EPLs required for train operators' under the *Protection of the Environment Operations Act 1997* (NSW). These EPLs require new trains to comply with stricter noise and air emission limits, while existing trains are covered by legacy operational controls. The operation of inland Rail will necessitate changes to operational patterns on the rail network, which provides an opportunity to further consider sequencing of train movements and utilisation of crossing loops in close proximity to sensitive receivers, to reduce air quality impacts.

ARTC will manage operational air quality impacts in accordance with ARTC's existing EPL (EPL #3142) and its standard operating procedures, including those within the ARTC Environmental Management System (EMS). ARTC's standard operating procedures, Environmental Management System and EPL #3142 provide a structured framework for the consideration, evaluation, management, regulatory compliance and reporting of environmental issues associated with ARTC's activities. The benefit of implementing ARTC's Environmental Management System for the operation of the proposal is that it ensures a coordinated approach to environmental management across the national and NSW freight network. This facilitates improved management of environmental risks and ensures that ARTC maintains compliance with the various environmental laws, statutes, regulations, policies, management plans, licences and other approvals that apply to its activities. Rollingstock operators hold EPLs that include provisions relating to air quality. ARTC notes that various train-operating companies are working on programs for locomotive fleet renewal and business decarbonisation.

Prior to the operation of Inland Rail, in accordance with new mitigation measure AQ3, ARTC will carry out an additional Air Quality Monitoring Program at a representative train idling location for 12 months, to measure existing levels of PM_{10}, $PM_{2.5}$ and NO_2. The monitoring results will be compared against relevant air quality criteria. Where exceedances of the relevant air quality criteria occur, further investigation of the likely cause will be undertaken, including but not limited to analysis of the contribution of existing train operations or another source of pollution such as a regional bushfire or agricultural activities. Where analysis indicates exceedances related to existing train operations, a review of relevant operating procedures will be undertaken, including consultation with the train operating companies to explore options to reduce train operation's contribution.

Following the completion of AQ3 and prior to operation of Inland Rail, air quality modelling will be undertaken to validate the PIR assessment, utilising data collected during the Air Quality Monitoring Program. Where exceedances of the relevant air quality criteria are predicted as a result of planned Inland Rail operations (i.e. Inland Rail trains and consequential alterations to other train services), a review of relevant operating procedures will be undertaken, including consultation with the train operating companies to explore options to reduce train operation's contribution.

4.3 Public authority submissions

4.3.1 Wagga Wagga City Council

The Wagga Wagga City Council provided a response to the public exhibition of the PIR (undated). Consideration of the items raised in their submission is provided in the sections below.

4.3.1.1 Support for Inland Rail

Summary of issues

Wagga Wagga City Council reiterated their support for Inland Rail as a major nationally significant project. Wagga Wagga City Council also stated their support for the objectives of the proposed Albury to Illabo proposal.

Response

Wagga Wagga City Council's support for the proposal is noted.

4.3.1.2 Wagga Wagga bypass

Summary of issues

Wagga Wagga City Council noted that they had previously advocated for a bypass of the city. Wagga Wagga City Council stated that this would alleviate all the issues that had been previously raised and those raised in response to the EIS. Wagga Wagga City Council raised concern that further consideration of the possibility of a bypass had not been undertaken.

Response

As outlined in section 4.1.2 of the EIS Submissions Report, the development and selection of the Inland Rail alignment between Melbourne and Junee is provided in the *North–South Rail Corridor Study Executive Report* (Department of Transport and Regional Services, 2006) and *Melbourne– Brisbane Inland Rail Alignment Study* (ARTC, 2010), and is summarised in section 6.2 of the EIS.

Within the *North–South Rail Corridor Study Executive Report* (Department of Transport and Regional Services, 2006), the feasibility of 136 possible route options was investigated within a 'north–south rail corridor' covering all sections of the existing rail network in Victoria, NSW and Queensland that currently form, or could potentially form, part of a freight route between Melbourne and Brisbane. Two key criteria were adopted—capital cost, including to maximise the use of existing infrastructure where possible, and journey time with the Inland Rail alignment achieving a less than 24-hour transit time. These considerations became the basis of the *Business Case for Inland Rail* (ARTC, 2015), with an overall intention of maximising freight movement by rail.

Two main route alignments were considered between Melbourne and Junee, which prioritised the use of existing rail infrastructure—one alignment was via Shepparton and the other via Albury. The alignment via Albury was selected as the preferred option, as described in section 6.2 of the EIS. Routes through Albury offered superior outcomes for the key criteria of capital costs and transit time. Consideration of a greenfield alignment (either in part or in entirety) for the proposal was not in accordance with the objectives and *Business Case of Inland Rail* (ARTC, 2015).

Consideration and analysis of a bypass of towns was not contemplated and would not be proportional to the assessed effects of the proposal along the existing freight rail line, nor does it achieve the objective of maximising the use of existing infrastructure.

Consequently, the Albury–Illabo route, utilising the Main South Line passing through Albury, Wagga Wagga and Junee, was adopted by the Australian Government as the proposal. This route forms the proposal in the CSSI application to the NSW Government and no alternative alignment options have been considered since.

There are currently no plans to consider changes to the A2I alignment from that endorsed by the Australian Government. The route was agreed between the Australian and NSW governments in the Bilateral Agreement for Inland Rail, signed on 4 May 2018. This commitment was reinforced within the recent *Independent Review of Inland Rail* (Schott, 2023), with the Australian Government prioritising construction south of Parkes, including A2I. Recommendation 12 of the Inland Rail Review recognises that if and when Inland Rail train traffic increases significantly, the possibility to bypass the town should be investigated and easements protected for a new by-pass corridor. In current estimates, rail traffic is expected to increase by around eight additional services per day and not until 2040. Accordingly, consideration of a bypass of Wagga Wagga is not contemplated by government and is not a necessity for this planning approval or assessment of the proposal.

4.3.1.3 Engagement

Summary of issues

Wagga Wagga City Council raised concern that the timing allocated for the exhibition period was insufficient. Wagga Wagga City Council stated that they did not think it was appropriate to allow only three weeks for Wagga Wagga City Council and the general public to respond to the PIR.

Response

The process and timing for exhibition is managed by DPHI. The obligations are set by the EP&A Act (and its regulations) and DPE's *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2021). As identified in DPE's *State Significant infrastructure guidelines – preparing a preferred infrastructure report* (DPE, 2022), if a PIR is to be made publicly available, it would be placed on display for a minimum period of 14 days.

The PIR for the proposal was placed on public exhibition by DPHI for a period of 22 days, commencing on 15 November 2023 and concluding on 6 December 2023. Similar to the public exhibition of the EIS, interested stakeholders and members of the community were able to review the PIR online, participate in consultation and engagement activities held by ARTC, and make a written submission to DPHI for consideration in its assessment of the proposal. It is noted that the purpose of the exhibition of the PIR was to identify to the stakeholders and the general public the key proposed changes since exhibition of the EIS.

Engagement activities completed by ARTC during the public exhibition of the PIR are provided in section 1.5 of this report.

4.3.1.4 General adequacy of impact assessment

Summary of issues

Wagga Wagga City Council raised concern that ARTC had failed to adequately address the submissions made by the local community. Wagga Wagga City Council stated that all impacts of the proposal must be fully assessed and mitigated before the proposal proceeds to construction.

Wagga Wagga City Council noted that the key issues of concern were:

- failure to mitigate significant impacts on the Wagga Wagga Road network resultant from increased rail operations and level-crossing closures
- failure to mitigate noise and vibration impacts; instead, proposing to address at an unspecified date
- failure of the sound and vibration study to include certain areas covered by the study, namely in the suburb of Lloyd
- failure to include sufficient mitigation measures for the decreased safety of Edmondson Street bridge
- failure to resolve numerous outstanding issues including:
  - the misrepresentation of Wagga Wagga City Council's position regarding Edmondson Street bridge speed limits and design
  - poor consideration of train operations, including speed, numbers and lengths
  - incorrect assumptions regarding the Bomen viaduct's condition
  - reduction in operational assessments to only consider the Parkes to Melbourne portion of Inland Rail.

Overall, Wagga Wagga City Council expressed the view that the scope of works considered as being part of the proposal failed to properly capture the change of use for existing infrastructure that does not need to be modified and therefore does not properly consider all wider-reaching impacts of this proposal.

Response

ARTC considered all feedback received during the public exhibition of the EIS. This feedback was reviewed, categorised and responded to in the EIS Submissions Report. This included feedback received from the community, councils and other organisations, and various government agencies.

Where possible, ARTC sought to incorporate stakeholder feedback directly into the design process, including the design changes presented in the accompanying PIR. These changes included but were not limited to:

- the design of the pedestrian bridges was amended and two new pedestrian bridges were proposed to be constructed adjacent to Edmondson Street road bridge and Kemp Street road bridge
- modifications to Shire and Carter Property access road level crossing (LX605) were undertaken to accommodate the realigned track and be upgraded from a passive to an active level crossing
- the proposal site was changed to accommodate proposed design changes, respond to stakeholder consultation and include additional construction areas
- the construction schedule was refined to reflect further detailed construction planning.

This report also subsequently considers all feedback received during the exhibition of the PIR.

Each of the specific concerns noted by Wagga Wagga City Council are addressed in the following sections; specifically:

- increased rail operations and level-crossing closures (sections 4.3.1.10 and 4.3.1.11)
- mitigation of sound and vibration impacts (section 4.3.1.8)
- Edmondson Street bridge (section 4.3.1.9)
- Bomen viaduct (section 4.3.1.12).

Remaining issues are considered to have been responded to as part of the EIS Submissions Report.

4.3.1.5 EIS approach

Summary of issues

Wagga Wagga City Council queried the approach to consider only enhancement sites within the scope of the EIS and stated that this approach did not consider operation of the proposal for the full length of the alignment, which may compromise the integrity and effectiveness of the EIS. Wagga Wagga City Council stated that it was evident by the responses in the EIS Submissions Report that there is still a fundamental disconnect between what ARTC believes the scope of the proposal to be and the responsibilities it has to assess and address the impacts of proposal.

Wagga Wagga City Council reiterated that, as noted in its previous submission, that the proposal is imposing a significant change of use on the entire line and therefore the impacts must be assessed along the full rail corridor rather than just at the locations where construction works are proposed to be undertaken.

Response

The rail line between Albury and Illabo already caters for freight trains up to 1,800 m.

As outlined in the EIS and EIS Submissions Report, enhancement works are only required at discrete locations to provide for the increased vertical and horizontal clearances required for double-stacked container freight trains. No additional works would be required outside the enhancement sites, as they meet the clearance requirement for the proposed operation of the Inland Rail Program. ARTC therefore assessed all the locations where potential additional impacts (resulting from the proposal, not from ongoing operation of the existing line) would occur. This is also outlined in the declaration of the proposal as CSSI in the (now repealed) *State Environmental Planning Policy (State and Regional Development) 2011* (as replaced by the *State Environmental Planning Policy (Planning Systems) 2021*), the Scoping Report and the EIS.

ARTC also completed additional assessments of operational noise and vibration, traffic and air quality impacts for the full length of the rail corridor between Albury and Illabo. These additional assessments are summarised in the PIR. Additional safety risk assessment was completed where high volumes of traffic occur, including Bourke Street/Docker Street and the Fernleigh Road level crossings (refer to section 10.1 of Appendix D of this Submissions Report).

4.3.1.6 Pedestrian bridge upgrades

Summary of issues

Wagga Wagga City Council noted there were several factors that had been raised that needed consideration with respect to the proposed pedestrian bridge upgrades. These included designs that:

- ensure accessibility and safety is incorporated
- incorporate accessible ramps and include the provision of lifts for the benefit of those in the community.

Wagga Wagga City Council questioned what Crime Prevention Through Environmental Design (CPTED) measures would be incorporated into the Edmondson Street footbridge, as this is adjacent to a school.

Response

As outlined in 4.2.8.11 of the EIS Submissions Report, the design of the replacement bridge at Edmondson Street is required to provide adequate vertical clearance of the rail line to enable double-stacked container trains to safely operate. The PIR for the proposal included changes to the Edmondson Street bridge design to provide a separate pedestrian bridge immediately adjacent to the road bridges. This separate structure has ramps and would provide DDA-compliant access over the rail corridor. ARTC does not propose to include the provision of lifts to this bridge.

Measures addressing CPTED will be fully addressed during the detailed design phase in consultation with qualified urban designers. Elements regarding CPTED that have been considered to date include high-level principles such as providing clear lines of site, removal of non-safety related obstructions (such as privacy screens) and the provision of adequate lighting.

4.3.1.7 Reduced scope of operation

Summary of issues

Wagga Wagga City Council noted that in response to the Independent Review of Inland Rail, the proposal has been amended with reduced operational train numbers for 2025 and 2040 by up to 50 per cent. Wagga Wagga City Council noted that this is a significant change to the original proposed operations.

Wagga Wagga City Council stated that the greater train numbers and lengths for the full Brisbane to Melbourne operational scenario should be considered for the 2040 operational assessments of the proposal, as this is still a likely case of operation. Wagga Wagga City Council noted that failure to consider impacts of the broader operation of Inland Rail would mean that the full impacts of operation, especially on traffic and transport, would not have been properly assessed. Wagga Wagga City Council questioned whether there would be a mechanism put in place to re-evaluate the full effect of the whole proposal in the future.

Wagga Wagga City Council also questioned when the Parkes to Brisbane portion of the Inland Rail Program would be completed.

Response

Anticipated train numbers as reported in the EIS, were not revised in the PIR, with 2040 retained as the design year for assessment purposes, and reflect the operation of Inland Rail from Brisbane to Melbourne. The PIR and the EIS Submissions Report retained the same assessment years as used in the EIS, being 2020 as the existing scenario, 2025 as the opening year and 2040 as the peak of Inland Rail operations, in order to maintain a consistent reference point. There is no predicted change in train numbers on the existing rail line between Albury and Illabo prior to the commencement of operation of Inland Rail upon the completion of all projects. As such, changing the opening year would not result in a material change to assessment outcomes.

As noted in section 4.1.4 of the EIS Submissions Report, ARTC is now taking a staged approach to Inland Rail, with a focus on construction of the sections of Inland Rail between Beveridge in Victoria and Narromine in NSW by 2027, to progressively unlock the benefits of Inland Rail ahead of end-to-end completion.

North of Parkes, attention is currently on obtaining approvals, securing the route, and refining cost and delivery arrangements ahead of commitments for construction.

4.3.1.8 Noise and vibration

Summary of issues

Sensitive receivers

Wagga Wagga City Council identified that the Revised Technical Paper 7: Operational Noise and Vibration (Rail) had missed numerous existing sensitive receivers. Following the RING, other sensitive receivers such as schools, educational institutions and childcare centres, have a different sound limit to residential buildings at 45 dBA (internal). Wagga Wagga City Council noted that it was therefore critical that facilities such as the following were identified as part of the assessment:

- a whole new development in Lloyd has been missed in their investigation, including a childcare facility not being accounted for
- a preschool on Higgins Avenue is missing
- any other development near the railway made in the last two years.

Noise barriers

Wagga Wagga City Council noted that the concept noise barrier map excluded many houses and a childcare building on Higgins Avenue, Day Street, Reddoch Drive, Langdon Avenue, Mason Street and Holmes Street, even though the rail noise map highlights this area as significantly worse than anywhere else in the city, and well exceeds the 60 dB night-time noise limits. The Addendum assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) supporting the PIR (Appendix E of the PIR) considered the speed of the trains based on their existing speeds but it was unclear if the sound model prediction includes the restricted speed limit on the Bomen viaduct being removed.

Wagga Wagga City Council also noted that the assessment does not state that the noise barrier would be built but that a future study will be carried out to decide what needs to occur. Wagga Wagga City Council questioned when this study would be completed and why the work was not being planned for as part of the current proposal.

Noise modelling speed profiles

Wagga Wagga City Council noted that the speed profile used for the sound modelling shows that no train ever goes below 30 km/h, stating that it was unclear if the noise from a stopped train has been considered. Reference was also made as part of this comment regarding the Bomen viaduct.

Noise load

Wagga Wagga City Council stated that while the RING guidelines identify peak decibel levels, they ignore noise load. Wagga Wagga City Council queried how are the effects of a substantial increase in decibel levels per hour are being considered.

Mitigation measures

Wagga Wagga City Council acknowledged that the noise and vibration assessment had been updated for the full length of the proposal but noted that it was incomplete and provided no solutions to the issues raised. Wagga Wagga City Council criticised the proposed approach to undertake a noise and vibration review on completion of the proposal and objected to the determination of final noise mitigation until this review had been completed.

Response

Sensitive receivers

The revised noise and vibration assessment has identified all buildings within a 2 km radius of the proposal alignment using a geospatial dataset (2021), LIDAR databases, crossed check against aerial imagery and street view data. It is important to note that this dataset might not include recent buildings, including those approved for construction after this time. This limitation has been acknowledged and discussed in Section 5.1 of the revised technical report. This section notes that at the detailed design stage of the proposal, the buildings would be updated to the latest available dataset, including proposed buildings that are approved for construction. This would be presented in the operational noise and vibration review (ONVR) for the proposal. It should be noted that new developments establishing next to an existing railway line are subject to the requirements of the Transport and Infrastructure SEPP.

With respect to Wagga Wagga City Council's concern regarding the missed childcare facilities in the assessment:

- It is acknowledged that the Lloyd area is a rapidly growing suburb. Any approved development in this area will be taken into consideration in the ONVR. Additionally, it has been observed that the Riverina Kids Early Learning Centre in Lloyd is incorrectly labelled as a residential property in the technical report. This error has been rectified in the Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration

(Rail) assessment (Appendix E of this Submissions Report). Upon reviewing the predicted noise levels at this childcare facility, it has been determined that the noise levels are well below the relevant criteria.

- It has been recognised that the Little Peoples Early Learning Centre on Higgins Avenue is currently categorised as a residential property in the technical report. This error has been rectified in the Addendum assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of this Submissions Report). Upon reviewing the noise levels at this location, it has been observed that noise levels at this facility may potentially exceed the specified criteria; consequently, this centre will be subjected to further analysis in the ONVR.

Noise barriers

Noise impacts in the area identified by Wagga Wagga City Council are minimised by the existing bridge over the Murrumbidgee River. ARTC has currently identified at-property treatments for those receivers, as a noise barrier on the existing bridge is not considered to be a feasible option to mitigate predicted noise impacts.

The current assessment examined potential noise barrier options in locations where receivers are grouped on the same side of the track, and the barrier was feasible and effective. The determination of whether rail noise barriers would be a reasonable and feasible noise mitigation measure will be made during the detailed design phase, in consultation with the relevant local council and affected landowners as part of the operational noise and vibration review (refer to mitigation NV3 in Appendix B of this report). This analysis will take into account all design, engineering, constructability, environmental, visual and social factors that influence the location, extent, and height of the noise barriers.

The final suite of mitigation measures to be implemented for the proposal would be determined by ARTC as part of the operational noise and vibration review (refer to mitigation NV3 in Appendix B of this report).

With respect to the comment regarding the sound model prediction at the Bomen viaduct, the posted speed limit of the viaduct is 80 km/h; however, the maximum speed at which trains pass over the Bomen viaduct would typically be up to 75 km/h due to the curve and gradient of the structure (and was therefore the value used for both existing and future noise models). It is important to note that temporary speed restrictions were not taken into account in the existing model and such, predicted impacts should reflect a realistic operating scenario. The maintenance work for the Bomen viaduct is discussed further in section 4.3.1.11 of this report.

Noise modelling speed profiles

Trains travelling at 30 km/h in the speed profiles are considered as stopped, and additional noise sources at those locations were taken into consideration accordingly. The model also includes additional fixed position sources to represent stopping, bunching and idling trains.

Noise load

The noise assessment for the proposal was conducted in accordance with the RING, which is a standard set by the NSW EPA. The RING criteria include the maximum noise levels (L_{Amax}) and average noise levels (L_{Aeq}) for day and night, where proposal noise levels are compared. The assessments that have been undertaken considered the increase of average noise level during both daytime and night-time periods. The day and night period L_{Aeq} criteria requires no more than a 2 dB increase in the average (L_{Aeq}) noise level across the period. This metric is triggered for the proposal and is why the requirement for noise mitigation has been identified.

Mitigation measures

As outlined in section 6.2.4 of the PIR and section 9.3 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR), ARTC has identified a range of strategies for the proposal to allow for the selection of reasonable and feasible noise mitigation to manage predicted operational rail noise impacts. These strategies include:

- investigation of source controls (i.e. infrastructure and rollingstock measures), in line with the RING hierarchy of controls
- development of PSNLs to guide the selection of noise mitigation measures for residential receivers that exceed the RING criteria
- consideration of noise barriers where groups of triggered sensitive receivers (not individual receivers) with noise levels above the PSNLs are identified
- consideration of other, property-specific treatments for individual properties expected to result in exceedances.

The final suite of mitigation measures to be implemented for the proposal would be determined by ARTC in consultation with the relevant local council and affected landowners as part of the operational noise and vibration review (refer to mitigation NV3 in Appendix B of this report). This would also include a review of both final predicted airborne noise and ground-borne noise levels for the proposal.

4.3.1.9 Edmondson Road bridge design

Summary of issues

Speed limits

Wagga Wagga City Council stated that the EIS Submissions Report incorrectly stated that '*Council [have] confirmed the Edmondson Street speed environment as proposed by ARTC (50 km/h design speed and 50 km/h posted speed) was consistent with Austroads guidelines and is acceptable*'. Wagga Wagga City Council noted that their letter to Inland Rail, dated 25 September 2023, made clear that Wagga Wagga City Council did not have the authority to nominate speed zones for any roads, as this is the responsibility of Transport for NSW and therefore they could not agree or reject to a modification of speed-zoning. They reiterated that the operating speed and any departure from standard speed-zoning policy would need to be determined and implemented by Transport for NSW.

Edmondson Road bridge design

Wagga Wagga City Council noted that they had previously stated that the design factors specified in the Edmondson Road bridge design drawings and design report decreased safety of Edmondson Street bridge with little to no design redundancy.

Wagga Wagga City Council noted that they understood that the risks associated with this approach are planned to be addressed through a site-specific safety assessment, which is to be completed as part of the reference design and will include appropriate mitigations to ensure that a reduction in road safety through the bridge reconstruction does not occur. Wagga Wagga City Council reiterated their previous requests to see the mitigation measures prior to the detailed design phase.

Response

Speed limits

ARTC has consulted with Transport for NSW regarding the proposed design speed and speed limited for the Edmondson Street bridge. Transport for NSW has accepted in principle the proposed design and posted speed configuration, noting that only Wagga Wagga City Council as the road authority can accept the 50 km/h design speed.

Edmondson Road bridge design

Replacement of the Edmondson Street bridge is required for the proposal to accommodate double-stacked trains; however, replacement is also now required as the approaches to the bridge have partially failed. Consequently, with or without the proposal, a bridge replacement or reconstruction program is necessary.

As outlined in section 4.1.7.6 of the EIS Submissions Report, the vertical grade of Edmondson Street bridge was designed to avoid impacts to adjacent intersections, including the Sturt Highway (Edward Street) intersection. The Edmondson Street bridge geometry, and that of its approaches, has been designed in accordance with the relevant *Austroads guidelines* (Austroads, 2018–2021) for a design speed of 50 km/hour. Sight distances and grades are within the limits recommended by Austroads.

The gradient of the replacement approach ramps to the bridge conform to Austroads standards. Detailed design will include consultation with Wagga Wagga City Council and completion of a road safety audit involving specialist third-party assessors.

The increased height of pedestrian bridges in Wagga Wagga would make them more visually prominent (as discussed in the EIS Technical Paper 10); however, this is not considered to pose a safety hazard for road users on surrounding streets as they would not obstruct sightlines for motorists to the intersection.

4.3.1.10 Traffic and transport

Summary of issues

Wagga Wagga City Council stated that it accepted the improved methodology and noted its assistance in providing its model to ARTC to complete the revised construction and operational assessment.

Traffic assessment—construction impacts

Wagga Wagga City Council stated that ARTC has clearly established acceptable thresholds of impact and proposed several mitigation strategies to ensure impacts are within acceptable limits (such as signal optimisation and new road markings).

Traffic assessment—operational impacts and mitigation

Wagga Wagga City Council noted that the one of the key concerns of the proposal continued to be the operational impacts on traffic and transport. Wagga Wagga City Council stated that the impacts resultant from operation would be significant, especially for the 2040 operational scenario, noting a number of intersections within the city that had been identified as having reduction in service compared with the base 2040 model.

Wagga Wagga City Council noted that despite the identified impacts, the requirement to address operational traffic and transport impacts was completely absent from the assessment process. Wagga Wagga City Council stated that the significant traffic and transport impacts identified through the agreed upon methodology have not been addressed, without any threshold or assessment framework in place and without any proposed mitigation. The proposed operational impact mitigations are entirely limited to an engagement plan and educational campaign to assist the City of Wagga Wagga to 'live-with' the documented impacts.

Wagga Wagga City Council noted that they could not accept the reduction in service to the core transport infrastructure of the city. Wagga Wagga City Council noted that appropriate operational impact thresholds must be identified, and appropriate mitigation strategies identified.

Level crossings—impacts due to level crossing closures

Wagga Wagga City Council raised concern regarding the operational impacts of the potential severance on emergency services and consequential impacts on the safety of the residents of Wagga Wagga.

Wagga Wagga City Council noted that significant operational impacts on traffic, relating to level-crossing closures, have been identified in the assessment; however, no thresholds or mitigations have been proposed for these impacts.

Specifically, Wagga Wagga City Council noted that the assessment had not adequately considered the impact of increased emergency response times in Ashmont when Fernleigh Road level crossing is closed. Similarly, it was argued that the assessment disregarded the potential impact this would have on access to the various aged care facilities south of the rail line, including those immediately adjacent to Bourke Street/Docker Street.

Wagga Wagga City Council also noted that not suggesting any mitigations would be required to address level crossing congestion because alternative emergency vehicle routes exist was not a practical solution. It requires the foreknowledge of crossing closures and does not consider if those alternative routes can be accessed through the congestion.

Level crossings—grade separation

Wagga Wagga City Council noted concern regarding the impacts on travel times at rail crossings, which indicates decline in levels of service at a number of intersections due to operational impacts along the length of the proposal.

They stated that a number of issues had been identified regarding wait times at level crossings, due to the operational impacts of the proposal. Wagga Wagga City Council argued that despite the potential impacts, no mitigation had been proposed other than the use of new gates and a siren. Wagga Wagga City Council maintained that grade separation was the only solution to minimising impacts to the existing level crossing.

Response

Traffic assessment—construction impacts

The position of Wagga Wagga City Council is noted. In doing so, it is acknowledged that the temporary closure of the Edmondson Street bridge and the additional construction volumes would put strains on the intersections of Docker Street and Lake Albert Road with the Sturt Highway, as well as Railway Street with Lake Albert Road, as diverted traffic from the temporary bridge closure would impact on some of the approaches to these intersections. These pressures are most prevalent in the AM and PM peaks.

To alleviate some of the impacts, some potential mitigation measures have been tested in the model. These include demarcation of road markings on Railway Street, a north-south diversion route, and right-turn bans in the morning peak on Coleman Street on the approach to Docker Street. The mitigation measures have most impact in the AM peak where queues and delays are improved in the construction scenario. The final suite of mitigation measures would be determined in consultation with the Wagga Wagga City Council and Transport for NSW (mitigation measure TT2).

Traffic assessment—operational impacts and mitigation

The assessment identified that the longer and more frequent level crossing closures at Docker Street and Fernleigh Road would result in extended waiting times at these level crossings and associated traffic impacts at nearby intersections. The predicted impacts are greater in 2040 than 2025 due to the increased growth in background traffic volumes and the additional train services proposed.

Level crossings that are within the scope of the proposal only includes those that are required to be modified to accommodate double-stacked freight trains, such as modification to accommodate track realignment. Consideration of the road–rail interface treatment at level crossings that are out of scope does not form part of the proposal.

Where track realignment occurs at level crossings within the proposal site, adjustment to the level crossing infrastructure is required to maintain compliance with Australian and ARTC level crossing standards.

The Bourke Street/Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga do not require modification and are out of scope of the proposal. These level crossings are located on local roads and any modification that is considered appropriate would need to be carried out by the road manager, Wagga Wagga City Council.

Level crossings—impacts due to level crossing closures

Emergency vehicles would be subject to the same increased frequency in level crossing closures as identified for other vehicles crossing the rail corridor at Docker Street and Fernleigh Road. Alternative routes through grade-separated crossings will are available at Edmondson Street, Pearson Street and Albert Street.

As part of the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (Appendix D), further analysis was completed that considered five routes that emergency services may take to access the Wagga Wagga Base Hospital with and without the proposal. This found that there would be a minor increase in 2025 as a result of increased delays at the level crossing, with a maximum increase of 12 seconds in the AM peak, and 4 seconds in the PM peak. In 2040, increased queuing at the Docker Street level crossing would result in further increases in travel time, with a maximum increase of 40 seconds in the AM peak and 14 seconds in the PM peak. In the Midday peak, there would be no discernible difference in travel times for the 5 routes assessed in 2025 or 2040. Further detail is provided in section 3.5.11 of Appendix D.

Level crossings—grade separation

The Office of the National Rail Safety Regulator administers and regulates the safety of the Australian railway industry under rail safety national law. ARTC uses a consistent safety-based methodology to design the road–rail interface treatments across the Inland Rail Program. This is aligned with rail safety national law and Office of the National Rail Safety Regulator's guidelines, which require the risks to safety to be minimised so far as is reasonably practicable. This safety-based methodology has been audited by the Office of the National Rail Safety Regulator in June 2020 and there were no findings or recommendations.

Level crossings that are within the scope of the proposal only include those that are required to be modified to accommodate double-stacked freight trains, such as modification to accommodate track realignment. Consideration of the road–rail interface treatment at level crossings that are out of scope does not form part of the proposal. Applying this safety-based methodology to the level crossings within the scope of the proposal, the outcomes indicated that grade separation at these level crossings is not justified from a cost-benefit perspective.

Additional safety risk assessment was completed where high volumes of traffic occur, including Bourke Street/Docker Street and the Fernleigh Road level crossings (refer to section 10.1 of Appendix D of this Submissions Report). This concluded that no mitigation measures are required.

4.3.1.11 Traffic modelling methodology

Summary of issues

Assessment methodology (thresholds)

Wagga Wagga City Council requested clarification on the 10 per cent thresholds applied in the assessment for the construction assessment, specifically justification why a 10 per cent threshold was adopted and why a 20 per cent threshold has been used to assess intersection delay times. Wagga Wagga City Council requested that a reference to the source, or the methodology for deriving these thresholds, be provided.

Growth rate

Wagga Wagga City Council noted that within the various modelled scenarios, a 1 per cent per annum increase in light vehicle traffic had been assumed. Wagga Wagga City Council however noted that the region has experienced significant changes in demographics and sudden and rapid growth in population in subsequent years. Wagga Wagga City Council recommended that the 1 per cent per annum growth rate was no longer appropriate and a 1.5 per cent linear rate should be adopted.

Traffic assessment—construction impacts

The results of the 2024 construction scenario showed significant exacerbation of traffic delays over the 2024 base model, with notable decreases in level of service for all surrounding intersections, including major arterial junctions. Wagga Wagga City Council stated that the mitigation measures proposed to address these impacts appear to be entirely ineffective, having little to no impact on reducing the projected queue lengths or delay times.

Traffic assessment—operational impacts

Wagga Wagga City Council expressed concern with the results of the Docker Street/Bourke Street and Fernleigh Road level crossing modelling presented in the PIR for the 2025 and 2040 assessment years, noting that the predicted queue lengths are considered to be significant and mitigation measures (signal optimisation) are not expected to address these issues; however, Wagga Wagga City Council noted that the PIR does identify potential mitigation measures in the PIR, which it considers should be developed in the design phase and presented to Wagga Wagga City Council prior to construction commencing.

Traffic count data

Wagga Wagga City Council noted that the SIDRA model has been updated with traffic count data undertaken in June 2023. The report stated that for intersections located within Wagga Wagga, the micro-simulation model would be used to assess impacts. Wagga Wagga City Council noted that it was is unclear from the results presented

whether or not these impacts have actually been assessed as part of the PIR or if they will be assessed later as part of some future study.

Morgan Street corridor

Wagga Wagga City Council also noted that as part of the traffic modelling ARTC undertook an assessment of the construction impacts on the Morgan Street corridor for 2025. Wagga Wagga City Council questioned the purpose of this assessment when all other links that are expected to be impacted by construction traffic are excluded from the report.

Level crossings—queue lengths and delay times

Wagga Wagga City Council noted that in the modelling of queue lengths and delay times resulting from level crossing closures, the PIR used a derived average level crossing closure time. Wagga Wagga City Council noted that they saw a number of issues with this approach. While Wagga Wagga City Council acknowledged that the report states the average to be taken from level crossing closure times provided by ARTC for the month of June 2023, Wagga Wagga City Council requested further clarification of exactly what data was used in the calculation and how the average was reached (such as train lengths, etc.). Furthermore, Wagga Wagga City Council noted concern with the use of an average closure time as opposed to the worst-case scenario.

Wagga Wagga City Council also stated that the report claims that it is difficult to specify a typical train speed given the number of variables involved. This being the case, Wagga Wagga City Council noted that logically it should also be difficult to calculate level crossing closure times, delay times and queue lengths.

Wagga Wagga City Council requested that:

- a reassessment of queue lengths and delays at level crossings be undertaken with a likely worst-case closure duration
- the data set used to determine the average crossing closure times be explained.

Response

Assessment methodology (thresholds)

Changes to traffic volumes on each link segment in the Wagga Wagga microsimulation model have been assessed in the construction years (2024) and the operational years (2025 and 2040) to understand where changes of volumes greater than 10 per cent have occurred between the future base and future with proposal models, and aligned with the request from DPHI.

Due to the nature of the model, and a wide range of minor changes to low volume links, the identification of these link has been restricted to locations where the increases may be of some significance. The criteria for identification adopted are:

- base model link volumes are greater than 100 vehicles per hour
- absolute change in volumes is greater than 20 vehicles per hour (or 1 every three minutes).

The threshold for intersection delays of 20 per cent in any peak hour was also used as a criterion to focus where the exploration of mitigation strategies was considered necessary.

Growth rate

ARTC had adopted Wagga Wagga City Council's recommendation regarding the higher growth rate. The 1.5 per cent rate has been factored into the revised Addendum Assessment to Technical Paper 1: Traffic and Transport presented in Appendix D of this report for the 2025 year. It was not applied in the 2040 scenario due to excessive queuing in the model in the absence of additional network upgrades. Wagga Wagga City Council has since advised that this lower growth rate is consistent with their current projections for longer term growth.

Traffic assessment—construction impacts

Further refinements have been made to the construction assessment and is documented in Appendix D of the Submissions Report.

A further review of intersection performance, and key constraints, was completed to identify feasible mitigation, which could be implemented in consultation with the relevant road authorities. Major infrastructure upgrades such as road widening were not considered appropriate for the mitigation of temporary impacts during construction of the proposal.

The mitigation identified and modelled in the assessment included:

- lengthening and demarcation of the left-turn lane on Railway Street at Lake Albert Road (western approach turn)
- influencing route choice for north-south movements across the rail corridor by encouraging drivers to use Pearson Street bridge crossing via Glenfield Road and Pearson Street between Holbrook Road in the south, and Olympic Highway in the north as an alternative to the Bourke Street/Docker Street level crossing

- implementing a temporary right-turn movement ban in the AM peak to prevent traffic from Coleman Street entering Bourke Street to travel north in order to reduce queuing on Coleman Street. Additional right-turn bans would also be considered during detailed construction planning for Athol Street, Wooden Street and Lindsay Street to avoid rat-running.

Intersection performance is also driven by the broader network, and mitigation has down-stream impacts in the network, which may worsen results at adjacent intersections.

The identified mitigation measures are more effective in minimising queues and delays in the AM peak than the PM peak; however, due to the levels of delay predicted at some intersections in the AM and PM peak, the implementation of mitigation measures would not significantly reduce the increase in delay, and delays greater than 20 per cent are still predicted during construction.

In addition to the specific mitigations modelled in the assessment, other potential mitigations will be further considered during detailed design and construction planning for the proposal. These potential mitigations include but are not limited to:

- temporary signals or other signal optimisations where required
- local area traffic management plans
- turn restrictions at selected locations and selected times, such as at Athol Street, Wooden Street and Lindsay Street in Wagga Wagga
- removal of on-street parking/creating clearways at particular times
- improved lane delineations.

Traffic assessment—operational impacts

The mitigation measures identified in the PIR relate to the mitigation of impacts during construction.

The Bourke Street/Docker Street level crossing and the Fernleigh Road level crossing in Wagga Wagga do not require modification as a result of the proposal and are out of scope of the proposal. These level crossings are located on local roads and any modification that is considered appropriate would need to be carried out by the road manager, Wagga Wagga City Council.

Traffic count data

The Wagga Wagga microsimulation model uses traffic count data that was collected no earlier than January 2020. This includes data collected in June 2023. Locations of survey data used in the assessment is provided in revised Addendum Assessment to Technical Paper 1: Traffic and Transport (refer to Appendix D of this report).

An additional origin destination survey was also completed since the finalisation of the assessment presented in the PIR. The results of this survey have now been incorporated in the assessment and are presented in the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (refer to Appendix D of this report).

Morgan Street assessment

The scope requested for the PIR required an updated assessment of the link Level of Service where certain criteria were met, as described in section 4.2 in the revised Addendum Assessment to Technical Paper 1: Traffic and Transport (refer to Appendix D of this report). Morgan Street, Uranquinty, is located adjacent to the Uranquinty Yard clearances enhancement site and is a construction route. The analysis specific to the proposal within the urban context of the City of Wagga Wagga is addressed through the microsimulation model results.

Level crossings—queue lengths and delay times

For this assessment, instead of determining the level crossing closures time on an assumed speed of the train, it was determined through a review of recorded level crossing closure time data for June 2023 for level crossings relevant to the proposal. This measured data represents the typical level crossing closure time at each crossing under standard operating conditions, encompassing both a range of train lengths and variability of train speed. It is noted that assessing a worst-case scenario or using the maximum recorded level crossing closure duration would not represent typical operations and would not provide an appropriate basis to identify mitigation measures, should they be required.

For all assessments undertaken in the PIR, observed average weekday level crossing closure durations and frequencies have been adopted for short-term analysis horizons, or as the basis for extrapolation of future-years' level crossing closure durations and frequencies.

The average weekday daytime observed closure durations range from 1:04 to 2:05 minutes and the observed 95th percentile closure durations (24-hour) range from 2:08 to 4:32 minutes.

For future-year (operation) analysis, the average level crossing activation durations have been increased by a factor of 1.5 to allow for running of longer trains (on average) as part of Inland Rail for 2025 and 2040. This factor has been applied based on an estimated 50 per cent increase of train lengths (i.e. 1.2 km to 1.8 km lengths) travelling at existing speeds. This is considered to be a conservative estimate as:

- it assumes an increase in length of all trains in the future (including passenger services, which are not expected to change due to the proposal)
- it is factored against the total observed closure duration, which includes the following allocations expected to remain constant:
  - 30-second pre-train warning flashing lights and boom gate closure period
  - 10-second flashing lights and boom gate closure period after the train has passed.

4.3.1.12 Bomen viaduct

Summary of issues

Wagga Wagga City Council reiterated their concern from their previous submission that the 40 km/h speed restriction for trains at the Bomen viaducts has not been considered as part of the proposal, and the Council states that this restriction has a drastic effect on train speeds at the Bourke Street/Docker Street level crossing and resultant level-crossing closure times. Wagga Wagga City Council raised concern that the 40 km/h speed limit had already been in place for four years and, as of November 2023, this restriction has been reduced to 20 km/h for all trains. Wagga Wagga City Council argued that continuation of this speed limit until rectification work has been completed in July 2026 represented a significant period of non-typical operation.

Furthermore, they stated that the viaduct has had its speed limit further reduced to 20 km/h, which has not been factored into the train speed calculations. Wagga Wagga City Council suggested that if speed restrictions are likely to stay in place longer than the stated period, level crossing closure times be used in traffic modelling that is representative of train speeds at the Bourke Street/Docker Street crossing, considering acceleration from 20 km/h or 40 km/h beyond the speed restriction, not the 80 km/h freight line speed.

The Bomen viaducts were constructed in 1901 and have now been in continuous operation for 122 years. They represent an ageing piece of infrastructure critical to the operation of Inland Rail. Wagga Wagga City Council stated it is essential that this infrastructure and its condition be appropriately assessed within the scope of the proposal. Wagga Wagga City Council suggested that ARTC provide further information regarding the nature of the track-geometry fault, the extent and complexity of the corrective actions required on the viaduct to remove the restrictions, and sufficient information to demonstrate the likely removal of speed restrictions by the stated date of July 2026.

Wagga Wagga City Council stated that the dismissal of this issue as not being the responsibility of ARTC was not an acceptable solution.

Response

The speed restriction on the Bomen viaduct is a temporary measure until a series of maintenance works can be completed. The maintenance work requires work to the viaduct structure that can only be carried out safely when trains are not running. To minimise impacts to train services, the maintenance work is being planned to occur in rail possessions. The temporary speed restrictions are currently planned to be removed at the end of May 2024. As such, it is anticipated that this work would be completed prior to the commencement of construction of the proposal and operation of Inland Rail trains (and therefore was not considered necessary to be considered as part of the train speed calculations).

The temporary speed restriction is not a typical reflection of the operation of the rail network in this location or potential impacts of the proposal on at-grade crossings. It relates to the maintenance work, which does not form part of the proposal.

4.3.2 Junee Shire Council

Junee Shire Council provided a response to the public exhibition of the PIR (13 December 2023). In doing so, Junee Shire Council made comment on the responses contained within the EIS Submissions Report concerning its submission on the EIS.

Junee Shire Council stated in its covering letter that:

- it is particularly concerned about the potential noise barriers identified in the PIR, and that the community and Junee Shire Council strongly oppose the installation of the noise barriers due to concerns around the visual and amenity impacts to Junee, and the long-term management of the barrier (such as management of graffiti and other anti-social behaviour). A response to these matters is provided in section 4.3.2.27 of this PIR Submissions Report
- concerns that the extended construction of Kemp Street road bridge has not been adequately considered in the addendum traffic and transport assessments contained in the PIR. Junee Shire Council noted that the delays at the Olympic Highway level crossing are currently extensive due to current rail operations that that the closure of Kemp Street road bridge would further exacerbate this issue. A response to these matters is provided in sections 4.3.2.1 and 4.3.2.32 of this PIR Submissions Report

- expressed support for the inclusion of the DDA-compliant Kemp Street pedestrian bridge, noting the continuation of discussions and mechanisms for providing feedback during detailed design. A response to these matters is provided in section 4.3.2.2 and 4.3.2.28 of this PIR Submissions Report.

4.3.2.1 Train movements (Item 1)

Summary of issues

Junee Shire Council expressed the view that:

- the EIS Submissions Report did not address or provide a solution to the impacts to LX607 Olympic Highway at Junee that occur due to driver change over
- the PIR should provide further detail around level crossing activations at LX607 Olympic Highway and the length of these closures
- the estimated maximum vehicle queue length at this level crossing does not reflect what Junee Shire Council experiences, which it has discussed further in Items 36 to 39 of its submission (see section 4.3.2.32 of this report). Junee Shire Council stated that the level of impact to travel times does not correlate with local experiences where the level crossing is closed for up to and exceeding 10 minutes during certain rail operations.

Response

No modifications are needed for the current configuration of LX 607 Olympic Highway at Junee to accommodate double-stacked freight trains and, as such, this level crossing is not included in the proposal site or scope of the proposal.

The level crossing duration adopted in the addendum traffic and transport assessment is detailed in section 4.3 of the Junee Microsimulation Modelling – Scenario Testing Report, provided in Appendix E of the Addendum assessment to Technical Paper 1: Traffic and Transport (refer to Appendix D of this report). The assessment has adopted an average level crossing closure duration and an average length of time between closures based on an analysis of the data provided for the month of June, 2023. Validation of the Junee VISSIM models also included the comparison of the maximum observed queue data with the maximum modelled queue data for the AM and PM peak periods for the Olympic Highway/Broadway intersection. This comparison demonstrated that the modelled and observed queue lengths are generally similar with differences typically less than a single vehicle.

LX 607 Olympic Highway can close for longer periods of time and this is generally attributed to the changeover of drivers of some trains on the Junee station platform and shunting movements within the Junee yard. Adoption of a worst-case closure in this instance would not reflect typical operations or any required mitigation requirements.

As stated in the EIS Submissions Report, train timetabling and driver changes is the responsibility of operators and is not within the jurisdiction of ARTC; however, ARTC is continuing to engage with operators, with several meetings held in November and December 2023 to investigate solutions to reduce the frequency and the duration of level crossing closures at LX607 Olympic Highway. In accordance with mitigation measure SI9, should any feasible solutions be identified, ARTC would undertake any necessary works through separate approvals (as required).

4.3.2.2 Kemp Street bridge and Junee Station pedestrian bridge (Item 2 and Item 3)

Summary of issues

Junee Shire Council acknowledged the inclusion of the DDA-compliant Kemp Street pedestrian bridge, noting it will be a valuable upgrade to the accessibility of Junee. Junee Shire Council also noted its support on the inclusion of mitigation measures concerning the adaptive reuse of elements of the existing Kemp Street bridge (NAH4) and the process for the demolition and transportation of the Junee Station pedestrian bridge to allow for re-use (NAH3).

Response

The support of Junee Shire Council on the inclusion of the Kemp Street pedestrian bridge and non-Aboriginal mitigation measures NAH3 and NAH4 is noted.

4.3.2.3 Social (Item 4)

Summary of issues

Construction impacts to Junee Correctional Centre

Junee Shire Council stated that the concerns raised in its submission on the EIS concerning the socio-economic assessment with respect to Junee Correctional Centre and impacts to housing has not been addressed.
Junee Shire Council requested that ARTC should provide more detail in relation to the housing of the anticipated workforce in the region, noting the very high impacts to housing anticipated as a result of the proposal.

Operational impacts to users of the Olympic Highway

Junee Shire Council stated that the concerns raised in its submission on the EIS concerning the socio-economic impacts of road and rail traffic through Junee on residents and users of the Olympic Highway in Junee during operation of the proposal were not adequately addressed.

Junee Shire Council stated that a more robust analysis of the level crossing activations and the length of these closures, especially when the proposed closure of Kemp Street bridge has been extended. Junee Shire Council stated that the microsimulation model considers increase in traffic loading, but the basis for this microsimulation model contains extremely limited physical on-site data capture with reference to Items 36–39 of the submission (see section 4.3.2.32 of this report). Junee Shire Council is of the opinion that the base data capture and the underlying assumptions used to inform the model are inaccurate given the limited data sample.

Response

Construction impacts to Junee Correctional Centre

Conservatism has been factored into the assessment in the assumptions on occupancy and the exclusion of certain types of accommodation; specifically:

- a 72 per cent occupancy rate was adopted for urban township accommodation (2,485 rooms) (this is an additional 10 per cent above the base case using NSW Tourist Accommodation December quarter 2020 data (Destination NSW, 2021) (62.3 per cent), and equivalent to 2019 occupancy rate (71.2 per cent)). This was applied to the City of Wagga Wagga and Albury
- a variable occupancy rate was adopted for regional accommodation (472 rooms), which varied between 40 per cent to 90 per cent of occupancy throughout the year, accounting for major events and seasonal workforce accommodation needs
- consideration of accommodation availability also excluded certain types of accommodation, including pubs and holiday parks.

As outlined in mitigation measure SI6, a workforce accommodation plan would be prepared to mitigate any impacts of the proposal on housing affordability and availability for local communities. This plan requires consideration of combined strategies to mitigate shortages of accommodation and the transport arrangements of workers to and from work sites daily. This could include measures such as increasing the travel limit so that workers can reside further away from work areas, use of accommodation camps that are already available in the region, or the use of fly-in fly-out workers.

Nevertheless, ARTC has updated mitigation measure SI6 to include that the workforce accommodation plan be informed by a capacity analysis of the local short-term accommodation and rental housing markets, demand patterns, the findings of the social impact assessment, objectives of the social impact management plan and consultation with appropriate local stakeholders.

Operational impacts to users of the Olympic Highway

The social impact assessment acknowledged the continual use of Junee Station for crew changes and the increase in waiting time due to train movement, would possibly result in social severance being experienced as a noticeable change for local residents.

A response to matters raised by Junee Shire Council on the assessment of level crossing closures and data collection is discussed further in section 4.3.2.32 of this report.

4.3.2.4 Fencing (Item 5)

Summary of issues

Junee Shire Council expressed its dissatisfaction with ARTC's response concerning its request for the provision of fencing to the rail corridor through the township of Junee.

Response

The position of Junee Shire Council is noted. As stated in the EIS Submissions Report, minor adjustments to existing fencing would be required where an area is directly impacted by the proposal, including shifting small sections of existing fencing. New fencing along the alignment is outside of the scope of the proposal.

4.3.2.5 Construction traffic and transport (Item 6)

Junee Shire Council noted the response to its comment regarding consultation on construction traffic transport and access management plan and made no further recommendations.

4.3.2.6 Waste and resource management (Item 7)

Junee Shire Council noted the response to its comment regarding the waste management and the commitment to provide more detail in the CEMP. In doing so, it made no further recommendations.

4.3.2.7 Groundwater (Item 8)

Junee Shire Council noted the response to its comment regarding dewatering at the Kemp Street bridge enhancement site and made no further recommendations.

4.3.2.8 Minor error in the EIS (Item 9)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.9 Options assessment (Item 10)

Summary of issues

Impacts to residential receivers near Kemp Street bridge

Junee Shire Council stated that its concerns about the design of the approach roads on both sides of the Kemp Street bridge has not been addressed, but that ARTC have provided assurances that compliance with the standards would be considered at detailed design. In doing so, it identified recommendations as part of its comments on the PIR (see section 4.3.2.28 of this report).

Junee Shire Council also expressed its position that impacts of overshadowing and overall amenity should be considered for adjoining residences, not just visual impact.

Landscaping at Endeavour Park

Junee Shire Council noted that its comment had been partially addressed but noted that the landscaping design would be developed further during detailed design and made no further recommendations.

Olympic Highway underbridge

Junee Shire Council expressed its dissatisfaction with ARTC's response concerning it's objection to the preferred outcome for the Olympic Highway underbridge. Junee Shire Council had recommended in its EIS submission that ARTC reconsider the preferred outcome to include road lowering in this location to increase clearance height under the bridge and reduce the risk of road traffic collision due to a low clearance.

Response

Impacts to residential receivers near Kemp Street bridge

A response to the compliance of the design with relevant standards is provided in section 4.3.2.28 of this report.

The Landscape and Urban Design Report for the Kemp Street bridge (provided in Appendix C of EIS Technical Paper 10: Landscape and Visual Impact Assessment) identified design responses to address impacts to amenity, such as replacement landscaping. These responses would be further developed in accordance with the urban design and landscape plan (mitigation measure LV2).

Landscaping at Endeavour Park

Junee Shire Council's position is noted.

Olympic Highway underbridge

The position of Junee Shire Council is noted. As stated in the EIS Submissions Report, the lowering the Olympic Highway was not considered a part of the proposal as its purpose would not be to facilitate the running of double-stacked trains along the rail corridor as part of Inland Rail.

4.3.2.10 Options assessment—grade separation at the level crossing at the Junee Railway Station (LX607) (Item 11)

Summary of issues

Junee Shire Council acknowledged ARTC's response concerning the request for further investigation and analysis into the operation of the Olympic Highway level crossing adjacent to the Junee Station and the engagement ARTC have commenced with operators into the possible solutions to reduce the frequency and the duration of level crossing closures at LX607 Olympic Highway.

Junee Shire Council stated its support for these ongoing discussions to resolve the issues relating to train driver change over delays at the Junee Olympic Highway level crossing.

Response

Junee Shire Council's position is noted.

4.3.2.11 Options assessment—level crossing at Wornes Gate Lane (LX1472) and at the Carter Property access road (LX605) (Item 12 and Item 13)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.12 Proposed features and operation (Item 14)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.13 Traffic and transport—traffic data (Item 15)

Junee Shire Council noted that traffic counts had been completed in response to its comment and made no further recommendations.

4.3.2.14 Traffic and transport—road network dilapidation reports (Item 15 cont.)

Summary of issues

Junee Shire Council stated that the PIR should list the required dilapidation surveys, condition assessments, road maintenance and upgrades for diversion routes used by heavy vehicles. Junee Shire Council stated that there were limited details around proactive road upgrades, repairs or maintenance during the construction period when failures occur beyond that identified for Joffre Street and Pretoria Street.

Response

Where required, planning for diversion routes has selected roads of the same order as far as possible. In the instances where diversion routes have been required on roads of a lower order, the requirement for proactive mitigation has been considered.

Mitigation measure TT15, which required the completion of dilapidation reports for construction routes, has been revised to also include diversion routes, including heavy vehicles, within each precinct. Damage to roads that affects road safety or trafficability as a result of construction would be rectified as soon as practicable.

Beyond Joffre Street and Pretoria Avenue, the proposal does not result in any significant modification to the existing road network, which would impact the function or performance of the broader road network, beyond current or future issues, which would occur under existing conditions. Upgrade of the broader road network is outside the scope of the proposal.

4.3.2.15 Traffic and transport—improvements to the broader local road network (Item 15 cont.)

Summary of issues

Kemp Street bridge

Junee Shire Council stated that its comments concerning the Kemp Street bridge design has been partially addressed, and noted that it has been consulted on the detailed designs. Junee Shire Council has requested that the road bridge and its associated intersections are designed to accommodate PBS Level 3a vehicles.

Heavy vehicle routes

Junee Shire Council stated that it believes that Olympic Highway traffic, especially heavy vehicles, should be diverted via Old Junee Road if the traffic impacts during the construction of Kemp Street bridge cannot be satisfactorily mitigated.

Junee Shire Council stated that consideration has not been made for suitable heavy vehicle detours during the proposal to reroute heavy vehicles from major arterial roads and/or reroute heavy vehicles during harvest and other peak operating periods. Junee Shire Council and Transport for NSW have established detour routes/plans for these situations including diversion of the Olympic Highway, Gundagai Road and Byrnes Road via Old Junee Road. A similar process should be implemented for the Kemp Street bridge works, as Joffre Street/Pretoria Street are not suitable for heavy vehicles. Alternatively, Junee Shire Council stated that upgrades to the road network could be made to allow heavy vehicle access.

Junee Shire Council requested that:

- suitable heavy vehicle detours should be detailed
- the refinement of traffic detours for Junee and the development of traffic control plans for the detours should be developed in consultation with Junee Shire Council, and any diversions/detours associated with the local road network will be agreed with Junee Shire Council before being implemented.

Response

Kemp Street bridge

A response to the compliance of the design with relevant standards is provided in section 4.3.2.28 of this report.

Heavy vehicle routes

With respect to the use of Joffre Street and Pretoria Street, the use of these roads for a traffic detour would only be required during the Olympic Highway/Kemp Street intersection works and would not be in place for the full duration of the detours required for the Kemp Street bridge closure; however, it is acknowledged that preventative road works would be required to offset impacts from the detoured traffic (including heavy vehicles), and that these preventative road works would be undertaken in consultation with Junee Shire Council and Transport for NSW (mitigation measure TT9).

Old Junee Road and Queen Street is presently a heavy vehicle route and is used as a regular detour. Mitigation measure TT16 sets out the requirement for heavy vehicle diversionary signage to be implemented during the closure of Kemp Street bridge to encourage heavy vehicles to use the existing heavy vehicle routes via Goldfields Way and Old Junee Road during the closure of Kemp Street bridge.

The final detours in Junee will be confirmed in consultation with Junee Shire Council during the preparation of a traffic and transport management sub-plan. It This sub-plan will also be supported by site-specific Construction Traffic, Transport and Access Management Plans (CTTAMPs).

4.3.2.16 Traffic and transport—clearing/trimming of vegetation within road corridors and public spaces (Item 15 cont.)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.17 Traffic and transport—construction vehicle parking (Item 15 cont.)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.18 Air quality (Item 16)

Summary of issues

Junee Shire Council noted that it will negotiate with ARTC during the detailed design stage concerning its request for dust suppression seals at rail level crossings on gravel roads.

Response

The position of Junee Shire Council is noted. As stated in the EIS Submissions Report, the extent of sealed roads at modified level crossings would be considered during detailed design.

4.3.2.19 Economics (Item 17)

Summary of issues

Junee Shire Council recommended that the social impact assessment is updated to include a scenario where no local workforce is available to service the project and identify the additional accommodation impacts that this might have for the proposal area, including Junee. This is due to its concern that the EIS did not adequately consider an employment scenario where there are no local workers available to furnish the required workforce.

Response

The social impact assessment considered the potential availability of the local workforce for the proposal, and concluded that a low proportion (10 per cent) of the total workforce required to construct the proposal would likely be able to be sourced locally, with the remainder to be sourced from a non-resident workforce. At peak construction (which corresponds to a 60-hour possession period), around 300 construction workers would be required in the Junee precinct, of which 30 workers would be locally sourced.

The assessment has identified that there would be a deficit in available accommodation during these peaks, and this would occur irrespective of whether or not 10 per cent of the workforce can be sourced locally.

As outlined in mitigation measure SI6, a workforce accommodation plan would be prepared to mitigate any impacts of the proposal on housing affordability and availability for local communities. This plan requires consideration of combined strategies to mitigate shortages of accommodation and the transport arrangements of workers to and from work sites daily. This could include measures such as increasing the travel limit so that workers can reside further away from work areas, use of accommodation camps that are already available in the region, or the use of fly-in fly-out workers.

4.3.2.20 Hazards (Item 19)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.21 Hydrology and flooding (Item 20)

Summary of issues

Junee Shire Council stated that its comment on the EIS concerning the completion of a drainage/flood assessment of the entire length of the rail corridor has not been resolved as ARTC stated that this is beyond the scope of the proposal. Junee Shire Council recommended that this assessment is completed to inform the design of stormwater management systems, particularly where modifications to existing infrastructure is required.

Response

The proposal includes construction at enhancement sites, where modification of the existing rail line is required to facilitate operation of double-stacked freight trains.

At locations outside the enhancement sites, no modification to the existing rail line is required for the proposal. The operation of Inland Rail trains will not impact drainage and flooding; as such, this is not considered relevant to the proposal and ARTC will continue to manage drainage and flooding as part of their ongoing operations.

Changes to hydrology and flooding within enhancement sites has been considered in Technical Paper 11: Hydrology, Flooding and Water Quality. At these locations, the proposal would not divert or alter flow regimes in downstream receivers as the works have been designed to mimic the existing drainage and surface water flow conditions at the sites. Minor increases in downstream flows would occur at some sites but these would connect to existing stormwater systems that drain catchments significantly larger than the rail corridor sub-catchments; therefore, any minor flow increases would be negligible when combined with the total catchments flows downstream of the sites.

4.3.2.22 Strategic planning (Item 21)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.23 Utilities (Item 22)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.24 Technical Paper 1: Transport and Traffic (Item 23)

Junee Shire Council noted the response to its comment, and supported the ongoing discussions being conducted by ARTC to resolve issues around the train driver changeover and closures of LX 607 Olympic Highway. These matters are discussed in section 4.3.2.1.

4.3.2.25 Appendix H: Construction Environmental Management Plan (Item 24)

Junee Shire Council noted the response to its comment and made no further recommendations.

4.3.2.26 General comments (Item 25)

Summary of issues

Junee Shire Council stated that it maintains its position that:

- a general clean-up of the rail corridor should be provided as part of the proposal, including removal of disused or redundant rail infrastructure such as overhead wires and poles
- ARTC commits to the ongoing maintenance of Inland Rail/ARTC assets over the life of the proposal, including mowing/slashing, weed control and fencing.

Response

As stated in the EIS Submissions Report:

- disused or redundant infrastructure directly impacted by the proposal would be removed, if required. Business-as-usual rail maintenance activities by ARTC, such as raising and/or replacement of existing signal gantries, are excluded from this proposal
- standard ARTC maintenance activities would be undertaken during operations and there would be no change to the maintenance schedule. Maintenance activities do not form part of the SSI application for the proposal and works within the rail corridor would be undertaken in accordance with ARTC's standard operating procedures and ARTC's EPL (EPL 3142).

4.3.2.27 Operational rail noise and vibration—Mitigation measures (Item 18, 26, Item 42 and Item 43)

Summary of issues

Junee Shire Council made a number of comments concerning the mitigation measures identified in the PIR to address exceedances of proposal-specific noise levels (PSNL); specifically, that:

- the PIR has not included the noise barriers in the proposal description and does not quantify whether these measures are proposed as part of the proposal or are a potential option
- Junee Shire Council does not support noise barriers in Junee and considers the impacts of the noise barriers to be unacceptable in Junee due to the visual, social and amenity impacts on the town and its character. Further, it does not consider it acceptable to pass on the requirement for noise barriers to the detailed design stage, and stated that an alternative to noise barriers should be proposed
- additional assessment should be provided detailing the visual, social and amenity impacts of the proposed noise barriers, and the management of these barriers (such as graffiti removal)
- it supports at-property treatment for all sensitive receivers that are above the PSNL
- that the assessment identifies which sensitive receivers would still exceed the PSNL when the modelled noise barrier is in place.

Junee Shire Council also acknowledged the response to its submission on the EIS with respect to compliance monitoring and made no further recommendations.

Response

ARTC is applying the following strategy for the proposal as the basis for selecting reasonable and feasible noise mitigation for operational rail noise impacts:

- proposal-specific noise levels have been developed to guide the selection of noise mitigation measures for residential receivers that exceed the RING criteria
- source controls (i.e. infrastructure and rollingstock measures) have been investigated first, in line with RING hierarchy of controls
- noise barriers have been considered where groups of triggered sensitive receivers with noise levels above the PSNLs are apparent. For isolated sensitive receivers, such as single dwellings in rural areas, noise barriers have not been considered
- the noise mitigation for isolated sensitive receivers is expected to include:
  - at-property architectural treatments to the building (such as increased glazing or facade upgrades) to control rail noise inside building
  - upgrades to the receiver property boundary fencing to improve screening of rail noise.

The Revised Technical Paper 7: Operational Noise and Vibration (Rail) examined a potential noise barrier option in Junee to demonstrate potential noise mitigation options and assess their effectiveness. The determination of whether rail noise barriers would be a reasonable and feasible noise mitigation measure will be made during the detailed design phase in consultation with the affected community, as discussed in section 9.5 of the revised technical report as part of the operational noise and vibration review, which is reflected in mitigation measure NV3 and NV4. Mitigation measure NV4 has been revised to reflect the role of community feedback in accordance with the RING to inform the selection of mitigation measures. The analysis to support the operational noise and vibration review will consider all design, engineering, constructability, environmental, visual and social factors that influence the location, extent, and height of the noise barriers.

It is noted that Junee Shire Council does not support the use of a noise barrier at this location within the rail corridor, and this input will be taken into consideration in the decision-making process. Junee Shire Council should be aware that ARTC has received positive feedback from directly impacted receivers on this noise wall at the community drop-in session held during the public exhibition of the PIR. The final set of mitigation measures will be listed in the operational noise and vibration review (mitigation measures NV3 and NV4).

Appendix F of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) identified the proposed mitigation measures for each residential receiver in the design year (2040). This includes where at-property treatment may be required in addition to other noise mitigation strategies (such as a noise barrier). The final set of mitigation measures would be determined as part of the operational noise and vibration review. Within Junee, a total of 23 receivers were identified as being subject to at-property treatments (21 as the primary measure and 2 as residual—i.e. requiring treatment after consideration of the concept noise barriers) (refer to Table 35 of the Revised Technical Report 7: Operational Noise and Vibration (Rail)).

4.3.2.28 Road and pedestrian bridges (Item 27, Item 28 and Item 34)

Summary of issues

Junee Shire Council noted its support for the proposed changes for the Kemp Street pedestrian bridge and made comment concerning the design of the Kemp Street bridges in the PIR; specifically, that:

- the assessment method being utilised for the Kemp Street bridge with AS5100 has not been detailed clearly and requested assurance that the bridge structure would support all PBS Level 3a combinations to ensure Junee Shire Council's regional infrastructure routes can be maintained and developed into the future
- the detailed design for the Kemp Street bridge approaches should meet AGRD Part 3 and PBS Scheme Network Classification Guidelines, noting the design is currently non-compliant and that Junee Shire Council opposes this departure given it poses significant safety risks. Junee Shire Council stated that it does not accept the risk posed by this non-compliant asset and that further consideration could be made to reducing the levels over Siding 9, given it is not a main line track and the clearance assumably is less critical. This could enable a skewed slope to reduce the grades
- ARTC has suggested that Transport for NSW may retain ownership of the bridge upon completion and requests further detail on how this was to proceed in order for it to consider this alternative.

Response

Kemp Street bridge is not a designated B-Double route; however, consideration of turning radius for heavy vehicles and loading has been included in the proposed design. The classification of Kemp Street bridge is not proposed to be changed as part of the proposal.

The Kemp Street bridge would be designed to the SM1600 loading in accordance with AS5100 Australian Bridge Design Code, and would support PBS Level 3a combinations. ARTC will work with Junee Shire Council during detailed design development on incorporating movement of PBS Level 3a vehicle combinations in the design, subject to the conditions of the interface agreement between ARTC and Junee Shire Council (refer to mitigation measure TT9).

The design for the Kemp Street bridge approaches are subject to detailed design, and opportunities to meet all standards would be investigated. Any road geometry departures required on Kemp Street bridge and approaches (if necessary) would be subject to the acceptance of Junee Shire Council.

4.3.2.29 Level crossing LX605 (Item 29, Item 30 and Item 35)

Summary of issues

Junee Shire Council stated that it supports the changes to the Shire and Carter access road level crossing (LX605) but stated that it appears that the insert in Figure 3-9 appears to include left in left out arrangements that was removed from the design. Junee Shire Council stated that ARTC should identify what the preferred solution is.

Response

The error in Figure 3-9 is noted. This error was not included in the Updated Project Description figure provided in Appendix A of the PIR. The design solution proposed for this level crossing maintains the ability for vehicles to perform both left- and right-hand turns into and out of the level crossing as described in section 3.2.1.4 of the PIR, and as described and depicted in Appendix A of the PIR.

4.3.2.30 Changes to the construction program (Item 32)

Summary of issues

Junee Shire Council noted that the Kemp Street bridge construction timeframe has been extended by 8 months to a total of 18 months, with temporary diversions being extended from 8 to 12 months for vehicular traffic. Junee Shire Council expressed that this would have a significant impact on the community particularly to the Olympic Highway level crossing and associated detour routes.

Junee Shire Council requested that:

- the scope/reason for the extended timeframe be defined, including the additional time allocated for the closure of the Kemp Street bridge
- a detailed mitigation strategy to further reduce the anticipated traffic impacts at the Junee Olympic Highway level crossing
- more robust mitigation, management and monitoring strategies are in place, especially for when construction occurs during peak traffic periods throughout the year, such as harvest
- additional dilapidation monitoring and repairs be conducted if diversions are in place during harvest season, as the extended construction timeframe and the associated detours may occur during peak harvest season, which is considered to be unacceptable.

Response

As detailed in section 3.2.2.2 of the PIR, the construction for Kemp Street bridge enhancement site would occur over 18 months (an increase of 8 months), whereas detours would be in place for 12 months of the 18-month construction period, representing an extension of four months in which detours would be required.

The construction schedule has changed due to a range of factors, such as specialised resource planning, revised staging of bridge closures and scheduling construction around 60-hour rail possessions, as well as changes to the proposal made as part of the PIR.

The increase in duration of construction would result in longer exposure of construction impacts to the community such as amenity and access; however, the work periods would be interspersed with periods of down time where minimal work would be undertaken and the quantum of work has not significantly changed, with no changes in the estimated peak volume of construction traffic. As such, it was concluded in the PIR that the proposed changes in the construction schedule would not change the social impact ratings assigned in the EIS, noting that the impact ratings (unmitigated) for the Kemp Street bridge enhancement site were already assigned a medium to high impact. The (unmitigated) high-impact rating reflected the disruption to mobility as a result of the Kemp Street bridge closure.

A number of traffic and social mitigation measures have already been included to minimise the impacts to the community as a result of the construction works and the closure of Kemp Street bridge. This includes mitigation measures TT1 and TT2, which includes the requirement for mitigation measures to improve traffic efficiency in Junee during construction, and mitigation measure TT12, which requires construction staging to be planned to account for continued active transport connectivity during construction (including opportunities to open the Junee Kemp Street pedestrian bridge prior to the closure of the existing Kemp Street bridge). Mitigation measure TT15, which required the completion of dilapidation reports for construction routes, has been revised to also include diversion routes, including heavy vehicles, within each precinct (refer to Appendix B of this Submissions Report). As required by mitigation measure TT15, any damage that occurs as a result of construction will be rectified to restore the road to the pre-work condition as identified in the road dilapidation report or as otherwise agreed with the relevant road authority.

4.3.2.31 Impacts to active transport (Item 33 and Item 41)

Summary of issues

Junee Shire Council requested that ARTC provides a firm commitment for the delivery of the Kemp Street pedestrian bridge as it has a significant impact on community active transport access, specifically that ARTC should confirm its intent to deliver the pedestrian bridge prior to the removal of the Kemp Street bridge and that the new pedestrian bridge remains open to the public while the other components of the proposal are under construction.

Junee Shire Council also requested that the closure periods of pedestrian access due to the bridge closure should be defined in more detail and that the closures should occur outside school hours. Junee Shire Council stated that the 1.4 km detour for school children is not considered a minor impact in the event that the pedestrian bridge is not delivered prior to the closure of the existing Kemp Street bridge.

Response

Construction staging would be planned to account for continued active transport connectivity during construction and will consider opportunities to reduce the duration of concurrent bridge closures, including the opening of the Junee pedestrian bridge prior to the closure of the existing Kemp Street bridge (TT12). ARTC would apply best endeavours to ensure this is constructed prior to closure of the Kemp Street bridge but this can only be confirmed once detailed construction planning has occurred.

The potential additional diversion distance of 1.4 km is a worst-case scenario, as actual impacts would vary by individual origin and destinations; however, it is acknowledged that access for school users, such as St Joseph's Primary School and Junee Public School, would be disrupted during the closure of the bridge, and the provision of transportation services for school users whose accessibility to services would be constrained as a result of road and pedestrian bridge closures would be assessed as part of the community health and wellbeing plan (mitigation measure SI7).

4.3.2.32 Directed assessment—Junee modelling (Item 36 to Item 39)

Summary of issues

Junee Shire requested that a more robust traffic investigation be undertaken to determine more accurate queue lengths, travel time, level of service and safety impacts during the construction period of the Kemp Street bridge. This includes the request for a more detailed vehicle travel time survey for Junee.

In doing so, Junee Shire Council stated that:

- it appears as if the same assumptions and data have been utilised as contained in the EIS, which Junee Shire Council fundamentally disagrees with, as limited base data was collected. Junee Shire Council stated that travel times can currently be in excess of 10 minutes across this level crossing due to ongoing rail operations
- further traffic investigation should be undertaken to determine more accurate queue lengths, as the traffic modelling completed relies on queue length data from a survey undertaken on 8 June 2023 and level crossing activations within the month of June 2023, and that it does not consider the impact of heavy vehicles on the queue length
- while the assessment indicated the additional delays due to the closure of the Kemp Street, the total delay for the community is not clearly indicated in the traffic figures or addressed in the submission
- it does not consider the safety impacts created through additional heavy vehicles queuing across intersections on Seignor Street and Main Street
- further detail should be provided around level crossing activations and the length of these closures
- the estimated maximum queue length increases do not seem to reflect what Junee Shire Council would expect queue lengths to increase by. Additionally, Junee Shire Council stated that the level of impact to travel times was similarly not reflective of real-world scenarios where this level crossing can be closed in excess of 10 minutes during certain rail operations
- while the microsimulation model provides additional insight into traffic movements, the base model data for the level crossing does not reflect realistic traffic loading and queues over the yearly cycle or any peak periods, as detailed earlier. Junee Shire Council stated that it is of the opinion that:
  - this results in the Level of Service of the intersection being significantly overstated and the actual wait times being significantly understated in the microsimulation model
  - if the base data accurately reflected the regular wait times that a resulting level of service from A to C, as presented by Inland Rail, with all wait times below 42 minutes, is extremely unlikely for the level crossing and significant improvements are recommended
- it is unclear how wait times that are unsatisfactory (Level of Service D to F) would be managed, including the northbound crossing from Olympic Highway to Main Street.

Response

The assessment of traffic impacts in Junee during the closure of Kemp Street bridge was updated since the EIS, and incorporated new data and methods as detailed in Appendix C of the PIR and Appendix D of this Submissions Report. Additional intersection count data and queue length data collected in Junee on June 2023 was used to develop a VISSIM microsimulation traffic model to help assess traffic impacts. Validation of the Junee VISSIM models also included the comparison of the maximum observed queue data with the maximum modelled queue data for the morning and peak periods for the Olympic Highway/Broadway intersection. This comparison demonstrated that the modelled and observed queue lengths are generally similar with differences typically less than a single vehicle.

The assessment has considered an average weekday outside of school holidays. Heavy vehicles (rigids and articulated vehicles) are included in the model and, as such, impact the length of queues predicted in the model. As the assessment presents an average day, it has not considered periods of high demands such as those that may occur during the harvest season. Review of the harvest season data supplied by Junee Shire Council shows a higher percentage of heavy vehicles than what has been captured in the model completed for the assessment. In discussions with Junee Shire Council, it was agreed that further investigation into the influence of harvest season on the performance of the road network, and management of these impacts during construction, would be considered during detailed design and construction planning.

The duration of level crossing closure times is derived from actual observed data for June 2023 and adjusted to account for increased train movements in 2025 and 2040 (as detailed in section 9.3 of Appendix D of this Submissions Report). The closure times are an average and does not represent a worst-case scenario.

As discussed with Junee Shire Council, additional traffic survey collection will occur at level crossing LX607 (Olympic Highway, Junee) and adjoining intersection prior to construction commencing in Junee to validate the outcomes of the modelling completed and further inform traffic management outcomes and community awareness during construction (new mitigation measure TT28). This will occur in consultation with Junee Shire Council.

LX 607 Olympic Highway can close for longer periods of time and this is generally attributed to the changeover of drivers of some trains on the Junee station platform and shunting movements within the Junee yard. Adoption of a worst-case closure in this instance would not reflect typical operations or any required mitigation requirements.

As stated in the EIS Submissions Report, train timetabling and driver changes are the responsibility of operators and are not within the jurisdiction of ARTC; however, ARTC is continuing to engage with operators, with several meetings held in November and December 2023 to investigate solutions to reduce the frequency and the duration of level crossing closures at LX607 Olympic Highway. In accordance with mitigation measure SI9, should any feasible solutions be identified, ARTC would undertake any necessary works through separate approvals (as required).

Delays to motorists during construction were considered through the assessment of three routes captured within the extent of the VISSIM model boundaries. The routes considered are shown in Figure 5.1 of the Junee Scenario Testing Report (Appendix E of Appendix D of this Submissions Report). As summarised in section 6.1.2 of that report, the proposal during construction would result in:

- minimal changes to average travel time to the AM and midday peak, with a largest increase of 16 seconds on Route 3 southbound
- larger increases to the average travel time were observed in the PM peak, with the largest increase of 37 seconds identified for Route 3 (southbound).

Mitigation measures that were assessed were found to have minimal benefits to travel time with minor impacts (of up to 14 seconds) and benefits (up to 20 seconds).

Safety has been a core consideration at the assessment of the Olympic Highway (Seignior Street)/Broadway roundabout and the Olympic Highway/Main Street, and mitigation measures have been included to prevent queueing through the roundabout or intersections (during level crossing closures), so as not to block vehicles that are not wanting to cross the railway line. Queues at these locations do not extend across the intersections, as shown in Figure 5.4 and Figure 5.5 of the Junee Scenario Testing Report (Appendix E of Appendix D of this Submissions Report).

The intersections within Junee during construction and with mitigation measures in place would have an overall performance of LOS A or B; however, the north approach to the Olympic Highway/Main Street intersection could operate at LOS D or LOS E during the PM peak. At all other times, it would operate at LOS B (with mitigation).

4.3.2.33 Directed assessment—Turn path assessment (Item 40)

Summary of issues

Junee Shire Council stated that the proposed upgrades to Pretoria Street and Joffre Street are unlikely to be suitable for all heavy vehicle traffic, and noted that a regular detour is in place via Old Junee Road and Queen Street for heavy vehicle access.

Additionally, Junee Shire Council stated that there are other major heavy vehicle routes including traffic from Gundagai Road and Byrnes Road, and that heavy vehicle access would be significantly limited by the Kemp Street bridge closure. Junee Shire Council stated that the proposal has not included any upgrades to intersections located along diversion routes, such as on Lorne Street, Main Street, Queen Street or Old Junee Road.

Junee Shire Council requested that the proposed detour routes for heavy vehicles are clarified, the relevant swept path analysis completed and the proposed intersection upgrades relating to each detour identified.

Response

With respect to the use of Joffre Street and Pretoria Street, the use of these roads for a traffic detour would only be required during the Olympic Highway/Kemp Street intersection works and would not be in place for the full duration of the Kemp Street bridge closure; however, it is acknowledged that preventative road works would be required to offset impacts from the detoured traffic (including heavy vehicles), and that these preventative road works would be undertaken in consultation with Junee Shire Council and Transport for NSW (mitigation measure TT9).

Old Junee Road and Queen Street is presently a heavy vehicle route and is used as a regular detour. Mitigation measure TT16 sets out the requirement for heavy vehicle diversionary signage to be implemented during the closure of Kemp Street bridge to encourage heavy vehicles to use the existing heavy vehicle routes via Goldfields Way and Old Junee Road during the closure of Kemp Street bridge.

Kemp Street bridge presently has load limits, which prevents certain types of heavy vehicles from using the bridge. The types of heavy vehicles that can use Kemp Street bridge would be diverted onto existing heavy vehicle routes on the eastern side of Junee, which are not proposed to modified as part of the proposal. These existing heavy vehicle routes include Edgar Street (part of), William Street, Ducker Street, Lorne Street, Main Street, Belmore Street and Gundagai Road.

Increased traffic movements due to diverted Kemp Street bridge traffic has been accounted for in the traffic modelling, and mitigation measures have been identified in TT2, which are subject to agreement with Junee Shire Council and Transport for NSW. Mitigation measure TT10 also requires the completion of road safety audits and risk assessments prior to the commencement of construction, including where increased traffic movements or diversions during construction may present an increased crash risk. Audit findings would be actioned before construction of the relevant infrastructure, where reasonable and feasible.

5. NSW Government Department or Agency Advice

5.1 Transport for NSW

Transport for NSW provided advice in response to the public exhibition of the PIR dated 1 December 2023, as well as made comment on the responses contained within the EIS Submissions Report. Transport for NSW stated that many of the concerns raised by Transport for NSW have been satisfactorily addressed by ARTC, but a number of matters relating to transport safety and network efficiency have not yet been resolved and are of particular concern for Transport for NSW, specifically:

- the identified deterioration of intersection performance and increase in journey times are not adequately mitigated and are not acceptable to Transport for NSW. A response to these matters is provided in section 5.1.10 of this PIR Submissions Report
- further adjustment to the models as identified in Appendix B and Appendix C of its advice is required. A response to these matters is provided in section 5.1.36 and 5.1.37 of this PIR Submissions Report
- the effectiveness of signal modifications to mitigate impacts where intersections reach saturation, and that additional mitigations are required. A response to these matters is provided in section 5.1.10 of this PIR Submissions Report
- the increase in average delay at intersections and requirements for mitigation. A response to these matters is provided in section 5.1.12 of this PIR Submissions Report.

Consideration of the items raised in their advice is provided in the sections below.

5.1.1 Maritime requirements

Maritime requirements were raised in Appendix A of the Transport for NSW advice, and referred to section 5.9.1, Appendix B: Updated Mitigation Measures and Appendix C: Updated Construction Environmental Management Plan.

Summary of issues

Transport for NSW Maritime is responsible for the safety of navigation under the *Marine Safety Act 1998* (NSW) and is accountable for the management of impacts to navigation in, on or over NSW navigable waters under the Marine Safety Regulation 2016 (NSW). The *Ports and Maritime Administration Act 1995* (NSW) is not relevant to this proposal and references can be removed.

It is important to note that multiple rounds of consultation may be required for major works and at various stages.

A minimum 6-week navigation assessment lead time is required in relation to the construction works; however, any design requirements should be undertaken well in advance of proposal commencement.

Transport for NSW requests the following amendments:

- TT6—include reference to the Marine Safety Regulation 2016 (NSW); correct maritime traffic management plan to Marine Traffic Management Plan (MTMP); include a minimum lead time of six weeks for assessment prior to commencing works
- TT7—amend to provide the navigational impact assessment will be undertaken in accordance with Transport for NSW Maritime process
- TT8—replace reference to the *Ports and Maritime Administration Act 1995* (NSW) with the Marine Safety Regulation 2016 (NSW).

Response

Transport for NSW position is noted. The Revised CEMP has altered the name of the sub-plan and removed reference to the *Ports and Maritime Administration Act 1995*.

Changes to the mitigation measures as requested by Transport for NSW have been adopted, refer to Appendix B: Updated Mitigation Measures.

5.1.2 Traffic and transport (qualitative assessments)

Transport for NSW noted the response to its comments regarding the qualitative assessments completed for the proposal, and made no further comment. In doing so, reference was made to other sections of its advice. The other sections relate to section 5.1.30 to 5.1.34 and section 5.1.36 to 5.1.37 of this report.

5.1.3 Traffic and transport (safety)

Traffic and transport safety was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.3 of the EIS Submissions Report and section 6.1.2.4 of the PIR.

Summary of issues

Transport for NSW advised that Road Safety Audits (RSA) must be completed in accordance with *Austroads Guide to Road Safety Part 6: Road Safety Audit* (Austroads, 2022). Transport for NSW stated that RSAs are required at multiple points throughout the construction phase and are to be conducted during the *Roads Act 1993* (NSW) approval process.

Transport for NSW reiterated its request to have appropriately qualified Transport for NSW representatives participate in the RSAs.

Transport for NSW does not support reduction in speed zones to achieve design outcomes. TT10 should be revised to indicate that designs need to be in accordance with the relevant design speed for the posted speed limit.

Transport for NSW stated that under Rail Safety National Law, 'rail operations' include design, construction and modification of railways. As such, Safety Interface Agreements are required to be established as part of the proposal development to inform design and construction, and TT23 should be amended accordingly.

Response

Mitigation measure TT10 includes the requirement for RSAs to be prepared in accordance with the Austroads guidelines and supplements and includes the participation of appropriately qualified personnel independent of the project team in the completion of road safety audits. Austroads clearly identifies the roles of participating parties in the RSA process, including that of independent advisors and no change is proposed regarding involvement of others; however, ARTC has updated TT10 to indicate that the RSAs and risk assessment would be undertaken within the design and construction process, rather than prior to construction.

Both the Edmondson Street bridge and Kemp Street bridge geometry, and that of their approaches, have been designed in accordance with the relevant Austroads guidelines (Austroads, 2018–2021) for a design speed of 50 km per hour. Both bridges have an existing posted speed limit of 50 km per hour and this can be maintained if the bridge design speed is 50 km per hour, subject to approval by the road authority. The requested change to mitigation measure TT10 has not been adopted on this basis.

As outlined in section 6.1.3.5 of the EIS Submissions Report, under Rail Safety National Law at public crossings, road and rail infrastructure managers must seek to enter into an Interface Agreement to manage risks to safety at crossings. ARTC actively seeks to enter into Interface Agreements with other rail, road and bridge structure managers, and has signed interface agreements for level crossings within the proposal site with Transport for NSW, Greater Hume Council, Lockhart Shire Council, Wagga Wagga City Council and Junee Shire Council, and ARTC is progressing the Albury City Council Interface Agreement.

A framework for managing major changes in the configuration or usage of a level crossing is outlined in these existing Interface Agreements. Accordingly, the requested change to mitigation measure TT23 is not supported as ARTC will follow the process outlined in the existing Interface Agreements. However, ARTC has updated mitigation measure TT23 to have a clearer link to railway operations, refer to Appendix B Updated Mitigation Measures.

5.1.4 Traffic and transport (level crossings)

Level crossings were raised in Appendix A of the Transport for NSW advice and referred to section 5.9.4 of the EIS Submissions Report.

Summary of issues

General

Transport for NSW stated that the operational impact of the proposal has not been considered across the entire alignment and that all road–rail interfaces along the alignment should be included within the proposal scope. This is supported by SEAR 1 Traffic and Transport, Requirement 4(a), which requires the EIS to provide a safety assessment for each level crossing.

Transport for NSW stated that risks associated with level crossings, such as greater number of vehicles stopping at level crossings due to more frequent train movements, increased queue lengths and potential for interaction with road intersections, short-stacking issues and safety risks to motorists due to potential collisions with trains, are relevant at all road–rail interfaces along the operational alignment. In addition, Transport for NSW stated that longer delays would occur at level crossings across the entire alignment.

As such, Transport for NSW requested that the Public Level Crossing Treatment Report required under mitigation measure TT26 is amended to include all level crossings along the entire alignment with a justification for no treatment, where applicable.

Transport for NSW also requested that RSAs be completed for existing level crossings impacted by increased frequency, speed and length of trains and double-stacked container loads. RSAs should be completed to identify safety risks and controls, then populated into the safety risk registers as required as part of Safety Interface Agreements under Rail Safety National Law.

Olympic Highway at Junee (LX607)

Transport for NSW stated that while LX607 already accommodates double-stacked trains, the number and length of trains using the crossing would increase, thereby increasing the existing safety risk to road users. Transport for NSW stated that ARTC is required to assess all impacts of the proposal and implement appropriate mitigation measures where an impact is identified.

As per this request, the Public Level Crossing Treatment Report, required under mitigation measure TT26, should include LX607 to review risks and identify whether mitigations are required. An RSA should also be completed for this crossing.

Response

General

Level crossings that are within the scope of the proposal only include those that are required to be modified to accommodate double-stacked freight trains, such as modification to accommodate track realignment. Consideration of the road–rail interface treatment at level crossings that are out of scope does not form part of the proposal. Accordingly, mitigation measure TT26 has not been updated to include all level crossings along the A2I alignment. The requested update to prepare RSAs for existing level crossings has not been adopted for the same reason and also because existing interface agreements provide a framework for managing major changes in the configuration or usage of a level crossing.

Olympic Highway at Junee (LX607)

Modifications to the current configuration of LX607 Olympic Highway at Junee are not required to accommodate double-stacked freight trains and, as such, no works are proposed to this level crossing as a result of the proposal. As outlined in Appendix A of EIS Technical Paper 1, the first step in determining the treatment of road–rail interfaces involves identifying all road–rail interfaces within a proposal site. As no works are required at this level crossing, it was not included in the proposal site or scope of the proposal and grade separation was not considered.

Accordingly, mitigation measure TT26 has not been updated to include specific reference to LX607 in mitigation measure TT26. The requested update to prepare an RSAs for this existing level crossing has not been adopted for the same reason and that existing interface agreements exist that provide a framework for managing major changes in the configuration or usage of a level crossing. Traffic and transport (management)

Traffic and transport safety was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.5, Appendix B and Appendix C of the EIS Submissions Report.

Summary of issues

Transport for NSW acknowledged the Construction Environmental Management Plan (CEMP) and Traffic and Transport Management Sub-Plan outlines. Transport for NSW stated that the Traffic and Transport Management Sub-Plan would form a sub-plan of the CEMP and require approval by DPHI. It is noted that associated site-specific plans, the CTTAMPs are listed; however, no outline is provided.

Transport for NSW requested that the conditions of approval require the site-specific CTTAMPs, including amendments and revisions, to form sub-plans of the Traffic and Transport Management Sub-Plan and be subject to the same consultation and approval process as the Traffic and Transport Management Sub-Plan, and have set naming and revision convention linked to the Traffic and Transport Management Sub-Plan.

Transport for NSW requested that the conditions of approval require that the Traffic and Transport Management Sub-Plan and site-specific CTTAMPs are endorsed by Transport for NSW, as the road manager and asset owner for state classified roads, prior to submission to the Planning Secretary for approval or for approval by the Environmental Representative.

In addition, Transport for NSW requested that mitigation measure TT1 is amended to include consultation with ‘road managers’ in addition to ‘road authorities’, as for state classified roads, the local council is the road authority but Transport for NSW is the road manager and asset owner.

Response

The Traffic and Transport Management Sub-Plan is a sub-plan of the CEMP, as outlined in Appendix C: Updated Construction Environmental Management Plan of this Submissions Report. CTTAMPs form part of the Traffic and Transport Management Sub-Plan.

Consideration of recommended conditions of approval are a matter for DPHI.

The requested update to mitigation measure TT1 has not been adopted as engagement with the relevant road authority has already been committed to, with specific reference to councils and Transport for NSW.

5.1.5 Traffic and transport (track lowering)

Traffic and transport safety was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.6 and Appendix B of the EIS Submissions Report, and section 3.2 of the PIR.

Summary of issues

Impacts to rail over bridges

Transport for NSW noted the response provided in the EIS Submissions Report and made no further comment.

Protection wall

Transport for NSW acknowledged the response provided in the EIS Submissions Report and stated that it looks forward to reviewing the designs as available.

Management of overland flow

Transport for NSW noted the addition of mitigation measure HFWQ5 and made no further comment.

Justification for track lowering solution at Pearson Street bridge and at Edmondson Street bridge

Transport for NSW noted the response provided in the EIS Submissions Report and made no further comment.

Response

Transport for NSW's response is noted.

5.1.6 Traffic and transport (train volumes)

Train volumes were raised in Appendix A of the Transport for NSW advice and referred to section 1.2.3.2 and section 5.9.7 of the EIS Submissions Report. Transport for NSW noted the response and made no further comment.

5.1.7 Traffic and transport (intersections)

The issue of intersections was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.8 of the EIS Submissions Report and section 3.2 of the PIR.

Summary of issues

Proposed changes to LX605

Transport for NSW acknowledged the proposed changes to LX605 to address the short-stacking and road access issues, and made no further comment.

Edmondson Street bridge enhancement site

Transport for NSW requested that ARTC Inland Rail consider the proposed future lane capacity upgrades at the intersection of Sturt Highway, as part of the Edmondson Street bridge and roadworks design development, to ensure Inland Rail's works do not preclude the intersection upgrade being delivered in the future.

Kemp Street bridge enhancement site

Transport for NSW reiterated its objection to a permanent reduction to 50 km/hr speed zone over Kemp Street bridge (Junee). Transport for NSW acknowledged the ongoing consultation concerning the modifications to the Kemp Street and Olympic Hwy intersection to mitigate safety risks through design.

Response

Proposed changes to LX605

Transport for NSW's response is noted.

Edmondson Street bridge enhancement site

Consideration of potential future capacity issues at the intersection of Sturt Highway and Edmondson Street is not within the scope of the proposal. Similarly, widening of the Edmondson Street bridge to resolve traffic capacity issues does not form part of the proposal. The existing road reserve is constrained on both sides by private properties, utilities and the existing drainage system.

ARTC would, subject to resolution of scope requirements and Transport for NSW budgetary contributions, collaborate with Transport for NSW to simplify future upgrades to the intersection of Edmondson Street and Sturt Highway.

Kemp Street bridge enhancement site

As stated in the EIS Submissions Report, the height of the Kemp Street bridge has been designed to ensure the required vertical clearance of 7.1 m of the rail line is achieved for the operation of the proposal.

With the steeper grades, a 50 km/h design speed for Kemp Street bridge has been adopted to achieve the desirable minimum sight distance requirements of *Austroads Guidelines Part 3: Geometric Design* (Austroads, 2021). The design achieves the desirable criteria for the k-value (the horizontal distance along which a 1 per cent change in grade occurs on the vertical curve) of Kemp Street to achieve a reaction time of 2 seconds for the 50 km/h design speed.

As outlined in section 5.1.3, the Kemp Street bridge has an existing posted speed limit of 50 km per hour and this can be maintained if the bridge design speed is 50 km per hour, subject to approval by the road authority. ARTC will continue to consult with Transport for NSW and Junee Shire Council during detailed design of the proposal.

5.1.8 Traffic and transport (active transport)

The issue of active transport was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.9 of the EIS Submissions Report, and sections 3.2.1.1, 3.2.2.1 and 6.1 of the PIR.

Summary of issues

Transport for NSW acknowledged the amendments to pedestrian bridge designs to achieve *Disability Discrimination Act 1992* (DDA) compliance and tie in with the existing active transport network, and scheduling amendments to minimise impacts on active transport connectivity.

Transport for NSW requested that during bridge design ARTC considers access requirements for maintenance of the pedestrian bridge and any adjacent road/rail bridges.

Transport for NSW also stated that assessment of impacts to pedestrian and cyclists as a result of detours during bridge construction should consider suitability of alternative routes (e.g. accessibility) and include a risk assessment of those routes (e.g. lighting/security).

Response

Access requirements for bridge maintenance of the new pedestrian and road bridges would be considered during detailed design and is provided for under mitigation measure TT11.

Construction staging will be planned to provide for continued active transport connectivity during construction. This will include exploring opportunities to reduce the duration of concurrent bridge closures, in order to minimise the requirement for pedestrian and cyclist detours. As noted in mitigation measure TT12, the order of construction will be confirmed during detailed design. Additionally, as stated in section A.15.2 of the revised proposal description (provided in Appendix A of the PIR), the required detours would be further refined during detailed design in consultation with Transport for NSW, councils and other relevant stakeholders. The requirements of the Traffic and Transport Management Sub Plan (Table C-1 in Appendix C: Updated Construction Environmental Management Plan) have been updated to include consideration of accessibility, lighting and security in the identification and management of diversionary routes for motorists, cyclists and pedestrians.

5.1.9 Traffic and transport (public transport)

The issue of public transport was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.10 of the EIS Submissions Report and section 3.2 of the PIR.

Summary of issues

Impacts to parking at Albury Station

Transport for NSW stated that it has concerns around the permanent loss of staff car parks in the secure compound at Albury Station and that the availability of secure parking is important for the safety of staff at night and for their property. Transport for NSW expressed that ARTC's position that the availability of on-street parking as a substitute for secure parking is inadequate, and that it did not meet Transport for NSW's requirement to provide for staff safety.

Transport for NSW stated that it requires that mitigation measure TT21 be amended to guarantee the provision of secure parking for staff to replace those spaces lost during construction.

Transport for NSW also stated that it requires mitigation measure TT25 to be amended to ensure sufficient secure parking spaces are provided for staff at Albury Station.

Pedestrian impacts at major train stations

Transport for NSW noted the scheduling changes relating to pedestrian bridges and the notification commitments made in mitigation measure TT17. Transport for NSW stated it had no further comment on this issue.

Impacts to coach services

Transport for NSW noted the commitments in mitigation measure TT3 and made no further comment.

Impacts to rail yards used by Transport for NSW

Transport for NSW acknowledged the consultation commitment in mitigation measure TT13 to develop mitigation measures to be implemented during construction and made no further comment.

Response

Impacts to parking at Albury Station

Mitigation measure TT21 states that replacement parking of up to 13 spaces for Transport for NSW station workers will be provided in the vicinity of the station during construction, for the period when the existing Transport for NSW parking compound is unavailable for use due to the construction of the Albury Station pedestrian bridge.

Transport for NSW's position concerning the safety requirements for its staff is noted; however, the use of 'in the vicinity of the station' in mitigation measure TT21 does not suggest the replacement parking would be on-street parking. Planning for the location of the temporary replacement car spaces needs to be carried out during detailed design with the construction contractor based on the final design, construction methodology and construction footprint. As outlined in TT21, the location of the temporary replacement car spaces will be refined in consultation Transport for NSW.

The permanent loss of eight parking spaces at Albury Station (comprising six informal spaces used for staff parking and two formal public parking spaces) would occur due to the ramp configuration of the Albury Station pedestrian bridge. The current proposed configuration reflects the need to provide DDA-compliant ramps as well as responding to other design constraints (such as required separation of bridge structures from the rail corridor). As identified in mitigation measure TT21, opportunities to ameliorate residual impacts to parking would be explored during detailed design in consultation with Transport for NSW.

Pedestrian impacts at major train stations

Transport for NSW's response is noted.

Impacts to coach services

Transport for NSW's response is noted.

Impacts to rail yards used by Transport for NSW

Transport for NSW's response is noted.

5.1.10 Traffic and transport (construction)

The issue of construction was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.11 of the EIS Submissions Report and section 6.1 of the PIR.

Summary of issues

Rail possession durations

Transport for NSW noted the response provided in the EIS Submissions Report and made no further comment.

Traffic management during work at Edmondson Street bridge enhancement site

Transport for NSW stated that the identified deterioration of intersection performance (as indicated by the Level of Service (LoS) and average delays) and increase in journey times are not adequately mitigated and are not acceptable to Transport for NSW. Transport for NSW stated that there are substantial increases to delays and queues at significant intersections. For example, at Docker Street and Sturt Highway intersection, AM peak delay increases from approximately 1.0 minute to 4.25 minutes, remaining at 3.0 minutes after proposed mitigations. Transport for NSW stated that significant delays such as these also contribute to a decrease in safety at intersections in addition to the delays due to poor driver decisions in response to delay-related frustration.

Transport for NSW requested that further adjustment of the model as identified in its letter of 1 November 2023 (Appendix B) and this submission should refine the model to more accurately identify the impacts of the proposal. Further comments on the Wagga Wagga traffic model are provided in Appendix C of Transport for NSW's letter dated 1 November 2023.

Transport for NSW noted that the proposed mitigations include signal optimisation at intersections with the Sturt Highway at Docker Street, Best Street and Lake Albert Road, and at the intersection of Railway Street and Lake Albert Road. Transport for NSW stated that these traffic signals are part of the Sydney Coordinated Adaptive Traffic System (SCATS). The green time for each phase or movement is allocated by SCATS. The allocation is determined by measured traffic demand and density at this and adjacent intersections and is continually updated; therefore, the green time would continually vary for all approaches according to traffic conditions. Transport for NSW stated that the proposed mitigation would occur through normal operation of SCATS responding to changes in traffic volumes; however, SCATS cannot provide additional intersection capacity and would be unlikely to provide mitigation where intersections reach saturation.

Transport for NSW stated that additional mitigation measures are required to address delays, increased queue lengths and travel times and should not exclude provision of additional intersection capacity through physical upgrade works where necessary to provide adequate mitigation to the impacts.

Staging at Edmondson Street and Kemp Street bridge enhancement sites

Transport for NSW referred to items 1.31 to 1.35 and Appendix B and Appendix C of its advice relating to traffic modelling and proposed mitigation measures. This relates to section 5.1.30 to section 5.1.34, and section 5.1.36 and section 5.1.37 of this Submissions Report, respectively.

Transport for NSW also requested that mitigation measure TT2 be amended to include agreement with 'road managers' in addition to 'road authorities'.

Response

Rail possession durations

Transport for NSW's response is noted.

Traffic management during work at Edmondson Street bridge enhancement site

Adjustments to the model as requested by Transport for NSW is documented in section 5.1.36 and section 5.1.37.

Transport for NSW's position concerning the role of SCATS is noted. The optimisation of SCATS has been included in the model to mimic the role SCATS has in managing the road network performance. The updated assessment provided in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport has now accounted for the optimisation achieved by SCATS separately to the additional mitigation measures that have been identified and tested in the microsimulation model. A review of intersection performance, and key constraints, was then completed to identify feasible mitigation, which could be implemented in consultation with the relevant road authorities. Major infrastructure upgrades such as road widening were not considered appropriate for the mitigation of temporary impacts during construction of the proposal.

The mitigation identified and modelled in the assessment included:

- lengthening and demarcation of the left turn lane on Railway Street at Lake Albert Road (western approach turn)
- influencing route choice for north–south movements across the rail corridor by encouraging drivers to use Pearson Street bridge crossing via Glenfield Road and Pearson Street between Holbrook Road in the south and Olympic Highway in the north as an alternative to the Bourke Street/Docker Street level crossing
- implementing a temporary right-turn movement ban in the AM peak to prevent traffic from Coleman Street entering Bourke Street to travel north to reduce queuing on Coleman Street. Additional right turn bans would also be considered during detailed construction planning for Athol Street, Wooden Street and Lindsay Street to avoid rat-running.

In addition to the specific mitigations modelled in the assessment, other potential mitigations will be further considered during detailed design and construction planning for the proposal. These potential mitigations include but are not limited to:

- temporary signals or other signal optimisations where required
- local area traffic management plans
- turn restrictions at selected locations and selected times, such as at Athol Street, Wooden Street and Lindsay Street in Wagga Wagga
- removal of on-street parking/creating clearways at particular times
- improved lane delineations.

Staging at Edmondson Street and Kemp Street bridge enhancement sites

The matters raised are responded to in section 5.1.30 to section 5.1.34, and section 5.1.36 and section 5.1.37 of this Submissions Report.

The requested update to mitigation measure TT2 has not been adopted as engagement with the relevant road authority has already been committed to.

5.1.11 Traffic and transport (consultation)

The issue of consultation was raised in Appendix A of the Transport for NSW advice and referred to sections 3.4 and 5.9.12 of the EIS Submissions Report and chapter 5 of the PIR.

Summary of issues

Response to matters raised by Transport for NSW during design and EIS development

Transport for NSW stated that ARTC is required to consult with Transport for NSW in addition to the local council where proposed diversion routes intersect with the classified road network. Diversions should accommodate all vehicle classifications currently approved for the route. Transport for NSW stated that its approval under the *Roads Act 1993* (NSW) (via Works Authorisation Deeds) will be required for any necessary upgrade works.

Transport for NSW stated that it supports in principle the inclusion of mitigation measure TT16, which relates to diverting heavy vehicles outside of Junee; however, provision must be made to ensure that any heavy vehicles that proceed into Junee are able to exit safely. Further, Transport for NSW requested that ARTC conduct a risk assessment and community consultation in relation to the detour routes, in particular with the school located on the diversion route, and provide any safety upgrades identified.

Transport for NSW requested that mitigation measure TT9 be amended to include consultation with Transport for NSW, as Joffre Street and Pretoria Avenue adjoin the Olympic Highway.

Engagement with community and key stakeholders on bridge closures

Transport for NSW noted the response provided in the EIS Submissions Report and made no further comment.

Response

Response to matters raised by Transport for NSW during design and EIS development

Mitigation measure TT1 requires early consultation with relevant roads authorities concerning any required changes to the road network, which includes diversional routes. As acknowledged in Appendix C (Statutory Compliance) of the EIS, consent under the *Roads Act 1993* (NSW) would be obtained where the proposal interacts with local or state roads, including temporary measures.

Mitigation measure TT10 requires the completion of RSAs where there are changes to the road network, diversions during construction or where increased traffic movements may present an increased crash risk. This requires the adoption of a safe system approach to minimise harm caused to all road users.

Mitigation measure TT16 relates to providing heavy vehicle diversionary signage to encourage heavy vehicles to use existing heavy vehicle routes via Goldfields Way and Old Junee Road during the closure of Kemp Street bridge. It is acknowledged that heavy vehicles may continue to travel into Junee and would need to be catered for in any required mitigation measures identified through mitigation measure TT2 or in determining any preventative road works required by mitigation measure TT9. Table C-1 in Appendix C: Updated Construction Environmental Management Plan also contains requirements to identify haulage routes and access points as part of the Traffic and Transport Management Sub-Plan. As such, including a specific reference to risk assessment and community consultation in relation to the detour routes has not been adopted as adequate consideration of these issues will be provided through the commitments in the mitigation measures and requirements of the Traffic and Transport Management Sub-Plan.

Mitigation measure TT9 has been updated to included consultation with Transport for NSW.

Engagement with community and key stakeholders on bridge closures

Transport for NSW's response is noted.

5.1.12 Traffic and transport (mitigation)

The issue of mitigation was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.13 of the EIS Submissions Report and section 6.1 of the PIR.

Summary of issues

Road dilapidation

Transport for NSW requests that mitigation measure TT9 be amended to include consultation with Transport for NSW, as Joffre Street and Pretoria Avenue adjoin the Olympic Highway.

Transport for NSW requests to have a Transport for NSW asset manager present during the road dilapidation report inspections identified in mitigation measure TT15 where the roads are managed by Transport for NSW or are diversion routes for state roads.

Mitigation of construction and operational impacts

Transport for NSW stated that mitigation measure TT2 indicates that ARTC will investigate signal optimisation as a potential mitigation for intersection congestion.

Transport for NSW stated that the identified deterioration of intersection performance (as indicated by Level of Service (LoS) and average delays) and increase in journey times are not adequately mitigated and are not acceptable. Transport for NSW notes that there are substantial increases to delays and queues at significant

intersections. For example, at Docker Street and Sturt Highway intersection AM peak delay increases from approximately 1.0 minute to 4.25 minutes, remaining at 3.0 minutes after proposed mitigations. Transport for NSW stated that significant delays such as these also contribute to a decrease in safety at intersections in addition to the delays due to poor driver decisions in response to delay-related frustration.

Transport for NSW requested that further adjustment to the model, as identified in its letter of 1 November 2023 (Appendix B), and that this submission should be carried out to refine the model to more accurately identify the impacts of the proposal. Further comments on the Wagga Wagga traffic model are provided in Appendix C: Updated Construction Environmental Management Plan.

Transport for NSW noted that the proposed mitigations include signal optimisation at intersections with the Sturt Highway at Docker Street, Best Street and Lake Albert Road, and at the intersection of Railway Street and Lake Albert Road. Transport for NSW stated that these traffic signals are part of SCATS. The green time for each phase or movement is allocated by SCATS. The allocation is determined by measured traffic demand and density at this and adjacent intersections and is continually updated; therefore, the green time will continually vary for all approaches according to traffic conditions. The proposed mitigation would occur through normal operation of SCATS responding to changes in traffic volumes; however, SCATS cannot provide additional intersection capacity and would be unlikely to provide mitigation where intersections reach saturation.

Transport for NSW stated that additional mitigation measures are required to address delays, increased queue lengths and travel times, and should not exclude provision of additional intersection capacity through physical upgrade works, where necessary, to provide adequate mitigation to the impacts.

Transport for NSW considers the 20 per cent increase in average delay, included as a reporting threshold, satisfactory as a maximum increase in average delay during the construction period. Impacts to traffic efficiency and safety during the construction period should be mitigated at intersections with the Sturt Highway and other key intersections to maintain intersection performance at or above LoS C, and no more than a 20 per cent increase in average delay for intersections already performing below LoS C.

Transport for NSW stated that it does not accept a 20 per cent increase in average delay for the operational phase of the development, and mitigations should be implemented to ensure intersection performance is no worse than the base case.

Transport for NSW stated that the proposed extension of the left-turn lane at Railway Street, Lake Albert Road may provide additional left-turn storage capacity, and reduce queue lengths; however, due to the existing queues is unlikely to provide improve traffic flow reduce average delays.

Transport for NSW requested that mitigation measure TT2 is amended to include agreement with ‘road managers’ in addition to ‘road authorities’. It is important that mitigation measures proposed are correctly worded to reflect the intent to obtain agreement from Transport for NSW in relation to classified roads.

Response

Road dilapidation

Mitigation measure TT9 has been updated to included consultation with Transport for NSW.

Mitigation measure TT15 has been updated to require that a copy of the Road Dilapidation Report would be provided to the relevant road authorities and, where applicable landowners, within one (1) month of completion of the survey and at least two weeks prior to the road is used by heavy vehicles associated with construction or as a result of commencement of a diversion route.

Mitigation of construction and operational impacts

Refer to section 5.1.10 of this Submissions Report with respect to Transport for NSW’s comments on the proposed signal adjustments and the effectiveness of this mitigation.

The assessment identified that the temporary closure of the Edmondson Street bridge would strain the road network, in particular the intersections of Docker Street and Lake Albert Road with the Sturt Highway, as well as Railway Street with Lake Albert Road as diverted traffic from the temporary bridge closure would increase the volume of traffic on some of the approaches to these intersections. These pressures are most prevalent in the AM and PM peaks.

The mitigation measures identified in the assessment would minimise, but would not eliminate the impacts on intersection or network performance given the high volumes on the approaches to these intersections. As such, ARTC would continue to explore additional mitigation measures in consultation with Transport for NSW and Wagga Wagga City Council. However, major infrastructure upgrades such as road widening were not considered appropriate for the mitigation of temporary impacts during construction of the proposal.

Modelling shows that queues on Railway Street on the approach to Lake Albert Road are reduced and traffic flows improved with the proposed mitigations. Total average intersection delay is comparable to base (without proposal) with the mitigation measure in place in the AM peak. The PM peak demonstrates longer delays but is expected to perform better than in the absence of any mitigation.

The requested update to mitigation measure TT2 has not been adopted as engagement with the relevant road authority has already been committed to.

5.1.13 Aboriginal heritage

Transport for NSW noted the response to its advice regarding Aboriginal heritage and made no further comment.

5.1.14 Land use and property

Transport for NSW noted the response to its advice regarding land use and property and made no further comment.

5.1.15 Social impacts (Aboriginal community)

Transport for NSW noted the response to its comments regarding social impacts (Aboriginal community) and made no further comment.

5.1.16 Social impacts (disability)

Transport for NSW noted the response to its advice regarding social impacts (disability) and made no further comment.

5.1.17 Social impacts (procurement)

Transport for NSW noted the response to its advice regarding social impacts (procurement) and made no further comment.

5.1.18 Noise

Transport for NSW noted the response to its advice regarding noise and made no further comment, other than acknowledging that the PIR and Revised Technical Report 7: Operational Noise and Vibration (Rail) included a LNCP that will be funded by the proposal to reduce noise at source from targeted noisy locomotives.

5.1.19 Landscape and visual impacts

Transport for NSW noted the response to its advice regarding landscape and visual impacts and made no further comment.

5.1.20 Hydrology

The issue of hydrology was raised in Appendix A of the Transport for NSW advice and referred to section 5.9.21 of the EIS Submissions Report.

Summary of issues

Quantitative design limits

Transport for NSW stated that no information is provided on vertical changes at the Albury Yard Clearances enhancement site.

Transport for NSW requested that an impact assessment be undertaken for the probable maximum flood (PMF) event, once these details are known, to confirm that there would be no impact.

Murrumbidgee River

Transport for NSW noted the response to its comments regarding the Murrumbidgee River catchment and made no further comment.

Response

Quantitative design limits

As noted in the EIS Technical Paper 11: Hydrology, Flooding and Water Quality, the *Bungambrawatha Creek, Lavington, South Albury and West Albury flood study* (Albury City Council and Lyall & Associates, 2011) identifies that the enhancement sites are not affected by flooding up to, and including, the 1% AEP event, but are affected by flooding for a PMF event at depths of up to 1 m. The replacement of the pedestrian bridge is outside of the PMF extent.

As stated in the EIS Submissions Report, the horizontal and vertical shifts of the Main South Line within Albury Yard clearances are estimated to have no impacts to flood behaviour beyond the rail corridor. The works would include realignment of the local drainage to account for the formation shift and, as such, would manage local overland flows similarly to existing conditions.

Murrumbidgee River

Transport for NSW's response is noted.

5.1.21 Emergency services

This issue was raised in Appendix A of the Transport for NSW advice and made reference to section 5.9.22 of the EIS Submissions Report.

Summary of issues

Impacts to emergency services and mitigation

Transport for NSW acknowledged the response and the inclusion of Local Emergency Management Committee as a specific stakeholder. Transport for NSW expressed that consultation alone it is not a suitable mitigation measure to manage the impacts of the proposal to emergency services.

Transport for NSW then referred to their comments in items 1.31 to 1.35 and Appendix B regarding the mitigation measures proposed as a result of the additional traffic modelling undertaken.

Communication management plan

Transport for NSW noted the response to its comments regarding the communication management plan and made no further comment.

Response

Impacts to emergency services and mitigation

As outlined in Chapter 5 of the PIR, ARTC consulted with emergency services stakeholders and agencies on flooding and traffic impacts. Members of the Junee Local Emergency Management Committee, Riverina Murray Regional Emergency Management Committee, NSW Police, NSW Rural Fire Service, NSW Ambulance, NSW State Emergency Service, and Fire and Rescue NSW were invited to an emergency services briefing held online on 12 October 2023. One representative from NSW Ambulance, NSW Police and NSW Rural Fire Service attended the meeting.

The briefing included topics on construction issues such as traffic impacts during the closure of Edmondson and Kemp Street bridges, and operational issues such as further clarification of train numbers, and impacts to emergency service operation due to increased and more frequent level crossing closures. NSW Rural Fire Service queried potential traffic impacts at the Bourke Street/Docker Street level crossing when the Edmondson Street bridge is closed.

NSW Ambulance expressed interest in further engagement with ARTC regarding the impacts to traffic during the closure of the Edmondson Street bridge and potential impacts to ambulance operations. ARTC will continue engaging with emergency services as the proposal progresses through detailed design and construction planning.

Mitigation measures TT4 and TT17 were included to manage the impacts during construction due to road closures or disruptions. These identify emergency services as a general stakeholder group. Mitigation measures TT4 and TT17 have been amended to include reference to consultation with the Local Emergency Management Committee.

During operation, consultation will be undertaken with emergency services and the Local Emergency Management Committee regarding operational impacts, to provide further information on train movements and level crossing closures to assist emergency services in their emergency response and travel planning. A response to the broader concerns expressed by Transport for NSW concerning delays at level crossings in the future is provided in section 5.1.12 of this Submissions Report.

Communication management plan

Transport for NSW's response is noted.

5.1.22 Climate change

Transport for NSW noted the response to its advice regarding climate change and made no further comment.

5.1.23 Cumulative impacts

Transport for NSW noted the response to its advice regarding cumulative impacts and made no further comment.

5.1.24 Performance measures

Transport for NSW noted the response to its advice regarding performance measures, and referred to further comment made in Appendix B and Appendix C of its advice, and its response to the responses provided to items 1.31 and 1.35 of its advice on the EIS. These matters are addressed in section 5.1.30 to 5.1.34 of this Submissions Report.

5.1.25 Utilities

Transport for NSW noted the response to its advice regarding cumulative impacts and made no further comment.

5.1.26 Strategic context

Transport for NSW noted the response to its advice regarding strategic context and made no further comment.

5.1.27 Spelling and grammar

Transport for NSW noted the response to its advice and made no further comment.

5.1.28 General comments

This issue was raised in Appendix A of the Transport for NSW advice.

Summary of issues

Construction standards

Transport for NSW acknowledged the amendments to mitigation measure TT10 and the addition of mitigation measure TT11.

Transport for NSW stated that RSAs are required at multiple points throughout the construction phase and are to be conducted in accordance with its approval process under the *Roads Act 1993 (*NSW). Transport for NSW reiterated its request to have appropriately qualified Transport for NSW representatives participate in the RSAs.

Australian Level Crossing Assessment Model

Transport for NSW noted the response provided and referred to its comments made earlier within its submission (being section 5.1.4 of this Submissions Report).

Future planning

Transport for NSW noted the response, including the addition of mitigation measure TT11, and makes no further comment.

Future freight transport

Transport for NSW noted the response to its advice on future freight transport and made no further comment.

New technologies

Transport for NSW noted the response to its advice on new technologies and made no further comment.

Response

Transport for NSW's response is noted. A response to matters related to construction standards and the RSAs is provided in section 5.1.3 of this Submissions Report. A response to matters related to the Australian Level Crossing Assessment Model is provided in section 5.1.4 of this Submissions Report.

5.1.29 Traffic and transport (traffic impacts—assumptions)

Transport for NSW made comment on several assumptions that were applied in the traffic and transport impact assessment. These issues were further detailed in Appendix B of the Transport for NSW advice. Reference was made to section 5.9.30 of the EIS Submissions Report, as well as section 6.1 and Appendix C of the PIR.

Summary of issues

Development and suitability of each precinct study area

Transport for NSW noted the response to its advice and made no further comment.

Traffic volume assumptions for peak-hour flows

Transport for NSW noted the response to its advice and made no further comment.

Occupancy rate assumption

Transport for NSW noted the response and requested a commitment in the mitigation measures to ensuring that construction workers use the buses provided to minimise traffic generation.

Where the annual monitoring program identifies that shuttle bus usage is lower than forecast in the approved traffic impact assessment, either, (a) measures are to be implemented to ensure higher usage is achieved in line with the forecasts or (b), if higher usage is not reasonably achievable, that the proposal is modified in order to determine the acceptability of the impacts on the local road and rail networks, including capacity, functioning and safety, and to

determine the need for (in consultation with road and rail authorities) and require any additional road network or rail crossing upgrades to be incorporated as part of the proposal approval.

Train speed assumptions

Transport for NSW noted the response to its advice, and stated that the use of existing level crossing closure times in the modelling may not be valid as the heavier, longer Inland Rail trains may require longer to stop and therefore be traveling at a lower speed, increasing closure time.

Response

Development and suitability of each precinct study area

Transport for NSW's response is noted.

Traffic volume assumptions for peak hour flows

Transport for NSW's response is noted.

Occupancy rate assumption

The traffic and transport impact assessment considered the use of private vehicles to transport construction workers to and from the enhancement sites. Bus usage may be explored by the construction contractor during detailed design and construction planning, dependent on the final total workforce requirement and proportion of workers that can be sourced locally. However, the current assessment provides a conservative basis for the assessment of impacts from construction vehicles on the road network. Accordingly, the requested mitigation measure is not supported. Mitigation measures and management measures provided in the CEMP would be monitored during construction to confirm their effectiveness and whether any additional mitigation measures are required. This includes the implementation of corrective measures.

Train speed assumptions

For future-year (operation) analysis, the average level crossing activation durations have been increased by a factor of 1.5 to allow for running of longer trains (on average) as part of Inland Rail for 2025 and 2040. This factor has been applied based on an estimated 50 per cent increase in train lengths (i.e. 1.2 km to 1.8 km lengths) travelling at existing speeds. This is considered to be a conservative estimate as:

- it assumes an increase in length of all trains in the future (including passenger services, which are not expected to change due to the proposal)
- it is factored against the total observed closure duration, which includes the following allocations expected to remain constant:
  - 30-second pre-train warning flashing lights and boom gate closure period
  - 10-second flashing lights and boom gate closure period after the train has passed.

5.1.30 Traffic and transport (traffic impacts—methodology)

Transport for NSW referred to Appendix B and Appendix C of its advice concerning the traffic modelling. This is addressed in sections 5.1.36 and 5.1.37 of this Submissions Report.

5.1.31 Traffic and transport (traffic impacts—modelling)

Transport for NSW referred to Appendix B and Appendix C of its advice concerning the traffic modelling. This is addressed in section 5.1.36 and 5.1.37 of this Submissions Report.

5.1.32 Traffic and transport (traffic impacts—justification)

Transport for NSW noted the response to its advice on the justification of the modelling techniques and made no further comment.

5.1.33 Traffic and transport (traffic impacts—Wagga Wagga precinct and enhancement sites)

Transport for NSW made comment on assessment of the anticipated construction and operational impacts within the Wagga Wagga precinct. Reference was made to Appendix B and Appendix C of Transport for NSW advice, as well as sections 5.9.30 and 5.9.34 of the EIS Submissions Report, as well as section 6.1 of the PIR.

Summary of issues

Use of SIDRA modelling software

Transport for NSW referred to Appendix B and Appendix C of its advice concerning the traffic modelling, which relates to AIMSUN, VISSIM and SIDRA models used in the assessment. This is addressed in section 5.1.36 and 5.1.37 of this Submissions Report.

Impacts at key intersections adjacent to the proposal during construction and operation

Transport for NSW noted that the proposed mitigations include signal optimisation at intersections with the Sturt Highway at Docker Street, Best Street and Lake Albert Road, and at the intersection of Railway Street and Lake Albert Road. These traffic signals are part of SCATS. The green time for each phase or movement is allocated by SCATS. The allocation is determined by measured traffic demand and density at this and adjacent intersections, and is continually updated; therefore, the green time will continually vary for all approaches according to traffic conditions. Transport for NSW stated that the proposed mitigation would occur through normal operation of SCATS responding to changes in traffic volumes; however, SCATS cannot provide additional intersection capacity and will be unlikely to provide mitigation where intersections reach saturation.

Transport for NSW stated that additional mitigation measures are required to address delays, increased queue lengths and travel times, and should not exclude provision of additional intersection capacity through physical upgrade works, where necessary, to provide adequate mitigation to the impacts.

Transport for NSW stated that it considers the 20 per cent increase in average delay, included as a reporting threshold, satisfactory as a maximum increase in average delay during the construction period. Impacts to traffic efficiency and safety during the construction period should be mitigated at intersections with the Sturt Highway and other key intersections to maintain intersection performance at or above LoS C and no more than a 20 per cent increase in average delay for intersections already performing below LoS C.

Transport for NSW stated that it does not accept the 20 per cent increase in average delay for the operational phase of the development and mitigations should be implemented to ensure intersection performance is no worse than the base case.

Response

Use of the SIDRA modelling software

Refer to section 5.1.36 of this Submissions Report with respect to comments made on the SIDRA modelling.

Impacts at key intersections adjacent to the proposal during construction and operation

Refer to section 5.1.10 of this Submissions Report with respect to Transport for NSW's comments on the proposed signal adjustments and the effectiveness of this mitigation.

Refer to section 5.1.12 of this Submissions Report with respect to comments on the 20 per cent increase in average delay and Transport for NSW's request for further mitigation.

5.1.34 Traffic and transport (traffic impacts—Junee precinct and enhancement sites)

In Appendix A of its advice, Transport for NSW referred to Appendix B and Appendix C of its advice for its response to the Submissions Report and PIR. No further specific comment was raised in Appendix A. Refer to sections 5.1.36 and 5.1.37 of this Submissions Report for these matters.

5.1.35 Soil contamination

The issue of soil contamination was raised in Appendix A of the Transport for NSW advice and referred to sections Appendix B of the PIR.

Summary of issues

The Country Regional Network Rail Infrastructure Manager, UGL Regional Linx, advises that a part of Country Regional Network (CRN) land (Lot 2 DP 1006140) that is located adjacent to the proposed site at Wagga Wagga Station and surrounds is identified as Contaminated Land Position in Contaminated Land Register. Proposed mitigation measure SC5 indicates that site investigation on contamination issue would be undertaken in development areas including Wagga Wagga Station. UGL Regional Linx requests that when these investigations are complete, the results be submitted to UGLRL for review.

In accordance with the State Environmental Planning Policy (Transport and Infrastructure) 2021, UGL Regional Linx approval is required in advance of access to lands under its control.

Response

ARTC can supply completed site contamination investigation reports relevant to the Wagga Wagga Station area to UGL Regional Linx.

If access to land outside of the rail corridor operated by ARTC is required, the temporary occupation and use of the land would be subject to further engagement and agreement with landowners.

5.1.36 Traffic and transport (Appendix B: Review of traffic modelling information)

Appendix B of the advice from Transport for NSW included detailed appendices (also referred to as Appendix A (Wagga Wagga traffic model review comments), Appendix B (Junee traffic model review comments), Appendix C (SIDRA model review comments) and Appendix D (Construction vehicle route turn path assessment). For appendices A, B and C, this is largely replicated in Table 5-1, Table 5-2 and Table 5-3. Images have not been carried across into this Submissions Report.

The covering letter to Appendix B of the advice:

- emphasised the need to minimise the impacts of any development on the existing road and rail networks and maintain the current level of safety, efficiency, and asset protection
- noted that the accuracy of the model is critical to ensure all construction and operational impacts of the proposal are identified and quantified, and, subsequently, the appropriate mitigation measures applied.

A few comments contained in Appendix B of the Transport for NSW advice were made on its review of the draft reports that were since finalised within the PIR; as such, some comments are no longer relevant.

Summary of issues and response—Wagga Wagga traffic modelling

Table 5-1details the comments and the response to matters relevant to the Wagga Wagga traffic modelling, as documented in Appendix A of Appendix B of the Transport for NSW's advice.

TABLE 5-1: WAGGA WAGGA TRAFFIC MODEL REVIEW COMMENTS

Item	Transport for NSW comment	Response
1	Docker St northbound and southbound are modelled incorrectly. Dedicated right-turn lanes and share through/left turn should be coded to reflect site conditions.	This intersection has been updated in the model. It is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
2	Two-lane roundabouts have been modelled with conflict exit turn. This should be amended.	Conflicts on multi-lane roundabouts have been addressed where possible. Two locations remain to reflect real-world operations where the inside lane can exit (Sturt Highway / Olympic Highway and Glenfield Road / Fernleigh Road). Not allowing these (conflicted) exits result in unrealistic delays. This is reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
3	The auto speed applied for all movements could be too high for 90 degree/shape turns and at roundabouts. Manual adjustment should be undertaken to reflect site conditions.	Manual adjustments have been made in the updated model at critical intersections. These adjustments are included in all model runs. The results including the adjustments are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
4	There is no convergence file available for review. The model material and report (section 5.1) suggests that a single run met the stated convergence criteria. However, this is likely to be insufficient to produce a reliable base model. More information should be provided to support the reliability of the model. Alternatively, it is recommended that two or more consecutive iterations should be adopted.	A single consecutive iteration was applied in this model which resulted in acceptable convergence as described in the report.
5	Intergreen time for TCS3796 & TCS1322 should be reviewed and updated to reflect SCATS/site conditions. Incorrect yellow time (i.e. 3.5s and 4.5s) should also be reviewed (refer below).	Updates to the model have been made to reflect the SCATS settings, including intergreen and yellow time more closely for the intersections noted. These updates are included in all model runs. This is reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Item	Transport for NSW comment	Response
6	All trips longer than 3.5 km have been adjusted and reduced significantly (some more than 50%). Why is the traffic pattern shifted that much (from long to short)?	The model has been updated to reflect the traffic patterns around the Edmondson Street bridge using an Origin–Destination Survey conducted on 7 September 2023. In the area of interest, the model performs well. The comparison with the strategic model of Wagga Wagga is for completeness, it is noted that the model is not calibrated and have therefore accepted higher deviations.
7	For Route 1—Bourke St northbound and southbound in AM and PM peak, travel time does not fulfil travel time validation criteria (more than +/- 15%). Refer to extracts included below.	Travel time validation was undertaken following the requirements of the *Traffic Modelling Guidelines* (Transport for NSW, 2013). This requires the average model travel times on the overall route should be validated to within 15 per cent of the surveyed average travel time or one minute, whichever is greater. All travel times meet these criteria for the overall (full) route.
8	The provided modelled simulated queues/congestion is quite different to Google's typical traffic conditions. Google's traffic conditions provide little to no value for validation. Better data source(s) should be used to validate the model.	Noted. This source was used in the absence of any other available information.
9	Congestion mapping underrepresents existing conditions. Transport for NSW provides the following observations: ▸ Pearson Street roundabout can have westbound vehicle queueing back 150 m on the Sturt Hwy and have southbound vehicle queuing back in excess of 100 m on the Olympic Highway in the PM peak. ▸ Docker Street regularly queues back to Darlow Street and Morgan Street in the PM peak. ▸ Docker Street regularly queues back to Gormley Ave in the AM peak.	The model shows traffic conditions consistent with the surveyed data and reflective of traffic patterns found during that day as evidenced in the Wagga Wagga Base Model Development Report. Noting that: ▸ the Pearson Street roundabout is showing intermittent queueing, but it clears quickly ▸ the northern approach to Docker Street shows queueing but it is contained to the turning lanes ▸ the southern approach to Docker Street queues back to Gormley Ave at times. Some cross-checking of queues has been conducted using the available videos from the traffic survey.
10	Profiling graph should be provided to ensure that the model adequately represents the 'peakiness' of travel demand within each hour.	Figure 3.10 in the Wagga Wagga Base Model Development Report shows the traffic profile over the whole day in 15-minute increments with modelled time periods highlighted.
11	No option testing model provided for review.	Revised assessment of mitigation measures as tested in the model have been documented in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. Option testing models are provided with this response.
12	Queueing should also be assessed for its impact on the local network. Mitigation is required if queues are shown to block intersections.	Noted, the assessment describes the extent of queues. The wording will be improved regarding impacted intersections as a result of the queues. Mitigation strategies have been proposed.
13	The indicated heavy vehicle growth rate seems too high for a regional area.	Growth rates were adopted from the Wagga Wagga Strategic Traffic Model and have been maintained for consistency and represents a worst-case scenario with respect to future heavy vehicle traffic growth.
14	It is not clear how the construction traffic will be distributed in the nominated routes shown in Figure 4.1 (i.e. origin and destination). Please provide additional information to clarify/confirm.	Demand to/from the construction sites is equally distributed from/to the network loading points (Sturt Highway, Olympic Highway) using the appropriate routes.
15	The scale used on the Y-axis makes it difficult to see differences between the scenarios. A more appropriate scale would better illustrate the differences.	Noted, horizontal gridlines have been added for clarity in Figures 4.2 through to Figure 4.4 in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Item	Transport for NSW comment	Response
16	The average closure duration for Fernleigh Road level crossing at midday seems too short (Table 4.2). Please review and confirm this duration. The speed and length of the train should also be specified.	Average closures by level crossing were extracted from level crossing activation data collected by ARTC for June 2023. This data shows average number of closures during the modelled peak hours as well as average closure duration on weekdays. Since these are averages there is no single speed/ length of a train that can be specified.
17	No Figure 5.1 'Assessed intersections' provided.	This review was completed on the draft report which did not have this figure included. Figure 5-1 is provided in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
18	Table 6.4 PM peak – 2024 Construction vehicle number (23,026) is less than the 2024 base (23,231). High latent demand is observed in the model. The model needs to be reviewed to address this.	All vehicles are released in the latest version of the model as shown in Table 6.17 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
19	Table 6.5 Dobney Avenue/Sturt Hwy intersection—there is only a small increase in traffic volume (2,022 to 2,041) but a large increase in delay (6 sec to 96 sec). Please clarify why this is the case.	The critical movement at this intersection is the right turn on the western approach (Sturt Highway). Given this intersection is not signalised the worst movement determines the intersection level of service. Average delays on this movement increase from 4 to 96 seconds (affecting 13 vehicles). While delays on the through movement increase too from this approach, it is still able to maintain a high throughput (in the whole period).
20	Table 6.7 Station Place/Sturt Highway intersection—there a decrease in demand during construction (1,850 to 1,749 vehicles in the PM Peak). Please clarify why this is the case.	The key contributor to lower throughput at this intersection are the east-west through movements on the Sturt Highway which are lower in the no Edmondson Bridge (construction) case with traffic utilising Railway Street/Lake Albert Road instead.
21	Table 7.3 16:00–16:15—Delay/congestion shifted to northern and eastern approaches. Signal setting/timing should be reviewed to avoid "over optimisation".	A proportion of the delays has shifted to other approaches to mitigate long queues on Lake Albert Rd/Railway St. Further, the replication of SCATS is now included in the base and option models and the approach adopted has been to balance delays and avoid over-optimisation. This is included in all models runs. The results including these updates are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
22	Section 7.3 summarises the intersection delay and LoS results for construction and mitigation modelled time periods. The report states the results at the Lake Albert Road/Sturt Highway intersection mitigation are due to improvement throughput upstream. The report indicates separate turning pockets on the western approach to Railway Street/Lake Albert Road results in a more consistent left-turning flow. Transport for NSW notes current inefficiencies at this intersection due to existing traffic volumes on Lake Albert Road. It is important the base model reflects current conditions, to ensure effectiveness of mitigation measures is adequately assessed.	The intersection of Railway Street with Lake Albert Road reflects current conditions as much as possible. Some vehicles may queue side-by-side, although this is not officially demarcated and as such is not included in the modelling. We have, however, included the left turn on red allowed in the base modelling. The base model reflects traffic conditions as observed on 8 June 2023, queues from Lake Albert Road have been double-checked using available video footage from this day.
23	Performance (including delay, queue length, travel time, etc.) at level crossing intersections during closure time should be presented to understand the impact in order to assess if any intersection upgrades are required.	Performance at level crossings have been included in sections 8.3 to 8.7 for 2025 and sections 9.5 to 9.9 for 2040 in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Item	Transport for NSW comment	Response
24	Mitigation measure #8 'Signal optimisations' includes adjusting modelling parameters to redistribution of delay to other approaches. This will occur during standard operation of SCATS. The SCATS will optimise the signals timing for the additional traffic and distribution to other approaches until volume reaches saturation point. The redistribution of delay to other approaches is unlikely to have adequate effect on mitigating traffic impacts.	Noted. The modelling shows the (approximate) type and magnitude of the impact of such optimisations. This matter has been raised elsewhere in the Transport for NSW advice and is addressed in section 5.1.10 of this Submissions Report.
25	Transport for NSW requested further details of the mitigation measure #9 'Road markings' proposed on Railway Street at Lake Albert Road. Note also, the proposed lengthening of the left turn lane on Railway Street would impact local businesses by removing on-street parking.	This lane would extend for about 180 m and would provide a dedicated left-turning lane going northbound on Lake Albert Road. On-street parking would be removed in this configuration; however, local businesses will be better accessible courtesy of reduced queueing on Railway Street. Inspection of the site tends to indicate that the potentially affected businesses appear to have substantial off-street parking provisions.
26	The network performance density chart shows pinch points (i.e. high levels of delay) at two intersections – Lake Albert Road/Edward Street (TCS 581) and Docker Street/Edward Street (TCS 1322). Other intersections with poor LoS are residual queues from the two pinch point sites. The report does not provide any major suggestion to increase capacity at intersection pinch points to lesson delays.	It is acknowledged that there is limited mitigation measures available without infrastructure interventions. However, one of the mitigation measures tested is aimed at demand management where traffic from Holbrook Road travelling from and to the Sturt Highway are suggested to use Glenfield Road rather than Bourke Street and Docker Street. This mitigation helps with providing more capacity to the other approaches at Docker Street/Sturt Highway. This is further described in section 7.1 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Summary of issues and response—Junee traffic modelling

Table 5-2 details the comments and the response to matters relevant to the Junee traffic modelling, as documented in Appendix B of Appendix B of the Transport for NSW's advice.

TABLE 5-2: JUNEE TRAFFIC MODEL REVIEW COMMENTS

Item	Transport for NSW comment	Response
1	Why is Junction Street not included in the model? Refer to extracts below.	Junction Street has not been included in the model as based on the configuration of Junction Street at the intersection with Olympic Highway, it is considered that operation of this intersection would be limited to providing local access to the service areas of adjacent buildings and not as a through connection. Traffic counts on either side of the road on the Olympic Highway indicate that minor traffic volumes utilise this connection. As this access is a left in, left out geometry it is expected to have little impact on the operation of the Broadway/Seignior Street roundabout.
2	Abnormal traffic path observed at roundabout during model run. It is recommended to review and apply route closure for the 'go-around paths to avoid unnecessary delay.	Route closures have been included in the future-year models to reflect the diversion. The updated model results are provided in the Junee Microsimulation Modelling—Model Development Report found in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
3	Intersection and network performance statistics should also be provided in the report for analysis.	This information is provided in the scenario reporting for future year assessment horizons for base and with proposal construction scenarios. These statistics are provided in chapter 5 of the Junee Microsimulation Modelling – Scenario Testing Report found in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. As there has only been a 2% growth applied, it is not expected that 2023 outcomes would be significantly different to 2024 base.
4	The 'Development of Demands' section states the base year is 2023 and future year is 2024; however, all provided VISSIM models are	This review was completed on the draft report. In the final report as appended to the final PIR, the base year (2023) model file names were corrected and Stage 3 scenario

Item	Transport for NSW comment	Response
	named 2024 (refer below). Stage 3 Scenario Testing states 2025 should be the future model year. Please confirm which year demands used for base and future.	testing was also completed for 2024 (refer to Table 1.1 of the Junee Microsimulation Modelling—Model Development Report found in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
5	How has the global growth rate of 2% been selected?	The 2% growth rate was adopted based on advice from Junee Shire Council representatives during the production of the EIS. Varying the growth rate over a single year would make little difference to the traffic volumes.
6	Only 100s (AM) and 140s (Midday) average closure time have been used, Transport for NSW does not consider HERE travel data sufficient for estimate of duration of closure, and as a result the closure duration has likely been underestimated.	The level crossing closure durations are based on a provided observed closure data set. The reference to HERE data was in reference to the common date.
7	The traffic profile presented in Figure 3.3 shows higher traffic between 1330 and 1430. Why is the modelled midday peak period from 1300 to 1400?	Traffic volumes generally trend upwards until the PM peak period. The 1 pm to 2 pm period was selected as a representation of the inter peak period. It is noted that between these time periods there is an approximately 4% difference in traffic volumes, which is not expected to make a significant difference to performance outcomes.
8	Figures 4.1 to 4.3 are not clear. The intercept of the slope line should be set to zero.	Figures 4.1 to 4.3 have been updated in the Junee Microsimulation Modelling—Model Development Report found in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
9	In Figures 4.4 to 4.6 the Y-axis scale should be adjusted. In its current format, it is not possible to identify any variability.	Figure 4.4 to 4.6 have been updated in the Junee Microsimulation Modelling—Model Development Report found in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
10	No scenarios VISSIM model provided for review	The model files have since been supplied to Transport for NSW.
11	Why was the Midday analysis period shifted to 12:30pm to 1:30pm which missed second level crossing activation (i.e. 13:45pm)?	The IP queue length analysis period is between 1 pm and 2 pm. This has been corrected in Table 5.8 and Tables 5.26 to 5.28 of the Junee Microsimulation Modelling— Scenario Testing Report provided in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
12	The level of service (LoS) of through traffic at the western leg of Olympic Highway/ Main Street intersection should be LoS E (66.6s delay), not F (refer to Table 5.13).	The error is noted. This has been corrected in Table 5.13 of the Junee Microsimulation Modelling—Scenario Testing Report provided in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Summary of issues and response—SIDRA traffic modelling

Table 5-3 details the comments and the response to matters relevant to the SIDRA traffic modelling, as documented in Appendix C of Appendix B of the Transport for NSW's advice.

TABLE 5-3: SIDRA TRAFFIC MODEL REVIEW COMMENTS

Item	Transport for NSW comment	Response
1	Young Street/Borella Road intersection layout does not match with existing site configuration. North and South approach is modelled with one lane less than existing in both directions.	This has been updated, and reflected Tables 4.4 and 4.5 in revised Addendum assessment to Technical Paper 1: Traffic and transport (refer to Appendix D of this report).
2	The pedestrians use a default walking speed of 1.3m/s whereas the Roads and Maritime Services' modelling guidelines recommend 1.2m/s.	This has been updated and reflected all SIDRA results in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
3	All signalised intersections have not been modelled to give way to the conflicting pedestrian movements despite running in the same phases (refer below).	This has been updated and reflected all SIDRA results in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
4	Left turn movement should also be allowed in most of the overlap phase (this applies to all intersections in Albury).	This has been updated and reflected all SIDRA results in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
5	According to SCATS, the intergreen time is 7s rather than the 6s modelled for all intersections.	This has been updated and reflected all SIDRA results in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.

Item	Transport for NSW comment	Response
6	A couple of scenarios reached the maximum of 10 iterations. Transport for NSW recommends investigating whether increasing this results in better convergence.	This has been updated and reflected all SIDRA results in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
7	Different reference phases have been applied for Young Street / Borella Road in AM and PM peaks	This has been updated and reflected in Tables 4.4 and 4.5 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
8	Flows are not balancing in all Balfour Street networks.	This error is acknowledged, and has been corrected. It is reflected in Tables 4.6 and 4.7 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
9	Existing models should not have Degree of Saturation (DoS) > 1 but Young St/Borella Rd has DoS of approximately 1.2 in PM peak. What data were these existing models validated with? Note however, this item should be resolved if Item # 1 is addressed.	Comment 1 has been updated to reflect the layout as identified in Transport for NSW's comment. This has been reflected in Tables 4.4 and 4.5 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
10	With proposal and without proposal scenarios were not provided in Albury SIDRA model, therefore all results in the report could not be confirmed. The extracts provided in this comment included Albury and Greater Hume & Lockhart SIDRA model files.	The 'without' and 'with' proposal scenarios for the Albury SIDRA model are denoted by 'base' and 'construction'. The 'without' proposal scenario corresponds with the 'base' folder and the 'with' proposal scenario corresponds with the 'construction' folder. No update has been made in response to this comment.

Summary of issues—construction vehicle turn path assessment

The following section provides a response to Transport for NSW advice on the construction vehicle turn path assessment provided in the PIR, as documented in Appendix D of Appendix B of the Transport for NSW's advice.

Pass (conditional)

Transport for NSW noted there are three potential outcomes assigned to each turn path assessment, i.e. 'Pass', 'Pass (Conditional)' and 'Fail'; however, Transport for NSW does not consider 'Pass (Conditional)' to be an acceptable safety outcome and recommends only 'Pass' and 'Fail' are adopted as outcomes of the analysis.

Swept path clearances

Transport for NSW stated that the swept paths do not have 0.5 m clearances shown. These offsets are required as per the *Austroads Design Vehicles and Turning Path Templates Guide* (Austroads, 2023).

Swept path analysis

Transport for NSW stated that in many instances the swept path analysis has been undertaken in isolation (i.e. one direction). These movements may be required to be undertaken concurrently and would therefore result in conflicts. For example, Railway Parade (Junee) movements cannot be undertaken with concurrent construction plant, i.e. a truck and dog stored at intersection and a truck and dog turning into the site. Transport for NSW stated that an increase in risk of conflicting movements presents an unacceptable safety outcome.

Transport for NSW recommended the turn path assessments be updated to consider concurrent movements.

Mitigation response—pavement adjustments

Transport for NSW stated that a number of intersections require the truck driver to wait at the hold line and give way to traffic in both directions before making the manoeuvre. For example, Panmure Street and Olive Street intersection a conditional pass is achieved; however, the swept path utilises the full pavement width. Traffic would need to be held to undertake this movement. Transport for NSW expressed that it does not consider this an acceptable outcome for both network safety and network efficiency. Transport for NSW recommended that the suggested upgrade (e.g. pavement widening) to be implemented to ensure safe movements at these intersections

Mitigation response—intersection treatments

Transport for NSW recommended the turn-path assessment considers the expected movement volumes. Transport for NSW stated that there are several movements where only one vehicle can store between the level crossing and the highway. For example, the right turn from Olympic Highway into Plunket Street. Transport for NSW stated that should a train be present, a truck and dog may have to store on the highway, which has potential to result in network efficiency issues or potential rear end type crashes. Transport for NSW recommended intersection treatment be implemented at these sites to provide suitable mitigation.

Safety impact assessments

Transport for NSW stated that at sites where the swept paths are shown to cross centrelines, where sight lines are poor, and/or removal of existing infrastructure is proposed further assessment of the safety impacts is to be conducted and agreed mitigations measures implemented.

Docker Street and Coleman Street intersection

Transport for NSW stated that it is not recommended to promote construction traffic at the intersection of Docker Street and Coleman Street. A conditional pass has been achieved based on the removal of the median island. This site is already constrained with poor sight lines and has a desirable pedestrian movement into a medical precinct.

Mitigation measures—construction routes in school hours

Transport for NSW identified that the proposed construction route uses Coleman Street and Norman Street intersection, which is located near a school precinct with multiple pedestrian crossing movements. Transport for NSW recommended that ARTC adopts a mitigation measure to restrict the use of construction routes during school hours in relevant streets during the construction phase of the proposal.

Alternative routes

Transport for NSW stated that where construction vehicle manoeuvres have been assigned a 'fail' outcome at a site, potential treatment options have been listed. Transport for NSW recommended that these options are developed further at this stage to confirm their viability and constructability, and to identify whether additional mitigation is required, e.g. where alternate haulage routes are proposed those routes should be assessed further.

Impacts to network capacity

Transport for NSW stated that construction vehicle manoeuvres at various intersections are shown to straddle lanes, and that lane straddling may reduce network efficiency and should be considered in conjunction with the model outputs. In addition, Transport for NSW expressed that in many cases it is unlikely heavy vehicles would be able to achieve lane straddling due to traffic volumes and nature (e.g. driver behaviour), exacerbated further by the road closures and diversions. Where lane straddling is proposed, alternative options should be considered.

For example, the left turn from Railway Street into Lake Albert Road. The current distribution modelling suggests a significant increase in movements at this site. The proposed construction vehicle movement at this site will increase delays and reduce the efficiency of the TCS.

Another example is the Edward Street to Station Place movement, which is shown to 'pass'; however, the swept path is taken straddling the two westbound lanes and appears to impact the central island and intersection return kerb. Transport for NSW does not consider this outcome to be a 'pass' and requests this intersection outcome be reviewed.

Pretoria Avenue

Transport for NSW stated that the turn path assessment for construction vehicles (19 m truck and dog) indicates that concurrent movements cannot be taken at Pretoria Avenue. Pretoria Avenue has been identified as a diversion route. Transport for NSW noted that that upgrade works are required to enable this route to accommodate all vehicle types up to and including a B-Double as a diversion of the Olympic Highway. Transport for NSW noted that approvals under the *Roads Act 1993* (NSW) (via Works Authorisation Deeds) would be required for the upgrade works.

Impacts to kerb and channel

Transport for NSW stated that there are a number of intersections where the swept-path analysis shows the construction vehicle will mount the kerb and channel. Transport for NSW expressed that it does not consider this to be an appropriate safety outcome and would also result in increased maintenance requirements.

For example, vehicles using the Illabo Road and Olympic Highway intersection are shown to mount the kerb.

Another example is the Thomas Street and Railway Lane intersection where vehicles would mount the kerb and channel. In addition, Transport for NSW stated that it does not consider Railway Lane an appropriate heavy vehicle route.

Response—construction vehicle turn path assessment

Pass (conditional)

The turn path assessment has been revised to check smaller vehicles to the assumed construction vehicle (19 m truck and dog) and is documented in Chapter 6 of Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. In most cases, a 12.5 m construction vehicle would resolve any instances where the 19 m truck and dog vehicle has failed or resulted in a conditional pass result. In the limited instances where a 12.5 m construction vehicle has also resulted in a conditional pass, a review of a smaller vehicle has been considered (8 m vehicle). In these cases, the smaller vehicle has resulted in a 'Pass' result, except at Seignor Street and Pretoria Avenue. This particular intersection would be used during the short term detour when the intersection works at Kemp Street and

Olympic Highway is underway and would be adjusted to accommodate heavy vehicles during this period (mitigation measure TT9).

Swept path clearances

The assumption of the assessment was to use a check vehicle analysis which does not require 0.5 m clearances. A check vehicle analysis was chosen for the truck and dog as per *Austroads Design Vehicles and Turning Path Templates Guide* (Austroads, 2023) Section 2.4, which states that '*larger vehicles may not be precluded from the road but may need to operate with reduced clearances or encroach into adjacent lanes. The low frequency of occurrence of these vehicles makes this acceptable'*.

As outlined above, the assessment has been updated to account for smaller vehicles where a 'Fail' or 'Conditional pass' was identified.

Swept path analysis

Noted, in some instances, conflicts could occur. The low construction traffic volumes suggest this would be a low probability, with the assumption that a truck in one direction would allow the other to turn first. A construction traffic management plan would highlight these potential conflicts and acknowledge that this might not be ideal, and therefore other measures are also proposed such as traffic management or the use of a smaller truck.

Mitigation response—pavement adjustments

Transport for NSW's position is noted. The assessment identifies that traffic control would be required for these intersections. This would be implemented through the Traffic and Transport Management Sub-Plan, as outlined in the EIS Submissions Report and PIR.

Mitigation response—intersection treatments

Transport for NSW's position is noted. Low construction volumes would suggest that it would be unlikely for the level crossing to be down, and more than one truck trying to enter Plunket Street. Nevertheless, to improve safety and mitigate potential rear end collisions, additional signage could be placed, or traffic control could be implemented during delivery times to manage this risk.

Safety impact assessments

Transport for NSW's position is noted. Safety assessments would be completed and mitigation measures identified in these instances.

Docker Street and Coleman Street

The assessment determined that it would be a conditional pass based on a check vehicle straddling the two lanes, not removing the median as stated in the Transport for NSW comment. No change has been made to the proposed construction route.

Mitigation measures—construction routes in school hours

Table C-1 in Appendix C Outline CEMP also contains requirements to identify haulage routes and access points as part of the Traffic and Transport Management Sub-Plan. Measures to minimise conflicts with school zone activities would be identified in the Traffic and CTTAMPs prepared for each enhancement site, which will be prepared in consultation with Transport for NSW and local councils.

Alternative routes

Transport for NSW's position is noted. Truck and dog turn paths have been assessed, and consideration of a smaller vehicle size and alternate haulage routes (from those assessed in the EIS), would be confirmed by the contractor as part of the Traffic and Transport Management Sub-Plan. Use of alternate haulage routes not assessed in the EIS or PIR would be subject to a consistency assessment of modification to any approval.

Impacts to network capacity

The original assessment was for a 19 m truck and dog as a 'check' vehicle defined in *Austroads Design Vehicles and Turning Path Templates Guide* (Austroads, 2023). The assessment methodology applied allows the 'check' vehicle to straddle lanes on approach to the intersection and assumes the full width of the carriageway on departure from the intersection to complete the manoeuvre. As outlined above, the assessment has been revised to also consider construction vehicles of shorter length, where a 'conditional pass' or 'fail' was identified. If lane straddling is not considered an acceptable 'pass' outcome, then this would be addressed through the site-specific CTTAMPs, which will be prepared in consultation with Transport for NSW and local councils.

Construction vehicles may continue to straddle lanes, and this is also influenced by driver behaviour. Approaches to manage intersection performance impacts would be further explored during detailed design, including approaches to minimise construction vehicle movements during peak periods.

Pretoria Avenue

Transport for NSW comments are noted. Some manoeuvres could be made under traffic control/spotter or with use of smaller vehicles.

Mitigation measure TT9 has been updated to included consultation with Transport for NSW.

As acknowledged in Appendix C (Statutory Compliance) of the EIS, consent under the *Roads Act 1993* (NSW) would be obtained where the proposal interacts with local or state roads, including temporary measures.

Impacts to kerb and channel

Transport for NSW's comments are noted. The assessment has identified potential mitigation options to avoid this impact, such as smaller vehicle size.

In the event this impact occurs, it would be addressed through mitigation measure TT15, which requires the completion of dilapidation reports and the rectification of any damage to the pre-work condition.

It is not clear on what basis Transport for NSW objects to the use of Railway Lane (Junee).

5.1.37 Traffic and transport (Appendix C: Wagga Wagga traffic model review comments)

Appendix D of the advice from Transport for NSW provided additional comment on the Wagga Wagga traffic model. This is largely replicated in Table 5-4. Images have not been carried across into this Submissions Report.

Summary of issues and response

TABLE 5-4: WAGGA WAGGA AIMSUN MODEL REVIEW COMMENTS

Item	Transport for NSW comment	Response
1	Check the speed limit of the Sturt Highway (Edward St and Hammond Avenue) and Lake Albert Road. The model speed limit is set to 70km/h. The current speed limit is 60km/h.	This has been updated and is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
2	Review road geometry of Hammond Avenue (Section 6626). The second right turn lane on Hammond Avenue is 140m. The model uses 368m (refer to the figure supplied). This impacts the intersection performance.	This has been updated and is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
3	Review the Control Plan, intersection of Lake Albert Rd and Sturt Highway (TCS 1322). The existing signal light is three aspects not six aspects with a left arrow on Hammond Avenue and Edward Street. The phasing in the model allows a left turn during the North leg or South leg green phase (refer to the figure supplied). This does not match the phasing provided in SCATS data (refer to the figure supplied). This comment applies to other TCS intersections that have similar configuration and phasing. In general, it is required to use SCATS data to setup the Control Plan for all the signal control intersections	This error has been corrected and is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. SCATS data supplied for the assessment had been applied but this data was incorrectly entered. All other intersections have been checked.
4	Review the Control Plan, intersection of Lake Albert Rd and Copland St (TCS 3979). Vehicles turning left cannot make their turn at this green phase for the whole phase (not just 8 second delays for pedestrian crossing, refer to the figure supplied). Need to follow the phasing provided by SCATS.	This error has been corrected and is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. SCATS data supplied for the assessment had been applied but this data was incorrectly entered. All other intersections have been checked.
5	Review the Control Plan, intersection of Lake Albert Rd and Railway St (TCS 3533). A left turn on red light is permitted (refer to the figure supplied). This needs to be adjusted in the model. Please check other TCS intersections if there is a similar setup.	This has been updated and is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport. All other intersections have been checked.
6	Traffic Demand (Centroid 78199) International Hotel entrance and exit just south of Lake Albert Road and Sturt Highway intersection. The traffic volume entering and exiting the International Hotel is very high (84 and 58 vehicles in the AM peak) compared to the normal volume (refer to the figure supplied). This needs to be adjusted manually.	Noted. The demand has been adjusted within the model. This adjustment is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
7	Review intersection configuration and Control Plan, Docker St Sturt Highway (TCS 581). The intersection model layout setup does not match the existing intersection configuration, and this possibly impacts the Control Plan setup as well. The intersection layout has	This has been updated to reflect recent upgrades of this intersection. This update is included in all model runs. The results including this update are reflected in Appendix D:

Item	Transport for NSW comment	Response
	been upgraded recently and it is not shown in Google Maps. Refer figures to the figures provided.	Addendum Assessment to Technical Paper 1: Traffic and Transport.
8	Review intersection configuration, Oates Avenue and Sturt Highway intersection Node 76944. The intersection layout in the model does not match the existing intersection configuration. The model layout does not allow for right in and right out from Oates Avenue but the existing one does. Refer figures to the figures provided.	This has been updated to reflect the configuration of this intersection. This update is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
9	Review traffic flow, Rawson Lane (Section 4565). This is a narrow lane, but the model shows high traffic volume (164 vehicles) using this section (figure on left). Some policy restrictions need to be used for these types of streets to reduce traffic flow.	This has been updated to reflect the street environment. This update is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
10	Review network layout, Barretta Lane (Section 82725). Only left out is permitted from this lane, but the model layout shows left in left out (refer to the figures provided). This is just an example; all network needs to be reviewed for policy turn permissions.	This has been updated to reflect the configuration of this intersection. This update is included in all model runs. The results including this update are reflected in Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport.
11	Check the geometry of the roundabout of Pearson St and Sturt Highway (Node 77066). Heavy vehicles use both circulating lanes when turning on the roundabout (refer to the figures supplied). This contributes to delays and queueing at the roundabout which needs to be calibrated in the model.	The model has reflected the operation of the roundabout to the level that is possible within the limitations of the modelling software concerning roundabouts. Further updates have not been completed.

5.2 NSW Environment Protection Authority

NSW EPA provided advice in response to the public exhibition of the PIR dated 4 December 2023. Consideration of the items raised in their advice is provided in the sections below.

5.2.1 Non-rail noise and vibration

Summary of issues

Assessment of changes in the PIR

NSW EPA noted that the Non-Rail Addendum had been prepared to highlight changes to the proposal in the PIR and in response to comments on the proposal during exhibition. NSW EPA also noted that they were generally satisfied with the PIR assessment and Non-Rail Addendum and considered that any concerns could be addressed through conditions of approval.

EIS Submissions Report

NSW EPA stated that while there are some remaining concerns, the EPA is generally satisfied with the response to comments on the Non-Rail Noise and Vibration Assessment and that these concerns can be addressed through conditions of approval.

NSW EPA did, however, note that the response to community submissions in section 4.1.11.2 of the EIS Submissions Report stated:

> '*Where a sensitive receiver (such as a residence, school or hospital) is predicted to be noise affected for more than three months:*
>
> - *Inland Rail standard program construction hours would only apply for a maximum three-month period at that enhancement site*
> - *no work would be undertaken every alternative week between the hours of 6pm on Saturday and 7am Monday.*
>
> *Under the Inland Rail standard program construction hours, only low impact noise activities are permitted between 6am and 7am*.'

NSW EPA recommended this commitment be formalised as a condition of approval.

Response

NSW EPA's responses to the EIS Submissions Report and PIR are noted.

Consideration of recommended conditions of approval are a matter for DPHI. ARTC will implement any conditions of approval that are imposed (including any conditions relating to applicable construction hours or measures to implement where noise criteria are exceeded).

5.2.2 Operational rail noise and vibration

Summary of issues

Revised operational noise and vibration assessment

NSW EPA noted they were satisfied that the NSW RING (NSW EPA, 2013)has been correctly applied in Appendix D of the EIS PIR (Revised Technical Paper 7: Operational Noise and Vibration (Rail)) and, in doing so, has identified an increased number of receivers who are eligible for consideration of feasible and reasonable mitigation (noting that in Section 6.10 it is not clear why some receivers are highlighted and others are not in the maps titled '*Receivers Triggering Investigation of Mitigation')*.

Section 8.2.1 concludes that as vibration from existing rail operations exceeds the human comfort criteria at some receivers, the impact of additional vibration from the proposed operations is expected to be minor and that ongoing maintenance of the rail is proposed. The *Assessing Vibration: a Technical Guideline* (DEC, 2006) clearly states that all feasible and reasonable measures should be applied to mitigate existing and proposed vibration impacts.

NSW EPA did not consider that the Revised Technical Paper 7: Operational Noise and Vibration (Rail) provided sufficient assessment of feasible and reasonable mitigation for vibration impacts above the human comfort criteria. NSW EPA recommended that it is expected that any conditions of approval will require the proponent to assess all feasible and reasonable mitigation measures where the criteria are exceeded.

Project-specific noise levels

NSW EPA raised concerned that the currently proposed PSNLs included a +5 dB correction to the redeveloped rail L_{Amax} trigger levels, and the process proposed under Figure 67 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) essentially excludes consideration of mitigation, other than a LNCP for exceedances up to 5 dB of the Rail Guideline LAmax trigger levels.

NSW EPA noted that the Rail Guideline requires all feasible and reasonable measures to be considered when there are exceedances of the Rail Guideline's trigger levels. NSW EPA stated that it was unclear if other mitigation measures other than the LNCP have also been evaluated and perhaps excluded because it was not reasonable and/or feasible. It should be noted that if the LNCP is not implemented, then other feasible and reasonable mitigation measures will need to be identified before a PSNL can be nominated. NSW EPA recommended that conditions of approval require a full and proper assessment of feasible and reasonable mitigation as per the Rail Guideline prior to PSNLs being proposed.

Concept noise barrier assessment

In Section 10 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR), the concept noise barrier assessment is said to have '*identified that, depending on the final extent and height of the noise barriers, the project specific noise levels may not be fully achieved at all receivers with residual receivers triggering the criteria as identified in section 9.6*'. NSW EPA noted that the process in the Rail Guideline is that all feasible and reasonable mitigation measures should be considered where the trigger levels are exceeded, with the aim of trying to achieve the trigger levels. PSNLs should only be considered after all feasible and reasonable mitigation has been implemented.

Ground-borne noise

NSW EPA noted that section 12.2 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) concludes that the trigger levels for ground-borne noise are not exceeded because the predicted levels from airborne noise are greater than the ground-borne noise. NSW EPA does not consider that this statement is entirely accurate as airborne noise levels are likely to reduce as a consequence of airborne noise mitigation that may ultimately be applied. The ground-borne noise trigger levels are predicted to be exceeded at receivers within 50 m of the rail line. NSW EPA expected that the final determination of whether airborne noise levels are higher than ground-borne noise levels should occur after mitigation for airborne noise levels has been considered.

NSW EPA recommended that any conditions of consent require a full and proper assessment of feasible and reasonable mitigation that would include a review of whether airborne noise levels are higher than ground-borne noise levels.

Assessment scenario definition

NSW EPA noted that Table 23 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) appears to compare the existing scenario and 2040 design year. The 'existing' year is not nominated. The comparisons required, as outlined on page 12 of the Rail Guideline, are 'no build' 2025 compared to 'build' 2025, and 'no build'

2040 compared to 'build' 2040. NSW EPA recommended that this is clarified as part of the detailed design and reported in the Operational Noise and Vibration Review.

Response

Revised operational noise and vibration assessment

With respect to the mapping in section 6.10 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR), the identified properties are new dwellings that were not in the original suite of properties that were considered in the previous assessment in the EIS. These additional dwellings have been added into the revised results presented in the Addendum Assessment to the Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix E of this Submissions Report).

With respect to the concern regarding the identified prediction of exceedances to the human comfort criteria at some receivers, given the existing predicted VDVs at these receivers from current rail operations and the expected vibration dose for the design year, the additional vibration impacts are minor. A comparison of the existing and future VDVs showed that levels during the day time period are expected to increase slightly above the preferred dose level at one receiver but not exceed the maximum criteria level from the additional day-time rail traffic. Future night-time dose values are not expected to change. As discussed in section 12.3 of Revised Technical Paper 7: Operational Noise and Vibration (Rail) , prior to the preparation of the Operational Noise and Vibration Review, ARTC will carry out vibration monitoring to confirm existing VDV levels at the two receivers identified.

Project-specific noise levels

The proposed approach with PSNLs does not exclude any impacted receivers from consideration for mitigation. All impacted receivers above the RING are still eligible for reasonable and feasible mitigation measures. The LNCP is a source control measure, specifically referenced in RING, and is therefore considered an innovative and effective option for this location.

As shown in Figure 67 of Revised Technical Paper 7: Operational Noise and Vibration (Rail) (Appendix D of the PIR), additional/alternative mitigation measures will be considered for any residual impacts above RING after LNCP. These measures could include at-property treatments, noise walls or other feasible and reasonable measures (refer to note 4 of Figure 67 of the Revised Technical Paper 7: Operational Noise and Vibration (Rail)).

Consideration of recommended conditions of approval are a matter for DPHI. ARTC will implement any conditions of approval that are imposed (including any conditions relating to further assessment of feasible and reasonable mitigation as per the RING).

Concept noise barrier assessment

ARTC notes the requirements of the RING to consider all feasible and reasonable mitigation measures where the trigger levels are exceeded. As outlined in section 6.2.4 of the PIR, ARTC has identified a range of strategies for the proposal to allow for the selection of reasonable and feasible noise mitigation to manage predicted operational rail noise impacts. These strategies include:

- investigation of source controls (i.e. infrastructure and rollingstock measures), in line with the RING hierarchy of controls
- development of PSNLs to guide the selection of noise mitigation measures for residential receivers that exceed the RING trigger levels
- consideration of noise barriers where groups of triggered sensitive receivers (not individual receivers) with noise levels above the PSNLs are identified
- consideration of other, property-specific treatments for individual properties expected to exceed the RING trigger levels.

Section 6.2.4.2 and Appendix D of the PIR identified 12 conceptual noise barriers identified to address exceedances of the PSNL at Culcairn, Henty, The Rock, Uranquinty, Wagga Wagga and Junee where receivers were identified to be grouped on the same side of the track and provision of a barrier was considered feasible and effective.

The final suite of mitigation measures to be implemented for the project would be determined by ARTC as part of the operational noise and vibration review (refer to mitigation NV3 in Appendix B of this Submissions Report).

Consideration of recommended conditions of approval are a matter for DPHI.

Ground-borne noise

Further assessment of ground-borne noise has been carried out in section 3 of Appendix E: Addendum Assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) . This included a comparison of airborne noise levels (95th percentile L_{AFmax} levels) at all receivers within 50 m of the rail line with noise barriers as described in Appendix E: Addendum assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail) with worst-case predicted ground-borne noise (L_{ASmax}) levels.

The comparison indicated that for the majority of dwellings, airborne noise levels would be expected to be significantly higher than ground-borne noise, with external noise levels typically 30 dB greater than ground-borne

noise levels. At these levels ground-borne noise would be unlikely to be greater than airborne noise inside sensitive receiver buildings, as only specifically designed and constructed residential buildings can achieve close to 30 dB of attenuation.

Additional analysis showing residual façade noise levels at sensitive receivers with noise barriers in place is provided in Attachment C of Appendix E: Addendum assessment to Revised Technical Paper 7: Operational Noise and Vibration (Rail). The analysis concluded that even with mitigation in place, airborne noise levels are likely to be dominant at receivers within the 50 m buffer from the rail line.

Further assessment of airborne and ground-borne noise levels will be undertaken in the ONVR.

Assessment scenario definition

The 'no build' 2025 and 'no build' 2040 scenarios presented are the same as the existing worst-case rail noise levels as it assumes that growth in rail traffic will not occur without Inland Rail.

5.2.3 Contamination

Summary of issues

Trigger for further site investigation

NSW EPA acknowledged that while ARTC had committed to complete site investigations at a number of identified 'medium risk' sites during detailed design and prior to construction, the EPA noted that this did not cover all 'medium risk' sites. The EPA also noted that the soils and contamination report outlined that additional soil investigations may be required where triggered by the Unexpected Finds Protocol. The EPA considered this to be an appropriate approach; however, noted that the Unexpected Finds Protocol should be drafted by a suitably qualified contaminated land consultant (as a condition of approval).

Prevention of migration of contaminants from overland flow into surface water bodies

NSW EPA noted the EIS Submissions Report states that the Soil and Water Management Sub-plan will be coordinated with the Contamination and Hazardous Materials Sub-plan, which would include other measures to minimise potential impacts associated with encountering previously unidentified contamination, including an unexpected finds procedure and training for construction staff. The proponent also commits to preparing a CEMP '*in consultation with relevant agencies, including the EPA*'.

NSW EPA noted that they do not need to be consulted on the development of the CEMP; however, recommended the sections covering contamination risks should be drafted by a suitably qualified contaminated land consultant.

Preparation of reports covering contamination

NSW EPA considered it appropriate that all reports covering contamination matters be drafted or reviewed and approved by a certified consultant. These reports should include sampling analysis and quality plans, investigation reports, any remedial action plans, the Unexpected Finds Protocol and the relevant contamination sections of the CEMP.

NSW EPA-accredited site auditor

NSW EPA recommended that a site auditor be engaged to undertake an audit for the land, noting that this would ensure that the remediation has been completed appropriately and that independent oversight is provided to the process.

NSW EPA noted they typically recommend that site auditors are engaged throughout the whole process for large-scale transport infrastructure projects; however, based on the regional location of the proposal, the investigations taken to date and the limited contamination known or suspected, this requirement is not considered necessary for the proposal.

NSW EPA recommended a series of conditions of approval to be considered with respect to site auditing.

Response

Trigger for further site investigation

NSW EPA's comments on the proposed approach to additional soil investigations are noted. ARTC clarifies that the enhancement sites recommended for further site investigation are those in more developed precincts (Albury Station and surrounds, and Wagga Wagga Station and surrounds) and enhancement sites with more significant excavation (Riverina Highway bridge, Billy Hughes bridge, Pearson Street bridge and Kemp Street bridge) and not necessarily those that have a medium risk rating. These investigations would assist ARTC by further informing the likely waste classification of excavated material and the identification of which excavated material could be suitable for beneficial reuse onsite compared to the material which must be disposed of to a suitable waste treatment facility.

The requirement for the Unexpected Finds Protocol would be prepared, or reviewed and approved, by certified consultants has been updated in mitigation measure SC6 (see Appendix B: Updated Mitigation Measures) and Appendix C: Updated Construction Environmental Management Plan.

Prevention of migration of contaminants from overland flow into surface water bodies

NSW EPA's comments regarding the need for consultation on the CEMP is noted. Relevant sections of the CEMP (and sub-plans) would be drafted by a suitably qualified/certified consultant.

Preparation of reports covering contamination

ARTC would ensure that all reports covering contamination matters that are prepared following approval of the proposal would be drafted, reviewed and approved by suitably qualified/certified consultant(s).

NSW EPA-accredited site auditor

Consideration of recommended conditions of approval are a matter for DPHI.

5.2.4 Air quality

Summary of issues

Further clarity on the scenarios assessed for idling locomotives

NSW EPA noted the Air Quality Addendum (presented with the EIS Submissions Report and PIR) outlined two scenarios that have been assessed that consider idling locomotives. The Urban scenario considers impacts of idling trains at the Wagga Wagga Station platform, and the Rural scenario considers idling trains at Culcairn.

NSW EPA requested further information on these scenarios to confirm if idling locomotives at Wagga Wagga Station and Culcairn form part of the proposal for which approval is being sort. Further clarity was also requested that idling locomotives at the locations assessed would occur during operation.

Assessment of nitrogen dioxide

The Air Quality Addendum presents the assessment of NO_2 impacts based on the Janssen method for 1-hour average NO_2 and the ozone limiting method (OLM) for annual average NO_2. NSW EPA considered that there are site-specific factors that add uncertainty to the appropriateness of the Janssen method for the proposal.

NSW EPA considered that there are other conversion methods that could be more appropriate to the scenarios being assessed, including the OLM and the ambient ratio method. The use of the Janssen method adds uncertainty to the results.

NSW EPA recommended that the Air Quality Addendum be revised to include:

- NO_2 predictions based on NO_x conversion methods that are fit for purpose and robustly justified
- a refined (contemporaneous) and robust assessment of NO_2 impacts. The frequency of exceedances for each scenario should be detailed and discussed.

Assessment of predicted 1-hour NO_2 exceedances

The Air Quality Addendum predicts exceedances of the 1-hour NO_2 assessment criteria contained in the Approved Methods. NSW EPA noted that:

- there are predicted increases in NO_2 ground level concentrations where exceedances are predicted under the current scenario—this is found with the scenarios considering idling and passing trains combined
- exceedances are predicted for all scenarios that consider idling trains at Wagga and Culcairn
- exceedances are predicted on incremental (proposal-only) contributions.

The Air Quality Addendum outlined that NO_x emission are based on US Tier 0+ locomotive standards. The assessment states that 'the introduction of Tier 4 locomotives would likely result in compliance with NO_2 criteria'; however NSW EPA noted that modelling scenarios considering better performing locomotives had not been undertaken. NSW EPA considered that there are options that could be considered in the design of the proposal to resolve the exceedances and reduce the predicted impacts. This included the implementation of better performing locomotive engines, alternative rail routes away from sensitive receptors, reduced idle times, and/or alternative locomotive idle locations.

Section 7.7 of the Approved Methods outlines that when the impact assessment criteria are exceeded, the dispersion modelling must be revised to demonstrate that compliance with the impact assessment criteria can be achieved. NSW EPA noted that, given the issues that have been identified with the assessment of NO_2 (as discussed above), a revised NO_2 assessment is required.

NSW EPA also recommended that ARTC address the predicted exceedances through a refined and justified NO_2 assessment and/or the inclusion of mitigation measures.

Assessment of particulate matter impacts

Section 5.1.3 of the Approved Methods outlines that in circumstances where existing ambient air pollutant concentrations exceed the impact assessment criteria, proponents must demonstrate that no additional exceedances of the impact assessment criteria will occur as a result of the proposal. NSW EPA noted that a

contemporaneous assessment of 24-hour $PM_{2.5}$ and PM_{10} had not been provided to assess the potential for additional exceedances to occur.

Furthermore, NSW EPA noted that section 5.1.3 of the Approved Methods outlines that in circumstances where ambient air pollutant concentrations exceed the impact assessment criteria, the proponent must demonstrate that best management practices will be implemented to minimise emissions of air pollutants as far as is practical.

NSW EPA recommended that the Air Quality Addendum be revised to:

- include a contemporaneous assessment of 24-hour PM_{10} and $PM_{2.5}$ for the urban case study
- present background and proposal contributions to any additional exceedances identified with the contemporaneous assessment
- demonstrate that best management practice will be implemented to minimise emissions of particulate matter.

Response

Further clarity on the scenarios assessed for idling locomotives

The Addendum Assessment to Technical Paper 14: Air quality report (Appendix F of this Submissions Report) has been updated to provide additional clarity regarding the occupancy of idling trains in crossing loops, which form part of the proposal. For the air quality assessment, it has been assumed that one out of every four trains would use the crossing loop. Additionally, each train could be held at the crossing loop for a maximum of 15 minutes, which is similar to the assumptions made for the operational noise assessment.

A summary of the assumed crossing loop occupancy is provided in Table 5-5.

TABLE 5-5: BREAKDOWN OF DAILY CROSSING LOOP OCCUPANCY

Section of the proposal	Train service	Train numbers		
		Current	2025	2024
Albury yard to Junee yard	Freight + Passenger	16	19	22
	Crossing loop occupancy	4	4.75	5.5
Junee yard to Illabo	Freight + Passenger	16	22	24
	Crossing loop occupancy	4	5.5	6

A map of the identified idling locations is provided as Figure 5-1 of the Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report). All of these locations are existing crossing loops and would be used, as required, during operation of Inland Rail. The proposal does not propose to change the location of these crossing loops, as this is not required for the operation of Inland Rail. Approval is not being sought as part of the proposal for the operation of trains or idling events as they a standard and essential part of the existing railway operation.

Assessment of nitrogen dioxide

The procedure for accounting of the transformation of NO_x emissions into ambient hourly and annual average NO_2 concentrations, in accordance with NSW Approved Methods, is provided in detail in Appendix D of Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report) that was completed to support this Submissions Report. There are three methods in the NSW Approved Methods:

- constant NO_2/NOx (including ARM2)
- OLM
- empirical relationships (Janssen et al. (1998)).

These three methods were assessed to determine the suitability for this assessment in sensitivity study in Appendix D of Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report). In reviewing the methodology options, the constant NO_2/NOx ratio (ARM2) and OLM methods were determined to provide overly conservative NO_2/NOx. In the case of the OLM method, the assumption that all emitted NO from the locomotive emission will react fully with the available O_3 before reaching the receptor was considered to be unlikely due to the levels of emitted NO from locomotives, meaning only a fraction will react with the ambient ozone. In contrast, the Janssen method accounts for formation of NO_2 via O_3 but does not assume full conversion and, as such was considered to be more realistic for the assessment being undertaken. It was also considered that the sensitivity study provided robust justification for employing it in this assessment; therefore, the Janssen method was determined to be fit for purpose for the situations being considered in the assessment and applied with variable constants depending on ambient ozone background O_3 concentration time series.

As detailed in the air quality assessment completed for the PIR, the 24-hour PM_{10} and $PM_{2.5}$ concentrations (including background) are predicted to exceed the assessment criteria for passing trains, idling trains, and the combination of passing and idling trains at Wagga Wagga Urban case study area. These exceedances are mainly

driven by elevated background concentrations, which already exceed or approach the assessment criteria. The NO_2 concentrations are predicted to exceed the assessment criteria during idling (1-hour) and combined idling and train passing (1-hour and annual) at the Wagga Wagga Urban case study area and the Culcairn Rural case study area. Train passing is also predicted to result in 1-hour NO_2 exceedance for the year 2040 in the Culcairn Rural case study area.

In response to the EPA advice, a Level 2 contemporaneous assessment was completed for NO_2 as well as for PM_{10} and $PM_{2.5}$. This is discussed further in this section.

Assessment of predicted 1-hour NO_2 exceedances

A contemporaneous assessment of NO_2 was completed and is documented in Section 5 of Appendix F of this Submissions Report). This assessment found that the rail contribution during idling or the combination of passing and idling trains is the main driver of exceedances for the 1-hour NO_2 criterion.

This contemporaneous assessment predicted:

- higher number of 1-hour exceedances are predicted for combined passing and idling train scenario compared to idling trains only, reflecting the added contribution from passing trains
- 333 hours within 2040 of the 1-hour NO_2 criterion (164ug/m^3) in the scenario of an idling and passing train, in the urban case study, primarily due to the contribution from rail operations. Of the 333 hours, 135 were attributed to the proposal due to the additional trains on the network
- 475 hours within 2040 of the 1-hour NO_2 criterion for the idling and passing train scenario in the rural case study, which was also attributed primarily to the contribution from rail operations. Of the 475 hours, 45 were attributed to the proposal.

The additional exceedances attributed to the proposal by 2040 was represented around 1.5 per cent and 0.5 per cent of the year for the urban and rural case study, respectively.

A review of the predicted exceedances of the 1-hour NO_2 criterion found that exceedances at any given sensitive receiver would occur when metrological conditions were unfavourable, in terms of wind direction, wind speed and atmospheric stability, which would lead to the low dispersion of emissions. This would typically occur at night.

However, the assumption that a high emitting locomotive (which drives the NO_2 contribution) is idling for every hour of a year at one location is not considered to properly reflect rail operations. In reality:

- it is more likely that the crossing loop for idling is more likely to be used during the day, when unfavourable metrological conditions are less likely
- the rollingstock operating consists of a mix of locomotive classes with that emit different levels of NO_2, and that the Inland Rail freight trains would be more likely to be on the main track, with other train services held in the crossing loop (with the exception of passenger trains).

To further determine the likely number of hours in which exceedances could occur, a realistic operational scenario was considered in the Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report) considered the probability of the unfavourable meteorological conditions coinciding with a train in the crossing loop, and the likelihood of an exceedance based on the train fleet compositions (based on the more likely scenario that the Inland Rail train is on the main track with other train services held in the crossing). The assessment then considered the differences based on the expected number of trains in 2040 to the number of trains in 2020. This determined that the number of additional exceedances of the NO_2 (1-hour) criterion attributed to the proposal would potentially occur in 11 hours of the year in the urban case study (Wagga Wagga) or in 1 hour of the year in the rural case study (Culcairn)—representing 0.1 per cent and 0.01 per cent of the year, respectively.

Regarding the demonstration of best management practice, during the design of the proposal, mitigation measures have been considered for the development of best practice air quality emissions minimisation. A summary of the air quality mitigation measures considered for the proposal are provided in section 6.2 of Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report). Where a mitigation measure was considered to be reasonable and feasible, within the scope of the proposal and would achieve minimisation of air emissions, the mitigation measures have been committed to by the proposal and summarised in the revised mitigation measures presented in Appendix B of this Submissions Report.

Assessment of particulate matter impacts

In response to the above EPA advice, a contemporaneous assessment of PM_{10} and $PM_{2.5}$ was completed (provided in Addendum Assessment to Technical Paper 14: Air Quality (Appendix F of this Submissions Report) for the urban case study. This assessments found that:

- during both the idling and combined passing and idling train scenarios, there were seven and one exceedances of the 24-hour guideline for PM_{10} (50µg/m^3) and $PM_{2.5}$ (25µg/m^3), respectively
- there were no additional exceedances of PM_{10} or $PM_{2.5}$ guidelines with the addition of the rail contribution, and therefore the rail contribution is unlikely to lead to additional exceedances.

Discussion of the demonstration of best management practice is provided above in the response to NO_2 exceedances.

5.3 NSW Department of Climate Change, Energy, the Environment and Water—Water

The NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW—Water) provided advice in response to the public exhibition of the PIR dated 29 November 2023. Consideration of the items raised in their advice is outlined in the following sections.

Water supply

Summary of issues

DCCEEW—Water stated that the inability to obtain a water supply for the proposal presented a risk and, as such, a secure and appropriately authorised water supply should be confirmed by ARTC prior to determination, and not during the detailed design phase. While DCCEEW—Water acknowledged that the EIS Submissions Report had identified options for supply, the ability to access these options still relies on further assessments and/or agreements.

DCCEEW—Water recommended that prior to determination of the proposal, ARTC should clarify the ability to secure sufficient water entitlements to allow for construction of the proposal.

Response

As outlined in section 5.5.1 of the EIS Submissions Report, confirmation of where water would be sourced from relates to the design and construct contract for the proposal and would occur as detailed design and construction planning progresses. As such, agreements relating to construction water sources still cannot be provided at this time.

As noted in the EIS Submissions Report, ARTC is committed to selecting water sources that reflect availability at that time of construction with due consideration to climatic conditions, agreements with local government and other water supply authorities (e.g. Riverina Water). This commitment is maintained in mitigation measure HFWQ1, which states further investigation of feasible water supply options will be undertaken with ongoing consultation with water suppliers and consideration of other alternative water supply opportunities. Additionally, ARTC has updated HFWQ1 to note that as part of the Soil and Water Management sub-plan, ARTC will:

- confirm a draft water balance for the proposal
- demonstrate that the required construction water sources are legally and physically viable
- outline mitigation measures to address construction water resource shortages that arise.

Mitigation measure HFWQ1 has also been updated to include that appropriate approvals would be obtained as required if alternative constructive water sources beyond commercial water suppliers and local governments are required.

5.4 NSW Department of Climate Change, Energy, the Environment and Water—Biodiversity Conservation and Science Directorate

The NSW Department of Climate Change, Energy, the Environment and Water—Biodiversity Conservation and Science Directorate (DCCEEW–BSC) (Biodiversity and Conservation Division at the time of submission) provided advice on flooding and biodiversity matters, dated 23 November 2023. Consideration of the items raised in their advice is provided in the sections below.

5.4.1 Biodiversity

Summary of issues

Classification of Box-Gum Woodland (PCT 277)

DCCEEW–BSC noted that the exclusion of the ‘PCT 277—poor’ vegetation zones from multiple important sections of the Biodiversity Development Assessment Report (BDAR) and PIR was misleading and may result in the conditions of consent not including the correct area of impact to the critically endangered ecological community (CEEC). It was noted that the vegetation zones for PCT 277 (poor condition) in the Lower Slopes and Inland Slopes subregions have a Vegetation Integrity (VI) score of 21 and 35, respectively. These scores indicate that the community still generates an offset liability, as the scores are above 15, which is the lowest threshold VI score for a CEEC. Further to this, section 4.12 of the NSW Scientific Committee Determination highlighted that the ability of the community to recover is uncertain for all condition states, so thresholds based on recovery potential are unknown.

DCCEEW–BSC recommended that prior to determination, the relevant sections of the BDAR be updated to include the PCT 277—poor vegetation zone as part of the impacted area of the CEEC of Box-Gum Woodland.

Indirect and prescribed impacts to Sloane's Froglet

DCCEEW–BSC noted that indirect and prescribed impacts to Sloane's Froglet in the subject land were not considered. The assessment identified a direct loss of 0.26 hectares (ha) of Sloane's Froglet habitat at the Billy Hughes bridge site, which generates a credit liability; however, at this location for this species, the avoid and minimise principles of the Biodiversity Offsets Scheme do not include meaningful mitigation measures.

DCCEEW–BSC noted that mitigation measure BD9 proposed the potential use of temporary frog exclusion fencing where construction compounds are adjacent to potential Sloane's Froglet breeding habitat; however, this approach was not supported by DCCEEW–BSC. Instead, it was recommended that the *Sloane's Froglet Stormwater Wetland Design Guidelines* (Spiire, 2017) (Sloane's Froglet Guidelines) be implemented in consultation with DCCEEW–BSC to mitigate prescribed and indirect impacts to the species.

Effective implementation of the Sloane's Froglet Guidelines for this proposal should include the creation of a habitat wetland as part of sediment and erosion control at the Billy Hughes bridge site, and detailed control measures to prevent sediment-laden runoff entering Eight Mile Creek.

DCCEEW–BSC recommended that, prior to determination, the BDAR be updated to demonstrate how the Sloane's Froglet Guidelines will be applied and what effect this has in mitigating the identified impacts to Sloane's Froglet.

Mitigation measures

DCCEEW–BSC noted that mitigation measures for the proposal have not been prepared in accordance with section 8.4 (2) of the Biodiversity Assessment Method (BAM) or sections 1.2.2 and 2.6 of the *BAM Operational Manual – Stage 2* (2023).

DCCEEW–BSC noted that the mitigation measures proposed have not been revised, are still very general, and do not provide the level of detail required to ensure the proposed mitigation measures can be effectively implemented and audited. DCCEEW–BSC stated that measures to limit or reduce biodiversity impacts need to be included in the BDAR prior to approval, to ensure that section 7 of the BAM has been adequately addressed. Inclusion of sufficiently detailed measures is also required to guide post-approval plans.

DCCEEW–BSC acknowledged that while section 5.14 of the EIS Submissions Report states that 'mitigation measures will be further investigated at the detailed design', it was noted that there are currently no triggers for review of the potential impacts of detailed design on biodiversity after consent is issued, and no mechanism for DCCEEW–BSC to determine the suitability of any site-specific measures. Mitigation measures to reduce impacts should be represented by explicit commitments for specific locations and not deferred to post-approval plans. Specific examples regarding mitigation measure for Squirrel Gliders, Regent Honeyeater and Sloane's Froglet species were also identified.

DCCEEW–BSC recommended that, prior to determination that:

- the BDAR be updated to provide detailed mitigation measures in accordance with section 8.4 (2) of the BAM or the BAM Operational Manual—Stage 2
- targeted mitigation measures be identified for Regent Honeyeater and Sloane's Froglet at the Billy Hughes Bridge enhancement site.

Mapping of landscape connectivity features

DCCEEW–BSC noted that although landscape connectivity features have now been included in some parts of the revised BDAR, and it is noted that there are no direct impacts to Regent Honeyeater Important Habitat Map areas, the BDAR fails to identify the important mapped areas for this species within the study area of Billy Hughes Bridge. It was noted that some of these areas are immediately adjacent to the construction footprint. To provide certainty around the protection of these areas from direct, indirect, and prescribed impacts, DCCEEW–BSC requested that all Important Habitat maps should be included on sensitive area maps as part of the mitigation measures to be implemented in the pre-construction and construction phases.

DCCEEW–BSC also noted that the eastern compound and track lowering works on the main line will completely isolate a portion of Regent Honeyeater Important Habitat mapped area during construction. The revised BDAR was noted by DCCEEW–BSC noted that as not having considered the indirect impacts to these areas, such as noise during construction, and connectivity to other important mapped habitat areas to the south.

DCCEEW–BSC noted that recommended the following be undertaken prior to determination):

- include Regent Honeyeater Important Habitat Mapped areas in the BDAR and assess the indirect and prescribed impacts to these areas
- include Regent Honeyeater Important Habitat Mapped areas as part of sensitive areas maps within the mitigation measures in section 10 of the BDAR

- detail the mitigation measure(s) for identification of Regent Honeyeater individuals in the Unexpected Finds protocol.

Native vegetation assessment

The EIS Submissions Report stated that a conservative approach for native vegetation cover had been applied to both cases in Biodiversity Offsets and Agreement Management System (BOAMS), where the 11–30 per cent cover category has been assigned to both cases. On review of the two BOAMS cases, DCCEEW–BSC noted that the Inland Slopes subregion case has native vegetation cover set at 6 per cent, which is in the 0–10 per cent native vegetation cover category. The allocation of the Inland Slopes subregion to the incorrect native vegetation cover category may impact the filters that determine which threatened species are required to be surveyed for this subregion in the BAM-C. As a result, some threatened species may not have been assessed, and the species credit liability may therefore be underestimated.

DCCEEW–BSC recommended that, prior to determination, the native vegetation cover class for the Inland Slopes related case in BOAMS be updated to the 11–30 per cent cover class. DCCEEW–BSC also recommended that a review of all predicted and candidate species be undertaken, and that an update if the BDAR, BAM-C, spatial data and credit obligation be undertaken if necessary.

Response

Classification of Box-Gum Woodland PCT

The discussion of the PCT 277 (poor condition) as part of the BC Act-listing of the Box-Gum Woodland (CEEC) has been updated in the *Revised Technical Paper 8: Biodiversity Development Assessment Report* (refer to Appendix G of this Submission Report). Discussion of the PCT 277 (poor condition) has been updated throughout the BAM-C, the relevant section of the revised BDAR and Figures B3, E2 and E4 of the report.

Indirect and prescribed impacts to Sloane's Froglet

Discussion of the prescribed impacts has been updated in the revised BDAR (refer to Appendix G of this Submissions Report) to include impact and offsets for potential Sloane's Froglet habitat impacts on non-native vegetation areas within the proposal site (being impacts to 6.8 ha and the requirement for offset of 102 species credits). This is a conservative approach as the ratio being used is equivalent to impacts on native vegetation and better quality habitats compared to large parts of the prescribed impact area that are highly disturbed or within the rail corridor, as areas of potential habitat have been identified in lieu of survey during appropriate seasonal contexts.

The removal of 0.26 ha of potential habitat referenced in the DCCEEW–BSC relates to areas mapped as native vegetation across the entire proposal site and is largely associated with native vegetation within the existing disturbed rail corridor. Additional areas of potential habitat for the species occurs within the Billy Hughes bridge enhancement site, the majority of which is located within a construction compound and do not correspond with areas of mapped native vegetation.

New mitigation measure BD10 has been included to require that prior to construction commencing, pre-clearance seasonal surveys would be undertaken for Sloane's Froglet at locations where prescribed impacts are predicted at the Billy Hughes bridge enhancement site (Appendix C5 in Appendix G of this Submissions Report). Should the pre-clearance seasonal surveys identify the Sloane's Froglet is present, the following measures would be undertaken as necessary:

- implementation of suitable erosion and sediment controls (with reference to Appendix E of the Sloane's Froglet stormwater wetland design guidelines (Albury City Council and NSW Office of Environment and Heritage, 2017))
- implementation of the exclusion zone as indicated in Map 3 of Appendix C5 in Appendix G of this Submissions Report.

To minimise impacts to potential habitat within the construction compound if Sloane's Froglet is found to be present, the exclusion area has been identified for the majority of the habitat and buffer areas identified within the construction compound. As access is still required through the compound, some potential habitat and buffer areas would still be impacted. The requirements in new mitigation measure BD10 have been included to manage erosion and sedimentation impacts within these areas and in areas adjacent to the exclusion areas.

Sloane's Froglet Guidelines were prepared to inform larger scale redevelopments. The provision of a wetland as recommended by DCCEEW–BSC is not considered appropriate given the area impacted has now been reduced, a no-go zone would be established through the majority of the potential habitat and buffer area and suitable erosion and sediment controls would be in place for the vehicle crossing areas. Additionally, offsets would be provided for the species. The majority of the impact occurs within temporary areas on land that is not owned by ARTC and would be leased by ARTC during the construction period and would be returned to its present condition at the completion of construction. Reference to the guideline has been made only in the context of erosion and sedimentation controls.

Mitigation measures

Mitigation measures have been updated to be more specific in accordance with the BAM, including the following:

- an additional mitigation measure (mitigation measure BD10 in Appendix B of this report) has been added in respect to mitigating impacts on Sloane's Froglet within the Billy Hughes bridge enhancement site concerning erosion and sedimentation controls, noting that a large area of potential habitat and buffer area at the enhancement site has now been excluded.
- an additional mitigation measure (mitigation measure BD11 in Appendix B of this report) has been added in respect to mitigating impacts to address impacts on habitat connectivity for Squirrel Gliders
- the addition of 'sensitive areas' maps that apply to key ecological constraints for the project including the Regent Honeyeater.

Mapping of landscape connectivity features

Regent Honeyeater Important Habitat mapping has been added to Figures C4, C6, E2 and E4 of the revised BDAR (Appendix G of this report). Discussion of the Regent Honeyeater has also been updated throughout the revised BDAR, in particular in sections 7.1.3, 9.1.3, 9.4.2 and 11.1.3.

A small area of Regent Honeyeater Important Habitat has been mapped in and around the Billy Hughes bridge enhancement site (refer Appendix C4 of the revised BDAR). The proposal would impact on about 0.44 ha of important habitat of which 0.26 ha constitutes mapping of the existing rail line with the remaining 0.18 ha being Miscellaneous ecosystem—Highly disturbed areas with no or limited native vegetation with a vegetation integrity score of 0.2. A very small amount of PCT 277 poor of 0.002 ha was identified in the spatial data; however, this rounds to 0 in BAM-C and does not constitute an impact. No trees or available habitat would be impacted within mapped important habitat for the Regent Honeyeater.

Any indirect impacts would be managed through mitigation measures BD6 and BD7, with all important habitat clearly shown on the Sensitivity Areas Map (refer Appendix E4 of the revised BDAR).

With respect to the recommendations regarding the Regent Honeyeater Important Habitat Mapped areas:

- Regent Honeyeater (Important Area Map), serious and irreversible impacts (SAII) and other threatened species layers have been incorporated into the Sensitive Areas Map (Appendix E4) of the revised BDAR
- the Sensitive Areas Maps have been referenced in revised in section 10 of the revised BDAR (mitigation measures BD6 and BD7)
- an unexpected finds requirement is included in the revised BDAR through mitigation measure BD14. Details such as ensuring construction crews can identify Regent Honeyeaters at the Billy Hughes bridge site will be included in the CEMP.

Native vegetation assessment

Planted vegetation in and around Junee has been identified as planted ornamental trees. The calculations for native vegetation if it included these planted trees as native would not alter the native vegetation cover class of 11–30. This cover class has been applied to both the Lower Slopes and Inland Slopes BAM-C cases.

5.4.2 Flooding

Summary of issues

Riverina Highway bridge enhancement site

DCCEEW–BSC accepted that section 5.1.1 of the EIS Submissions Report confirmed that flood modelling at Riverina Highway bridge will be completed during detailed design based on the proposed operation of the storage and pump system, with modelling undertaken in consultation with Albury City Council, and that mitigation measure HFWQ5 had been updated to confirm this commitment.

Uranquinty Yard clearances enhancement site—Sandy Creek rail bridge

DCCEEW–BSC noted that both section 5.1.1 of the EIS Submissions Report and section 2.1. of Appendix D of the EIS Submissions Report (Detailed Response to Hydrology and Flooding Matters) stated that while new precast bearing blocks would be installed on the Sandy Creek bridge piers, there would be no impact to flow conveyance. Minor embankment widening behind the existing abutment wall on the main line approach to the bridge was also not expected to affect flow conveyance. Both documents stated that if detailed design results in changes to the bridge structure or embankment that could affect flows, the flood model will be updated to reflect the changes and design alterations, or mitigation measures will be applied to ensure consistency with the Quantitative Design Limits.

While DCCEEW–BSC acknowledged the response provided, it was noted that the detailed design phase must ensure that the hydraulic models are consistent and assess the overtopping in the same manner, that is, through the inclusion of 2d_zsh lines in both the existing and proposed railway alignment to maintain a consistent approach to modelling.

DCCEEW–BSC noted that ARTC needed to ensure the hydraulic models relating to the Sandy Creek rail bridge and embankment are consistent, and assess overtopping in the same manner at the detailed design phase with the results presented in the results in the Flood Design Verification Report.

Uranquinty Yard clearances enhancement site—cumulative assessment

DCCEEW–BSC noted that the results of the cumulative impact assessment indicated that the proposed levee mitigates flooding at the Uranquinty Yard enhancement site, and the proposal is consistent with the Quantitative Design Limits; however, the lack of detailed survey of the existing rail infrastructure for use in the flood impact modelling was a concern that should be rectified in the detailed design process.

DCCEEW–BSC recommended that a comprehensive detailed survey should be undertaken and used to assess the cumulative impacts in areas outside of the Uranquinty levee at the detailed design phase with the results presented in the results in the Flood Design Verification Report.

Uranquinty Yard clearances enhancement site—engagement

DCCEEW–BSC acknowledged the ongoing engagement between ARTC and Wagga Wagga City Council regarding potential flooding impacts at the Uranquinty site and that ARTC remains committed to further consultation with the council (in accordance with mitigation measure HFWQ3).

Pearson Street bridge enhancement site

DCCEEW–BSC acknowledged that section 5.1.1 of the EIS Submissions Report states that the proposal does not include works to the box culvert (at Pearson Street), and that further engagement between ARTC and Wagga Wagga City Council has occurred since the EIS exhibition.

DCCEEW–BSC acknowledged that ARTC will continue to work collaboratively with Wagga Wagga City Council to ensure complementary flooding outcomes are achieved (in accordance with mitigation measure HFWQ3).

Wagga Wagga Yard clearances enhancement site

DCCEEW–BSC acknowledged that section 5.1.1 of the EIS Submissions Report and section 3 of Appendix D of the EIS Submissions Report stated that sensitivity tests were completed on the position and culvert capacity of the culvert at the Wagga Wagga Yard. DCCEEW–BSC noted the results that showed the industrial area at the east of the enhancement site would still remain affected by afflux, with the afflux Quantitative Design Limits being exceeded in a similar manner to those described in the EIS. DCCEEW–BSC acknowledged that flood mitigation options will be investigated at the detailed design stage to reduce afflux (in accordance with updated mitigation measure HFWQ4).

However, DCCEEW–BSC noted that the lack of detailed survey of the existing rail and drainage infrastructure for use in the flood impact modelling was a concern that should be rectified in the detailed design process. It was noted that the flood impact modelling should also extend a sufficient distance downstream to encompass the entire area of impact. Particular concern was raised by DCCEEW–BSC that the impacts from the proposed works could extend to the road underpasses on Sturt Highway/Tarcutta Street.

DCCEEW–BSC recommended that a comprehensive detailed survey should be undertaken at the Wagga Wagga Yard clearances enhancement site at the detailed design phase and the assessment of impacts should be extended to include sensitive downstream areas including the road underpasses at Sturt Highway/Tarcutta Street. DCCEEW–BSC noted the results should be presented in the results in the Flood Design Verification Report.

Drainage design at sites of low and moderate hydraulic complexity

DCCEEW–BSC acknowledged that section 5.1.1 of the EIS Submissions Report states that additional information on the drainage design at sites of low and moderate hydraulic complexity will occur at the detailed design stage and the subsequent information will be provided to DCCEEW–BSC at that time (in accordance with updated mitigation measure HFWQ4).

DCCEEW–BSC noted they will review the information when it is presented at the detailed design stage.

Response

Riverina Highway bridge enhancement site

The comment by DCCEEW–BSC is noted.

Uranquinty Yard clearances enhancement site—Sandy Creek rail bridge

Should the detailed design of the bridge structure or embankment require changes that could affect flood conveyance, the flood model would be updated to reflect these changes and design alterations or mitigation measures applied as required to ensure changes in flood behaviour outside of the rail corridor are consistent with the adopted Quantitative Design Limits, to mitigate any adverse flood impacts.

The results of this assessment will be presented in the results in the Flood Design Verification Report for the proposal.

Uranquinty Yard clearances enhancement site—cumulative assessment

The proposed works at Uranquinty Yard clearances enhancement site cause negligible changes (i.e. less than 10 mm) in flood levels for the 2%, 1% AEP and PMF flood events. The proposal is consistent with the Quantitative Design Limits (without the Uranquinty levee in place).

A cumulative assessment was completed in response to DCCEEW–BSC to demonstrate that the proposal does not generate adverse impacts with the proposed levee in place. The levee is not needed for the proposal to be consistent with the Quantitative Design Limits.

A detailed survey will be undertaken of the rail corridor as part of the detailed design process and will be presented in the results in the Flood Design Verification Report for the proposal.

Uranquinty Yard clearances enhancement site—engagement

The comment by DCCEEW–BSC is noted.

Pearson Street bridge enhancement site

The comment by DCCEEW–BSC is noted.

Wagga Wagga Yard clearances enhancement site

The position of DCCEEW-BSC is noted. Mitigation measure HFWQ4 requires the completion of flood modelling would be carried out during detailed design to confirm predicted afflux at industrial properties located at Railway Street and compliance with the Quantitative Design Limits for Inland Rail. This would be informed by topographic and building floor surveys and a review of localised drainage structures (as required).

Drainage design at sites of low and moderate hydraulic complexity

The comment by DCCEEW–BSC is noted. In accordance with HFWQ4, ARTC confirms that the outcomes of the assessment will be provided to DCCEEW–BSC.

5.5 NSW Department of Planning, Housing and Infrastructure—Crown Lands

The NSW Department of Planning, Housing and Infrastructure—Crown Lands (DPHI—Crown Lands) provided advice in response to the public exhibition of the PIR dated 14 November 2023. Consideration of the items raised in their advice is outlined in the following sections.

Use and access of Crown land, roads and waterways

Summary of issues

Land acquisition

DPHI—Crown Lands noted if infrastructure is to be built on Crown land or roads, the consent of the Minister for Water, Property and Housing must be obtained, via Crown Lands, and constructed roads may need to be transferred to the local council.

DPHI—Crown Lands identified that there are multiple Crown roads, including Crown roads with enclosure permits, both within and adjoining the proposed development area.

DPHI—Crown Lands noted any Crown road required for access to the development/proposal will need to be transferred to the local council, or application made to close and purchase the roads.

Authority

DPHI—Crown Lands identified they will need to be consulted prior to any use or occupation of any Crown roads or land, during the assessment phase.

DPHI—Crown Lands noted that authority to use, traverse, access or build infrastructure on Crown land, roads and waterways is required under the *Crown Land Management Act 2016* (NSW) and/or the *Roads Act 1993* (NSW). It was recommended that ARTC contact DPHI—Crown Lands as early as possible to discuss and initiate the processes required to authorise the use of and/or access to Crown land and roads.

DPHI—Crown Lands provided maps in their advice on the EIS Submissions Report and PIR, which show:

- multiple Crown roads, including Crown roads with enclosure permits, both within and adjoining the proposed development area
- Crown waterways at Sandy Creek and the Murray River bridge enhancement site.

Response

Land acquisition

The proposal would involve the temporary occupation of Crown land, including roads and waterways, to enable construction. As discussed in section 3.2.1.4 of the EIS Submissions Report, permanent acquisition of Crown land

(around 0.5 ha) would be required to accommodate changes to the design of level crossing LX605 in the Junee to Illabo clearances enhancement site for the purpose of operation of the proposal.

ARTC will seek authorisation for the temporary occupation of Crown land that is located outside the ARTC lease area prior to the commencement of construction. ARTC will confirm the final temporary land requirements during detailed design and in consultation with DPHI—Crown Lands.

Authority

ARTC has continued to consult with DPHI—Crown Lands throughout the development and assessment of the proposal to discuss specific Crown land. ARTC will continue to consult with DPHI—Crown Lands regarding any necessary authorisation under the *Crown Land Management Act 2016* (NSW) for the temporary occupation of Crown land that is located outside the ARTC lease area prior to the commencement of construction. Consent would be sought under section 138 of the *Roads Act 1993* (NSW) from the relevant road authority for works that would disturb, erect a structure, or carry out a work in, on or over a public road.

The Uranquinty Yard clearances enhancement site would involve work within Sandy Creek, which is a Crown waterway, to establish a temporary creek crossing during construction. ARTC will seek authorisation for the temporary occupation of any Crown land that is located outside the ARTC lease area prior to the commencement of construction at this site.

At the Murray River bridge enhancement site, no work is proposed within the Crown waterways. All construction work will be limited to the bridge itself and would be facilitated using scaffolding attached to the structure.

5.6 NSW Department of Climate Change, Energy, the Environment and Water—Heritage NSW—Aboriginal cultural heritage

The NSW Department of Climate Change, Energy, the Environment and Water—Heritage NSW (Heritage NSW) provided advice in response to the public exhibition of the PIR dated 21 November 2023. Consideration of the items raised in their advice is outlined in the following sections.

Aboriginal cultural heritage

Summary of issues

Issues previously raised

Heritage NSW noted that a series of key issues had previously been raised in comments about the EIS. The additional documentation prepared by ARTC, including the EIS Submissions Report, PIR and Detailed Response to Aboriginal Cultural Heritage Matters was acknowledged by Heritage NSW.

Based on the information provided in these documents, updates to mapping and survey coverage information and updated mitigation measures, Heritage NSW deemed the responses provided as being adequate to address the concerns previously raised.

Heritage NSW stated that they concurred with the proposed mitigation measures and commitment to avoid all impacts to areas of potential archaeological deposit, as well as monitoring during road works.

Aboriginal Cultural Heritage Management Plan

Heritage NSW acknowledged ARTC's proposed commitment to implement an Aboriginal Cultural Heritage Management Plan (ACHMP) prior to any work associated with the proposal.

Heritage NSW provided a series of recommended Draft Conditions of Approval to be implemented in the ACHMP.

Ongoing consultation with Registered Aboriginal Parties

Heritage NSW stated that ARTC should ensure that consultation is continued with the Registered Aboriginal Parties (RAPs) throughout the submission process and development of the ACHMP.

Response

Issues previously raised

The response from Heritage NSW is noted.

Aboriginal Cultural Heritage Management Plan

Consideration of recommended Conditions of Approval are a matter for DPHI. ARTC will implement any Conditions of Approval (if approved), including any conditions that affect the development of the ACHMP.

Ongoing consultation with Registered Aboriginal Parties

ARTC will continue to consult with the relevant RAPs throughout the finalisation of the submission process, development of the ACHMP and ongoing detailed design and construction phases of the proposal as relevant (such

as monitoring and implementation of a community collection methodology during grading works to a section of Townsend Street (mitigation measure AH2)).

5.7 NSW Department of Climate Change, Energy, the Environment and Water—Heritage NSW—Non-Aboriginal heritage

The NSW Department of Climate Change, Energy, the Environment and Water—Heritage NSW (Heritage NSW) provided advice in response to the public exhibition of the PIR dated 6 December 2023. Consideration of the items raised in their advice is outlined in the following sections.

Albury Railway Station and Yard Group

Summary of issues

Albury Railway Station and Yard Group

Heritage NSW stated that their earlier advice as part of their submission on the EIS identified that the proposed bridge, walkway and ramp at Albury Station had the potential to cause a visual impact to the heritage listed Albury Railway Station and Yard Group. The advice also noted that the structure should be designed in consultation with the proposal's nominated heritage consultant.

Heritage NSW acknowledged there are a number of issues to be considered in the development of the bridge, including the *Disability Discrimination Act 1992* (DDA) and preserving the safety of the railway corridor. Heritage NSW, however, noted in response to the EIS Submissions Report and PIR that the visual impact assessment still detailed a bridge design that would result in an unacceptable visual and physical impact to the identified heritage values of the Albury Railway Station and Yard Group.

The principal concerns of Heritage NSW included impacts to the heritage values of the State Heritage Registered-listed item arising from:

- the massing, scale and location of the pedestrian ramp
- the design, fabrication and location of the anti-throw screens.

Heritage NSW requested that the design should be revisited in consultation with the proposal's nominated heritage consultant and ideally a design review panel to remediate and mitigate the impacts.

Heritage NSW also requested that consideration also be given to the use of lifts in place of a long pedestrian ramp.

Wagga Wagga Railway Station and Yard Group

Heritage NSW provided similar advice about the proposed pedestrian bridge at Wagga Wagga Station noting it was not consistent in appearance with a sympathetic, modern addition to the Wagga Wagga Railway Station and Yard Group.

Response

As detailed in section 5.4.2 of the EIS Submissions Report, the existing bridge has insufficient clearance for double-stacked container freight trains to pass and must be replaced as part of the proposal.

Any new pedestrian bridge is required to meet relevant design and safety standards, including rail collision protection and anti-throw screens. During ongoing stakeholder engagement, ARTC has also been requested to provide a DDA-compliant bridge. This would result in a more visually prominent structure and minimises the opportunity to balance the bridge in the surrounding heritage landscape.

As previously noted, further changes to the design would occur during detailed design, in line with the following mitigation measures:

- mitigation measure NAH6, which requires incorporation of heritage interpretation into the urban design of the bridges
- mitigation measure LV2, which requires the preparation of an urban design and landscape plan to guide detailed design. The plan will include design guidelines to minimise the visual impacts of infrastructure (including required elements such as anti-throw screens), with consideration of the existing landscape and visual context.

To provide a clearer connection to the heritage requirements within the landscape and urban design outcomes for the proposal, mitigation measure LV4 was previously amended (as part of the EIS Submissions Report) to include consideration of relevant heritage interpretation recommendations and the involvement of a suitably qualified heritage specialist.

Noting that ARTC is not the asset owner of the station precincts and does not operate the passenger network, the installation of lifts instead of, or in association with, ramps has not been explored further. A ramp would still be required in case the lift is not working and it is unlikely that there is sufficient room to include both without impacting on the fabric or setting of heritage listed structures. Additionally, a potential lift would not be within the station building itself and would have to be situated in a similar position to the proposed ramps. From a CPTED perspective, this could encourage anti-social behaviour with minimal opportunities for passive surveillance.

Interpretation strategy

Summary of issues

Heritage NSW noted that this section of the mitigation measures document should be updated to include the incorporation and reuse of removed structures, elements and fabric into the final design of the proposal as an intrinsic part of the Heritage Interpretation Strategy.

Response

Mitigation measure NAH6 has been amended to include consideration of the incorporation and reuse of removed structures, elements and fabric into the final design of the proposal as part of the Heritage Interpretation Strategy.

Additionally, current mitigation measure NAH4 also identifies the need to investigate potential opportunities for salvage and reuse of items including the Albury Station pedestrian bridge (refer to Appendix B). This mitigation measure has also been amended to include similar reference to the Wagga Wagga Station pedestrian bridge.

Non-Aboriginal archaeology

Summary of issues

Heritage NSW noted that the EIS Submissions Report did not respond to the Heritage NSW email dated 10 October 2023, which stated:

> *Albury Railway Yard Group—Based on the fact that we now know the exact location of the broad gauge lines (all located above ground), matters related to archaeological test excavation have resolved to a large extent. The submitted documents still did not include a confirmation on the extent of impact or any proposed mitigation measures to the above ground lines. The applicant is advised to include the extent of impact proposed and mitigation measures in place to avoid all impacts to broad gauge lines in subsequent documents. Given that we now know that there are unlikely to be any buried lines, excluding a test excavation from the proposal is considered acceptable.*
>
> *Yerong Creek Station—Heritage NSW continues to recommend that it would be preferable to avoid all impacts, however, noting that there is a low potential for significant archaeology the proposed recommendations are acceptable.*

Based on the information received to date, Heritage NSW does not support any impact to the remnant historical broad-gauge railway lines at the junction of NSW and Victoria. Additional detail will be provided to Heritage NSW about any areas where 'impact cannot be avoided' for consideration prior to any approval.

Response

Albury Railway Yard Group

As discussed in section 5.4.2 of the EIS Submissions Report, testing and additional research into the location and likely survival of the broad-gauge rail lines within the Albury Railway Yard was undertaken. The results of these investigations identified there is unlikely to be any buried evidence of previous broad-gauge rail lines, as they existed at the same level as the current lines and were removed in their entirety. However, a section of broad-gauge rail line correlating to a line identified as Shunting Line No. 3 was identified to still exist with another broad-gauge rail line between Gantry Roads 8 and 9. The EIS Submissions Report noted that the design of the proposal indicates there would be no direct impact on this line. Similarly, the remnant broad-gauge rail line between Gantry Roads 8 and 9 is within the proposal site and is currently located within 2 m of the proposed new track formation.

However, the proximity of these lines to the proposed works areas suggest that they are at potential risk of inadvertent impact during works in adjacent areas. The proposed new track formation is designed to tie in with the existing tracks and therefore cannot be moved further away from the broad-gauge rail line. While the current design is expected to avoid all direct impacts, mitigation measure NAH6 is still considered appropriate, providing a contingency measure should impact to the broad-gauge rail line between Gantry Roads 8 and 9 be identified during detail design as unavoidable.

Additionally, mitigation measure NAH8 was previously updated as part of the EIS Submissions Report to state:

> *Where impacts cannot be avoided on remnant broad-gauge railway track in the Albury Railway Station and Yard Group (SHR 01073) then these tracks would be archivally recorded prior to works commencement and a contextual study undertaken on broad-gauge tracks within the Albury Yard*.

Heritage NSW's position regarding avoiding impact to the remnant broad-gauge railway lines within Albury Yard is acknowledged. ARTC, however, notes that there is an existing interpretive display of retained broad-gauge rail line adjacent to the station platform. After the broad-gauge train had stopped operating between Melbourne and Albury in 2008, the interpretive display was created in the cripple siding to demonstrate the historic operation of the dual gauge rail system. This interpretative display is easily viewable from the station platform and is in a central part of the station precinct for appreciation by commuters. Conversely, the remnant broad-gauge railway line of Shunting Line No.3 and that between Gantry Roads 8 and 9 is located much further from the platform towards the western side of the yard and is unlikely to provide opportunities for interpretation by commuters in the station precinct.

While no direct impact is anticipated as outlined above, detailed design development will also seek to avoid impacts to the remnant broad-gauge railway lines as far as is reasonably practical. However, a balance must be achieved between providing for railway infrastructure to meet the design requirements for the proposal within the context of an operational rail yard, where the design has already been developed to avoid impacts to other major components of the State heritage listing.

Yerong Creek Station

As discussed in section 5.4.5 of the EIS Submissions Report, the former site of Yerong Creek station would be largely left in-tact with minimal groundwork anticipated to be required for the proposal. ARTC confirm that, where possible, the design would aim to reduce impacts to the platform and avoid excavations of the adjacent embankment area as far as possible. Heritage NSW's position as stated in its email dated 10 October 2023 is noted.

5.8 NSW Department of Primary Industries—Agriculture

The NSW Department of Primary Industries—Agriculture (DPI Agriculture) provided advice in response to the public exhibition of the PIR dated 21 November 2023. Consideration of the items raised in their advice is outlined in the following below.

Level crossings

Summary of issues

DPI Agriculture stated that the EIS Submissions Report identified only a few rural level crossings as being within the scope of the proposal and that there was appropriate consultation with stakeholders on the works required at these sites. However, DPI Agriculture also noted that consideration of seasonal agricultural impacts would only be undertaken at these enhancement sites.

DPI Agriculture recommended that seasonal agricultural impacts should be a consideration at all rural level crossings due to the increased rail traffic.

Response

Level crossings that are within the scope of the proposal only include those required to be modified to accommodate double-stacked freight trains, such as modification to accommodate track realignment. With respect to the remaining level crossings, no works were identified as being required at these locations and they were not included in the proposal site or scope of the proposal.

At the peak of rail operations in 2040, there is expected to be up to 20 freight trains per day. This is an increase of up to 8 freight trains per day compared to the existing scenario. This means that some agricultural activities that interface with a level crossing, such as grain haulage by heavy vehicles or movement of livestock would likely experience more frequent and longer level crossing closures than they do now. Refer to section 9.3 of the traffic addendum (Appendix D: Addendum Assessment to Technical Paper 1: Traffic and Transport) for further information on level crossing closure durations. While the intensity of agricultural activities may vary seasonally, the existing crossings would continue to operate as they currently do both during peak and off-peak agricultural seasons.

ARTC confirms that a range of consultation about these level crossings was undertaken with relevant stakeholders throughout the development and design of the proposal, including Albury City Council, Wagga Wagga City Council, Junee Council, Transport for NSW and private landowners, where the level crossing occurs within private land, such as at LX605.

Biodiversity management subplan

Summary of issues

DPI Agriculture stated that it was not clear from the discussion in the PIR whether the issues raised about agricultural biosecurity management, including emergency animal diseases, would be incorporated into a biodiversity management sub-plan.

DPI Agriculture recommended that agricultural biosecurity should be identified as requiring a separate subplan.

Response

As noted in section 5.6.2 of the EIS Submissions Report, ARTC would ensure appropriate measures, including measures to manage biosecurity risks, would be implemented in accordance with the *Biosecurity Act 2015* (NSW).

The recommended emergency animal disease protocols were added to the amended construction environmental management plan (CEMP) outlined under the biodiversity management sub-plan as part of this commitment in the EIS Submissions Report (refer to the current CEMP outline in Appendix C: Updated Construction Environmental Management Plan). At this stage, it is not intended to detail biosecurity matters in a separate management subplan.

5.9 NSW Department of Primary Industries—Fisheries

The NSW Department of Primary Industries (Fisheries) (DPI—Fisheries) provided advice in response to the public exhibition of the PIR dated 23 November 2023. Consideration of the items raised in their advice is outlined in the following sections.

Response to advice previously provided

Summary of issues

DPI—Fisheries reviewed the PIR and EIS Submissions Report, noting the advice previously provided by DPI—Fisheries had been addressed.

DPI—Fisheries noted they have no further comment on the proposal at this stage.

Response

The response from DPI—Fisheries is noted.

5.10 NSW Rural Fire Service

The NSW Rural Fire Service (NSW RFS) provided advice in response to the public exhibition of the PIR dated 12 December 2023. Consideration of the items raised in their advice is outlined in the following sections.

Bushfire impacts

Summary of issues

Mapped bushfire-prone land

The NSW RFS stated that the EIS included buffering of 140 m for enhancement sites (section 24.3.1 of the EIS); however, no consideration had been given to mapped Category 3 (grassland) hazards within Albury and Wagga Wagga LGAs. Additionally, while Category 3 (grassland) hazards have not been mapped within Greater Hume, Junee and Lockhart LGAs, similar consideration should be given to grassland hazards along the rail line in these localities as well.

The NSW RFS recommended Chapter 24 of the EIS be updated to include reference to, and consideration of, grassland hazards, either mapped or currently unmapped, where applicable, along the rail line.

Consultation with Bush Fire Management Committees

The NSW RFS noted that ARTC should continue to liaise with Hume Zone and Riverina Zone Bush Fire Management Committees (BFMCs).

Response

Mapped bushfire-prone land

ARTC acknowledges that bushfire-prone land consists of both high-risk Category 1 (woodland) and medium-risk Category 3 (grassland) hazards. For the Albury and Wagga Wagga LGAs, mapping of Category 3 (grassland) hazards extends to all parts of the LGAs, with the exception of the developed urban areas.

Although Category 3 (grassland) hazards is not mapped within the Greater Hume, Junee and Lockhart LGAs, mitigation measure H2 would remain appropriate to address grassland hazards near the proposal site in these localities as it sets out the following specific measures that would be implemented to address potential bushfire risks, including:

- adequate access and egress for firefighting vehicles and staff at all enhancement sites during construction
- protocols for the management of bushfire risk during construction
- first-response capabilities, including fire extinguishers, water carts and hoses at enhancement sites, where required.

These measures would be confirmed in the Flood and emergency response sub-plan (refer to the outline provided in Appendix C: Updated Construction Environmental Management Plan) and applied, as relevant, to all

enhancement sites where either Category 1 (woodland) or Category 3 (grassland) hazards have been identified within Albury and Wagga Wagga LGAs and where similar risks are identified at enhancement sites in the Greater Hume, Junee and Lockhart LGAs.

Consultation with Bush Fire Management Committees

ARTC will continue to liaise with Hume Zone and Riverina Zone BFMCs, as required, throughout future phases of the proposal, including detailed design and construction.

6. Conclusion

The proposal is CSSI and is subject to assessment and approval in accordance with Part 5, Division 5.2 of the EP&A Act. An EIS was prepared to address the requirements of Division 5.2 of the EP&A Act, the SEARs, Part 8 Division 5 of the EP&A Regulation and with consideration of the *State Significant Infrastructure Guidelines* (DPE, 2022). The EIS was placed on public exhibition by DPHI between 17 August 2022 and 28 September 2022, and submissions were invited.

In accordance with section 5.17(6)(b) of the EP&A Act, on 13 April 2023 the Planning Secretary directed ARTC to submit a PIR, in addition to a Submissions Report, that provides further assessment of the proposal impacts and proposed changes to the proposal. The EIS Submissions Report considered the issues raised in community and organisation submissions on the EIS, and other government agency advice received by DPHI in accordance with section 5.17(6)(a) of the EP&A Act.

The PIR was placed on public exhibition by DPHI between 15 November 2023 and 6 December 2023. Similar to the public exhibition of the EIS, interested stakeholders and members of the community were able to review the PIR online, participate in consultation and engagement activities held by ARTC, and make a written submission to DPHI for consideration in its assessment of the proposal.

This Submissions Report provides a response to the submissions received during the exhibition of the PIR and further information on how the potential impacts of the proposal would be managed. To support this Submissions Report, additional or revised assessments were completed to respond to agency advice or stakeholder submissions. This included:

- revisions to the traffic and transport assessment in response to advice or comments received from the Transport for NSW, local councils and the community. This included revisions to incorporate the Origin Destination surveys, adjustments to traffic growth rates within Wagga Wagga and adjustments to mitigation strategies during the closure of Edmondson Street bridge
- revisions to the operational rail noise assessment for some sensitive receivers due to corrections to distance to the rail line or the classification of the receiver type
- additional air quality assessment in response to advice from the NSW EPA, which included a contemporaneous assessment of particulates and nitrogen dioxide emissions
- revisions to the Revised Technical Paper 8: Biodiversity Assessment Development Report in response to advice from the DCCEEW – BCS. This included further consideration of prescribed impacts on potential Sloane's Froglet habitat and inclusion of offset obligations as a result of these impacts as well as additional connectivity measures for the Squirrel Gilder.

6.1 Updated proposal justification

The proposal, as part of the Inland Rail program, 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.

The Inland Rail program is a nationally significant transport initiative. It will respond to a forecast increase in demand for freight transport between Melbourne and Brisbane, and provide long-term benefits, including improved productivity, improved network efficiency and reliability, safety improvements, sustainability benefits, and reduced lifecycle costs.

A proposal of this scale would inevitably have some impacts on the local environment and community. The proposal would incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable.

The key potential impacts to the biophysical environment are identified to occur generally during construction. The proposal would remove native vegetation, and biodiversity offsets would be finalised and implemented to address the residual impacts of the proposal on biodiversity values. Other temporary biophysical impacts to watercourses, groundwater and air quality would occur during construction. Construction of the proposal would also result in noise impacts to sensitive receivers, particularly during out of hours works, and traffic impacts particularly during closure of road bridges in Wagga Wagga and Junee. Other amenity impacts during construction include dust and visual impacts. The majority of the potential construction-related impacts would be effectively mitigated by implementing best-practice construction management measures.

Operational impacts primarily consist of noise, air quality and traffic impacts as result of larger and more frequent trains along the rail corridor and visual and heritage impacts as result of new and more prominent bridges across the rail corridor. Additional assessment of operational rail noise and traffic impacts was completed as detailed in the PIR and mitigation measures have been updated to minimise impacts on sensitive receivers as result of the proposal (as described in Appendix B: Updated Mitigation Measures of this Submissions Report).

To manage the potential impacts identified by the EIS and PIR, and in some cases reduce them completely, a range of mitigation measures would be implemented during construction and operation of the proposal. The environmental performance of the proposal would be managed by the implementation of the construction and operational environmental management frameworks. These frameworks would also ensure compliance with relevant legislation and any conditions of approval.

The potential remains for residual impacts from the proposal. Though reduced there is potential for residual impacts associated with construction and rail noise, the loss of some heritage fabric along the existing rail line, longer and more frequent level crossing closures and traffic detours during construction at Wagga Wagga and Junee, and changes to open space at Junee. The detailed design for the proposal would be developed with the objective of minimising potential impacts on the local and regional environment and local community, having regard to the principles of ecologically sustainable development defined by clause 193 of the EP&A Regulation.

The design and construction methodology would continue to be developed in alignment with this objective, taking into account the input of stakeholders. The potential residual construction and operational impacts of the proposal are considered manageable with the implementation of the proposed mitigation and management measures.

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