JONES AVENUE OVERPASS RELOCATION

Inland Rail
Narrabri to North Star
PLANNING REPORT

June 2019
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1. DECLARATION

Responsibility for this report is taken by Angus Witherby of Moree Plains Shire Council. I declare that I have prepared this supplementary report generally in accordance with the Environmental Planning and Assessment Act Regulation. It contains all information available to Council at the date of publication relevant to the environmental assessment of the project. None of the information contained herein is either false or misleading.

Angus Witherby
Director, Planning and Community Development
Moree Plains Shire Council
27 June 2019

2. GLOSSARY AND ABBREVIATIONS

ARTC - Australian Rail Track Corporation

Council - Moree Plains Shire Council

CPTED - Crime Prevention through Environmental Design

DDA - Commonwealth Disability Discrimination Act

DPC - NSW Department of Premier and Cabinet

DPE - NSW Department of Planning and Environment

EIS - Environmental Impact Statement

EPA Act – NSW Environmental Planning and Assessment Act, 1979

RMS - Roads and Maritime Services

SEARS - Secretaries Environmental Assessment Requirements

SEPP - State Environmental Planning Policy

TfNSW - Transport for NSW

3. EXECUTIVE SUMMARY

This planning report addresses both the technical assessment of and the process involved in a variation to the Inland Rail Project (Narrabri to North Star) to relocate the proposed Jones Avenue overpass to a location just north of Halls Creek.

The relocation is to optimise the ability of the Moree Plains region to take advantage of the opportunities provided by the Inland Rail to underpin the economic development and future growth of Moree

3.1 TECHNICAL ASSESSMENT

Key environmental, economic and social factors associated with the proposed relocation of the overpass are reviewed. These impacts able to be mitigated or reduced as summarised:

- *Severance Effects of Inland Rail* – Mitigation is available to manage the severance effects which were identified as part of the original justification of the Jones Ave overpass. In addition, a probability analysis of the risks of both existing level crossings within Moree township being blocked simultaneously has an extremely low likelihood of occurring. Transit times for emergency services would still be acceptable if both crossings were blocked, and with the increased train length and numbers.

- *Informal movement paths* – A range of informal movement paths exist across the existing road/rail corridor. These paths are not legal. The Jones Avenue overpass would facilitate movement along a similar path, although issues with safety and security, visual impact, disruption to existing businesses and compliance with access requirements for people with disabilities have emerged during the overpass design process. Mitigation, following community consultation, is available by enhancing pedestrian connections to the Moree Railway Station pedestrian crossing.

- *Economic Costs and Benefits* – The overall Moree Intermodal Park and supporting infrastructure has a benefit-cost ratio of 2.63:1. This is significant for a project of this type. Overall benefits and costs are set out in the attached business case. Relocation of the overbridge is a critical element in facilitating access to existing and proposed intermodal facilities, together with substantially improving the urban amenity, social cohesion and safety within the Moree Urban area.

- *Changes to traffic flows* – Traffic flow changes for the current base case, the Jones Avenue overpass option and the Halls Creek overpass option have been modelled. The Halls Creek overpass can potentially reduce cross-movement conflicts and queueing issues associated with the level crossings during harvest periods. Full benefits for the overpass do, however, require construction of the proposed East-West connector.

- *Agricultural land severance* – The proposed Halls Creek overpass and associated connecting roads would, together with planned expansion of the Moree Regional Airport, cause fragmentation of the eastern portion of the Lawson Grains landholding. This landholding is

some 4,300ha, of which approximately 150ha would potentially be acquired. This would represent 3.4% of the overall holding. Landholder negotiations are proceeding.

- *Flora and Fauna Assessment* – The East-West connector and the overpass locations have not raised any significant issues with respect to flora and fauna impacts, except for the riparian crossing of the Mehi River near the Gwydir Highway connection. These impacts can be mitigated through careful route selection at the western end of the East-West Connector. There are no identified impacts on rare or endangered species or on endangered ecological communities.

- *Noise assessment* - The proposed Jones Avenue overpass will require noise management measures due to its elevated location within an urban environment. The Halls Creek overpass is well removed from the nearest sensitive receivers and is unlikely to require specific noise mitigation measures. If required these can be implemented during detailed design.

- *Visual Impact* – The proposed Jones Avenue overpass would have a very significant visual impact on the urban area of Moree. In addition to the overpass structure itself, safety and security requirements would require extensive barrier systems above the overpass structure. The total height of the structure would be in the order of 12 m. The Halls Creek overpass would be constructed in a rural agricultural context which includes a substantial building forms such as grain silos, cotton gins and the like. It would not require any barrier systems. Additionally, the Halls Creek overpass would form when entering Moree from the south and with appropriate detailed design treatment (potential including nighttime lighting) would form a clear southern boundary to the Moree township.

- *Aboriginal and European heritage* - A review of Aboriginal and European heritage has not identified any sites or objects of significance in the location of the overpass or the root corridor for the East West connector except for West of the Mehi River.

- *Construction Impacts* - Construction impacts would be able to be managed through application of common techniques to address issues such as erosion and sedimentation, construction noise, traffic management and the like.

3.2 STATUTORY ASSESSMENT

There are three potential statutory pathways to facilitate the relocation of the overpass.

- Modify the current Inland Rail application for the Narrabri to Moree section prior to determination. This would potentially create significant delays in the approval of this critical first assist construction section of the Narrabri to North Star component and is not recommended.

- Modify the consent post – approval. This is routine for most large scale infrastructure projects as detailed design continues and project refinement occurs. A supplementary Environment Impact Statement would be required and would need to be advertised in a similar form to the original application. The modification of consent could include all

matters that have arisen through project development up until the time of approval. This is the preferred option.

- Address approval requirements as part of the East West Connector approval. Development consent would not be required under this option, although a detailed review of environmental factors would be required under the EP & A Act. Modification of the Inland Rail consent would, however, still be required. To maintain overall project integrity for the Inland Rail project post-approval modification of the consent for that project is therefore recommended.

3.3 CONCLUSIONS

There are no environmental or social obstacles to the relocation of the Jones Avenue overpass from Moree Township to just north of Halls Creek. Assessment of the issues has identified that appropriate mitigation strategies are available and able to be implemented to address the issues raised.

The overall cost of the Halls Creek location is similar to the Jones Avenue overpass. While the Jones Avenue overpass would have very limited utility, in particular with weight restrictions, the Halls Creek location would directly facilitate improved access to the existing and proposed intermodal sites and also to the proposed Special Activation Precinct. Minor car-based trip time improvements associated with the Jones Avenue overpass mean that a benefit cost ratio of significantly less than 1:1 is produced by that piece of infrastructure. This needs to be compared with the overall benefit cost assessment of the Moree Intermodal Park and associated infrastructure which generates a benefit of 2.63:1.

4. INTRODUCTION

4.1 PROJECT OVERVIEW

This report considers the relocation of the proposed Jones Avenue overpass at Moree NSW two a location south of the Moree township and north of Halls Creek. The relocation is proposed in order to significantly improve the overall economic benefit of the Inland Rail project in particular by facilitating improved freight connectivity to existing and proposed Intermodal facilities. The report is presented in the general form of a supplementary EIS.

4.2 PROJECT OBJECTIVES

The key project objective is:

1. To optimise the economic benefit of Inland Rail to the Moree region.
2. Achieve acceptable outcomes in terms of severance and emergency vehicle response times within the Moree township.

Secondary objectives include:

3. The improvement of urban safety and amenity by removing heavy vehicles from the Urban Road network of Moree, in particular during the harvest season;
4. Reducing the disruptive effects of the proposed Jones Avenue overpass on property and services at the eastern end of Jones Avenue; and
5. Avoiding additional antisocial issues, amenity issues and operational issues associated with the proposed Jones Avenue overpass.

4.3 PROJECT HISTORY

The Inland Rail project runs from Melbourne to Brisbane with the NSW component consisting of a series of State significant development applications. The proposed alignment runs through the township of Moree. The Narrabri to North Star component of the Inland Rail project is a largely brownfields development consisting of upgrading of the existing way, and a development application has been lodged with the NSW State Government although at the time of preparation of this Statement the application had not been determined.

In the original EIS by ARTC proposed an overpass from Jones Avenue, Moree, to Tycannah Street, Moree. The location of this is shown on Figure 1a. The original intent of locating the overpass in the proposed location was to provide improved connectivity from east to west Moree. A particular focus was the circumstances that level crossings at Alice Street Moree and Bullus Drive Moree were blocked simultaneously. ARTC examined three options of which the Jones Avenue option was preferred.

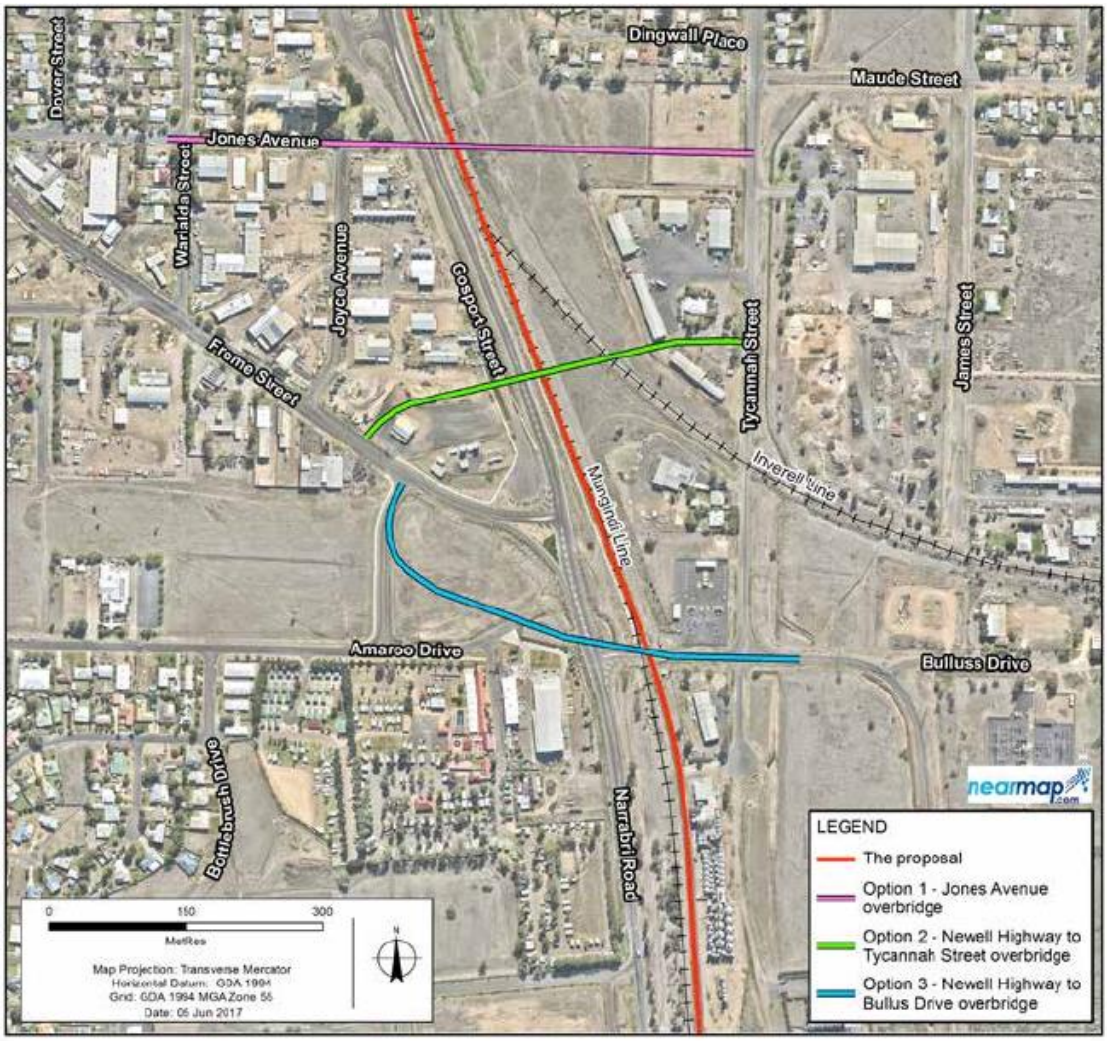

Figure 1a - Proposed Jones Avenue Overpass Options

The overpass concept is shown in Figure 1b, below:

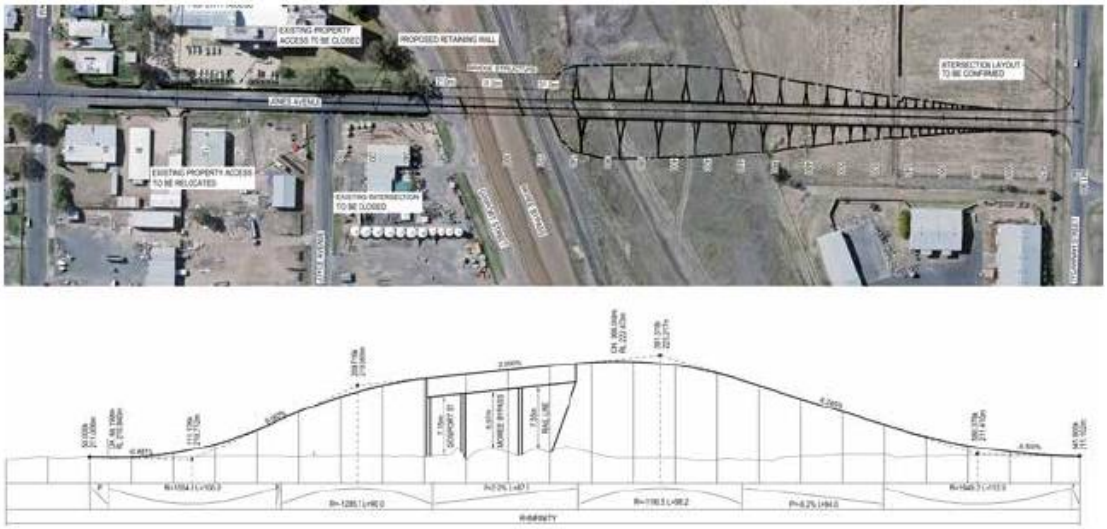

Figure 1b – Jones Avenue Concept

Connectivity would provide, in particular, for emergency services and heavy vehicles, up to B Triples, if lengthy blockages to the level crossings occurred. In general terms the bridge would be limited to light vehicles except in emergency events.

Pedestrian and cycle connectivity across the bridge was also proposed given historical informal pedestrian connections between East Moree in the vicinity of the Moree Artesian Aquatic Centre.

Subsequent to the publishing of the EIS, which took into account the concerns expressed by Council leading to the proposed Jones Avenue overpass provision, Council completed a transport and economic study leading to the business case for the Moree Intermodal Park and associated connecting infrastructure. This study determined that an overpass just north of Halls Creek, as part of an east-west connector from the Gwydir Highway to both existing and future greenfield intermodal sites was the optimum physical infrastructure to support intermodal development (see Figure 2).

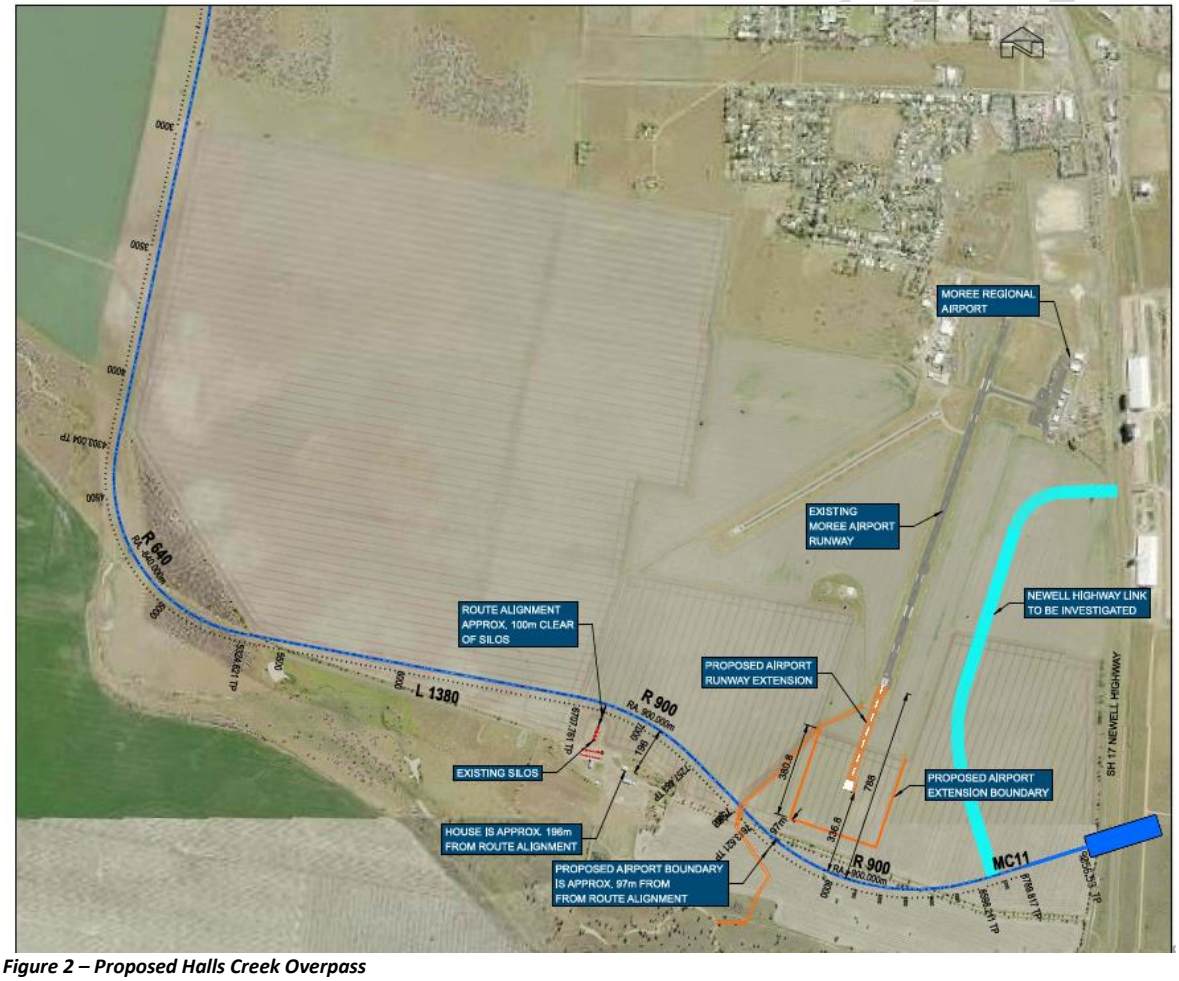

Figure 2 – Proposed Halls Creek Overpass

On this basis, Council formed the view that expenditure on an overpass would be better directed to facilitating the proposed Moree Intermodal Park as well as an improved logistics chain for the existing grain operators. The economic benefit of the proposed Moree Intermodal Park and associated infrastructure is significant with an overall benefit cost ratio of 2.63:1. This infrastructure includes the southern overpass.

From a practical perspective, there are limits to the ARTC budget to implement associated infrastructure, even though the freight overpass is a legitimate consequence of the Inland Rail project given the increased rail traffic that would utilise the line with the subsequent interference to East West truck movements in particular during the harvest season. This issue is exacerbated by the close proximity of the Newell Highway to the railway corridor which significantly impacts on queueing opportunities. Disruption to North – South the traffic on the Newell Highway is considered to be a potential concern.

Working within the existing ARTC budget envelope meant that the provision of the freight overpass would need to come by way of a reallocation of resources from the planned Jones Avenue overpass.

In addition, concerns had developed through the process of detailed design regarding safety and security issues associated with the Jones Avenue overpass including rockthrowing, the practical difficulties of meeting DDA legislation, potential pedestrian entrapment, "rat – running" by heavy vehicles.

On the basis of these initial assessments, ARTC has agreed to facilitate the southern bridge in preference to Jones Avenue. At this time, ARTC has a preference for this to be by way of providing funds to Council to construct as part of the East-West connector. Council's preferred position is that the overpass construction should be seen as an integral part of the ARTC project and be considered as a variation to the project rather than part of the East West connector.

Additional assessment is required of the proposed reallocation of resources in particular to express issues raised by ARTC and the DPE. The principal concerns are:

- Impact of removing the Jones Avenue overpass on severance effects due to the Inland rail corridor passing through the Moree urban area
- Impact on emergency response times to the East Moree Area from emergency responder organisations west of the road/rail corridor
- Economic costs and benefits
- Potential for a "stranded asset" to occur

In addition to these principal concerns there are a range of other factors which need to be considered in terms of the proposed alteration to the Inland Rail project. These include:

- Changes to traffic flow
- Land ownership
- Flora and fauna assessment
- Impacts on Landholders
- Noise
- Visual impact
- Impacts on Moree Township
- Aboriginal and European heritage assessment

The identified factors and issues are addressed in the environmental assessment portion of this report.

4.4 FEASIBLE ALTERNATIVES

Consideration was given to utilising the Jones Avenue overpass and the existing road network within Moree Township as the primary access pathway from the western portions of the Shire through to existing and proposed Intermodal facilities. This would, however, result in the exacerbation of number of existing impacts together with the introduction of additional impacts.

Moree experiences significant impacts from heavy vehicles traversing the local network. This includes the portions of the Gwydir Highway within Moree Township together with the wide vehicle bypass route of Edward Street and Jones Avenue which currently provides connectivity between the Gwydir Highway and the Newell Highway via Frome Street. The current state Highway and heavy vehicle routes pass two schools and also a number of other sensitive land uses. These include an aged person's village/nursing home together with two churches, a range of community and social services as well as commercial and recreational uses attracting high pedestrian volumes. Impacts include safety issues in particular given the use of the route by road trains, together with community issues including noise as well as impacts from diesel particulates and the like.

An additional issue is the severance effect caused by the Edward Street/Jones Avenue route. Although designated as a wide vehicle bypass it also attract significant heavy vehicle traffic travelling between the Gwydir Highway west of Moree to the Newell Highway south of Moree. An increase in heavy vehicle traffic would lead to a higher degree of social isolation of the south-west portion of Moree. This area has significant social challenges and there is a strong community perception that the area is not well integrated into the overall Moree township.

The proposed Jones Avenue overpass would exacerbate each of these problems due to the significant increase in truck traffic that would occur through Moree. It would be virtually impossible to practically exclude heavy vehicles from the proposed overpass structure irrespective of the weight limit noting the existing issues with Edward Street and Jones Avenue.

Unless the proposed Jones Avenue overpass were strictly limited to pedestrian and cycle activity excepting in the case of a situation where both the Alice Street and Bullus Drive level crossings were simultaneously blocked, there would be an ongoing issue of enforcement.

Restricting heavy vehicle movements in this way would mean that a very significant expenditure would be made for what, essentially, would be a pedestrian and cyclist facility with occasional emergency usage.

Moree Plains Shire Council undertook a major transport and Intermodal review from late 2016 – in 2017. Consisting of a series of connected studies, options were considered for improving the intermodal facilities in Moree. A number of improvements were identified for existing facilities however there was also a strong business case for a new greenfield intermodal site that would take advantage of the recently refurbished section of the Moree – Inverell railway line.

Following the identification of a preferred greenfield site, which occurred through a multi-criteria analysis, (Appendix A1) a similar analysis was performed in terms of assessing the most appropriate road access to the facility. Eleven options were refined down to a shortlist which again was subject to a multi-criteria analysis (See Appendix A2. An East West connector south of

Moree Township connecting the Gwydir Highway to a proposed North – South Link to the east of the current Highway/Inland rail corridor was considered the preferred option.

This option would optimise connectivity to both the existing intermodal facilities and the proposed greenfield site in particular given that some 70% of agricultural produce is produced west of the Newell Highway corridor with all the intermodal facilities within the Shire being on the eastern side of the corridor. An essential component was the provision of a freight overpass just north of Halls Creek which would carry the proposed East West connector across the road/rail corridor. An overpass is necessary because of the need to avoid additional level crossing facilities along the Inland rail corridor.

Essentially there is no feasible alternative to achieving the benefits of the greenfield intermodal facility without a freight overpass of the Newell Highway corridor. This is not able to be provided via the proposed Jones Avenue facility and accordingly relocation of that facility, to ensure that the overall ARTC project remains within budget, was the only feasible option.

4.5 SEARS

No SEARS have yet been issued for any modification to the consent. The issue of SEARS for a project amendment is dependent on the ultimate approval pathway for the proposed southern overpass. For reference purposes, the SEARS issued for the Narrabri to North Star component of the Inland Rail project are provided at Appendix B.

Relevant SEARS have been adopted for the purposes of this report together with other relevant impacts.

5. PROJECT DESCRIPTION

5.1 PROJECT SUMMARY

The project involves moving the proposed Jones Avenue Moree overpass to a location just north of Halls Creek, south of Moree. The existing and proposed sites are shown on Figures 1a and 2.

5.2 PURPOSE OF THE PROJECT

The current Jones Avenue overpass proposal is designed to enhance connectivity between East and West Moree noting that with increased train volumes there would be an increase in the times of closure of the existing level crossings. Further, the project is designed to facilitate pedestrian movements along a traditional informal (though illegal) movement path that traverses both the road and rail corridor. In addition, the overpass is designed to accommodate both emergency and heavy vehicles where level crossing access is not available.

The proposed relocation of the overpass would serve a different function. The relocated overpass would cater for freight movements across the Newell Highway/Inland Rail corridor, in particular accessing existing intermodal sites and a proposed greenfield intermodal site. In addition to providing for the first stage of an urban bypass of Moree (the East – West Connector) the revised overpass would also address queueing issues associated with traffic movements across the Newell Highway in particular during harvest period. The project would also provide an effective "Gateway" to the southern edge of the Moree township.

5.3 DETAILED PROJECT DESCRIPTION

The project consists of an overpass structure which crosses the Newell Highway, the Inland rail corridor, and a proposed North – South Link which is an upgrade of the current unsealed Bullus Drive connecting the industrial area of Moree to the rural industries agglomeration south of the village of Gwydirville. By providing connectivity to the North – South Link the project facilitates efficient access to all existing intermodal facilities, with the exception of Broadbent Grains, which is located on the Gwydir Highway east of Moree Township.

Broadbent Grains would still be serviced by the proposed overpass which would provide for traffic flows northwards via Tycannah Street to the Gwydir Highway and thence to Eastwards to the Broadbent facility. Traffic from the north travelling down the Newell Highway would also utilise the Gwydir Highway to access Broadbent grains.

Other intermodal facilities further to the south would be accessed from the Newell Highway via a new all movements intersection with the Newell Highway located north of the proposed overpass location and south of the connection to the Moree Regional Airport. This would be connected by a link road through the southern Gateway development site to connect with the East West Connector.

The East West Connector is the first stage of a full southern bypass of the urban area of Moree and in its initial phases would remove the majority of heavy vehicle traffic from the Moree urban

area. It is intended to replace the existing Gwydir Highway and ultimately to connect to the Gwydir Highway east of Moree around the periphery of the preferred greenfield intermodal site.

The overall configuration is shown on the Moree Transport and Intermodal Masterplan, Figure 3. Consideration is also being given to the potential for Moree to be declared a Special Activation Precinct. A preliminary diagram outlining the potential boundaries of a Special Activation Precinct is also set out in Figure 3. This incorporates existing industrial areas, existing intermodal facilities, the airport precinct, the Gateway precinct, and the proposed greenfield intermodal site.

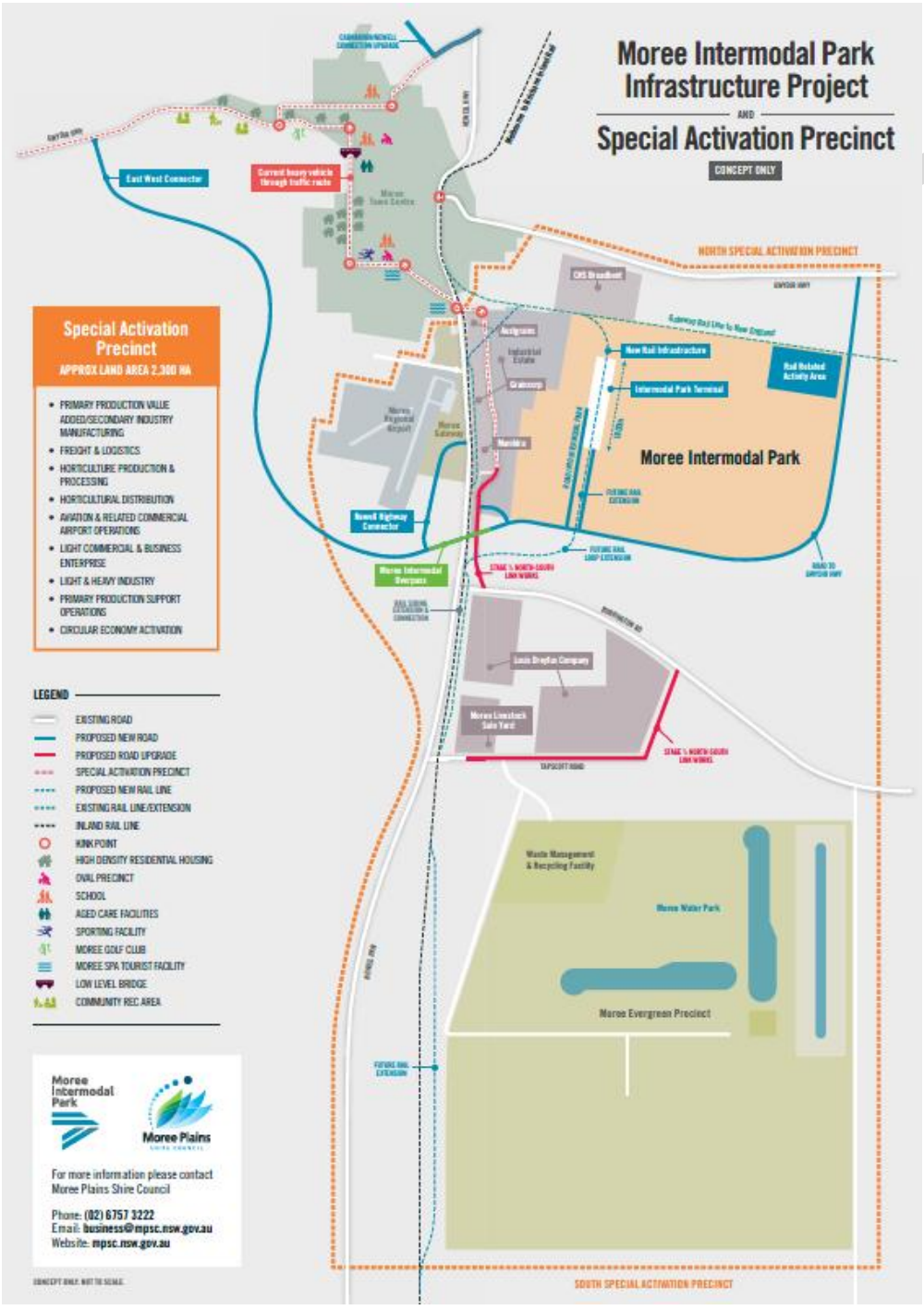

Figure 3 – Moree Intermodal Park Masterplan and possible Special Activation Precinct

The East West Connector and the proposed overpass structure would be constructed to RMS standards for a state highway. The proposed operating speed for the majority of the Connector would be 100 km/h with a 90 km/h operating speed for the overpass structure. In this respect the connections to the North – South Link and the Newell Highway make a lower speed environment more appropriate. Connectivity east of the Newell Highway back to the Gwydir Highway would be a 100 km/h operating speed environment.

6. STRATEGIC AND STATUTORY CONTENT

6.1 AGRICULTURAL CONTEXT OF MOREE

6.1.1 Key Elements of Production

Moree Plains Shire is located 640km northwest of Sydney and 473km southwest of Brisbane, in the broader New England North West region (for regional planning purposes). The Shire has a population of 13,159 (2016), with 21.6% of those residents being Indigenous.

Moree, with a population of 9,311, is Moree Plains Shire's largest centre and currently has a generally stable population. Other towns and villages in the Shire include Ashley, Biniguy, Boggabilla, Boomi, Bullarah, Garah, Gurley, Mungindi, Pallamallawa, Terry Hie Hie and Weemelah. Aboriginal communities managed by Local Aboriginal Land Councils are located at Toomelah, near Boggabilla, and at Mehi Crescent and Stanley Village in Moree.

In contrast to much of inland Australia, Moree Plains Shire has an abundant water supply. The area overlies a portion of the Great Artesian Basin and has access to extensive artesian and sub-artesian underground water resources. Surface water, flowing from the tableland region of northern New South Wales into the extensive inland river system crossing the plains, is also in good supply with the Mehi, Gwydir, Barwon and Macintyre Rivers all flowing through the Shire.

In addition, the Shire benefits from a temperate to warm-temperate climate, with average temperatures ranging from 4 - 19˚C in winter through to 18 –33˚C in Summer.

The climate, fertile soils and abundance of fresh water makes the Shire a major agricultural centre, and this is reflected in the dominance of agricultural and supporting industries contribution to the area's Gross Domestic Product of more than $950M per annum (2011). The Shire is the most agriculturally productive local government area in Australia, and the most notable agricultural producing local government area in the New England Northwest Region.

In 2011, Moree Plains Shire contributed 62.4% (or 220,000 tonnes) of the total cotton output for the New England Northwest region. Assuming equal distributions of volumes, this would have equated to approximately 20% of the nation's total cotton production.

In addition to the significant volumes of cotton produced in Moree Plains, the Shire was also responsible for 59% (or 972,000 tonnes) of the New England North West region's total wheat production in 2011. Assuming equal distributions of volumes in 2016, this would have equated to approximately 3.8% of the nation's total wheat production in 2016.

Approximately 60% of the Broadacre crops (including wheat) leave the New England Northwest region without further value adding or processing. Processing of the remaining grain crop mainly occurs in Tamworth, Glen Innes and Gunnedah, requiring significant road transport. In the 2005/06 year, it was estimated that the Northern Plains area (which include Moree and Narrabri) contributed 1.66 million tonnes of road freight volume from grain alone. This roughly equated to 364 heavy vehicle trips per day. In terms of broadacre crop tonnage and value Moree Plains is the most productive Shire along the Inland Rail route.

It is this overall strategic agricultural context which highlights the critical importance of improvements to the transport logistics chain from farm gate to port. The Moree Intermodal Park and associated transport and other infrastructure is designed to achieve these economic benefits and the proposed southern overpass near Halls Creek is a key element of that supporting infrastructure.

Appendix C contains the current business case for the Moree Intermodal Park and associated infrastructure which contains additional information regarding the agricultural role of the Moree district.

6.1.2 Transport Background

6.1.2.1 Road

The primary road transport routes are the Newell Highway, which connects Victoria with Queensland, and the Gwydir Highway, which connects the east coast with western New South Wales. The Carnarvon Highway provides an important secondary link to the north-west into southern Queensland. NSW Country Rail trains, regular RTP air services from QantasLink servicing Sydney and major coach lines provide transport for passengers to regional and Queensland destinations. Rail services also provide services for the transport of bulk agricultural produce (largely seasonal).

Currently, most grain produced in Moree Plains Shire is transported to Brisbane Port by road. Bulk grains are also transported by rail to the Port of Newcastle, however, train lengths, speeds and axle loads are significantly limited by existing infrastructure.

While road transport dominates the freight task for cotton produced in Moree, this is not the case in Narrabri, where most cotton is transported by rail. This indicates that with fit for purpose facilities and reliable rail services, the freight task from Moree would shift from road to rail if financially viable and reliability of service can be guaranteed.

6.1.2.2 Rail

Existing rail connections in New South Wales are shown in Figure 4 over. The existing rail facilities from Moree to Narrabri are restricted and can currently generally only accommodate 800m trains carrying a total of 2,300 tonnes of grain. The development of the Inland Rail route includes an upgrade of the Narrabri to North Star rail section (which passes through Moree) which will see the capacity of this line increased to 1800m trains (over time), or 7700 tonnes of grain. 1200m trains would be facilitated into the Port of Newcastle in the short-term noting that ARTC and Country Rail evaluation has demonstrated that significant improvement to the effective length of passing loops is readily able to be achieved.

Figure 4 – North-East NSW existing railway network

6.1.2.3 Relationship to Inland Rail

Inland Rail is a catalyst project for Moree, while increasing the rate of growth of the agricultural sector. As the most productive agricultural Shire in Australia, and as a key transport junction of road and rail, Moree is well-positioned to be the transport and logistics hub of North West NSW.

Moree envisages a future encompassing the import and distribution of goods as well as the export of both bulk and containerised commodities. Moree is looking to expand manufacturing associated with the agricultural sector (a major fertiliser plant is under development in Moree) as well as significant secondary processing of existing agricultural products, in particular from the horticultural sectors.

Assessments of the level of on-site storage within the Moree Plains Shire, developed for the transport study underpinning this report, demonstrate that farmers have already made significant investments in on-farm storage. This is to enable better ability to manage the timing of supply to maximise profits and to ensure the ability to keep up with recent modern high speed harvesters.

Approximately 1 million tonnes of storage was recorded as existing on farms within the Moree Plains Shire, with informed estimates suggesting this amount is probably in the order of 1.2 million tonnes. Compared to Council's survey of five years ago, this demonstrates an increase of approximately 60% of on-farm storage. Results of a Delphi Study conducted for the transport project indicated that further significant increases in on-farm storage will occur. This is particularly significant as on-farm storage now potentially exceeds the quantity of grain harvested in a given year and all of this grain is currently moved by road. Windows of opportunity, including high overseas prices coinciding with harvest period, will substantially increase the volumes of grain requiring shipment.

Existing grain handlers currently compete for the grain that is transported by rail annually (typically to the Port of Newcastle). The remainder of the grain is transported by road to Brisbane. Rail facilities at the existing grain handler sites are generally constrained by:

- Siding lengths of approximately 700m
- Use of the existing main line to facilitate loading
- Private ownership and proximity to other grain handling facilities which constrains the ability to expand the existing infrastructure to accommodate 1800m trains
- Potential need to duplicate investment in rail to fully take advantage of Inland Rail, when this investment could be more effectively achieved by developing a larger common user facility.

Single round Delphi modelling, which included responses from 43 key recipients from the Shire, was carried out to identify the future strategic need of any potential intermodal facility or road network. That modelling indicated a strong expectation that:

- Commodity production will increase by 30% by 2040
- Changes in water availability may impact the amount of cotton grown (which will be replaced with more drought tolerant crops)
- More product will be containerised
- Local processing and value adding will increase
- On-farm storage will increase
- Logistics chain costs including unloading trucks, and loading costs to rail will increase.

The potential change in commodities, combined with an increase in the amount of product that is containerised and produced within the region, is likely to give rise to an increased need for increased freight throughput and more efficient logistic chains and supporting infrastructure.

Without significant development of facilities, it is unlikely that the region will be able to take full advantage of any of the economic benefits associated with the development of the Inland Rail

route. That development includes the grade separated overpass of the Newell Highway north of Halls Creek that is the subject of this report.

6.2 POLICY CONTEXT

The proposed Halls Creek Overpass has strong alignment with the twenty-year vision for regional NSW developed by the NSW State government. The Moree Intermodal Park Business Case (Appendix C) sets out the overall alignment of that project with federal, state and regional policy.

In summary, the Halls Creek overpass component of the project is a key element in delivering the policy outcomes sought which include:

- Improved amenity for regional communities
- Improved supply chain performance, particularly for freight
- A shift from road to rail for freight
- Providing opportunities for economic development within regional areas
- Supporting existing key economic sectors.

6.3 STATUTORY CONTEXT

6.3.1 Introduction

The Inland Rail Project consists of a number of stages between Melbourne and Brisbane. Passing through the western sectors of NSW, the project is State Significant Development. Of specific relevance to Moree is the Narrabri to North Star section which traverses the majority of the Shire and which utilises the existing rail alignment through the town of Moree.

6.3.2 Project details

The Narrabri to North Star component is State Significant Infrastructure (rail transport facilities) Application Number SSI-7474. Details are available on the NSW Department of Planning and Environment Major Projects Portal:

https://www.planningportal.nsw.gov.au/major-projects/project/10466

The project has not yet commenced formal assessment, as of the date of this report, but is in the stage of response to submissions.

There are three key statutory options for assessing the variation.

6.3.3 Amendment of the existing application

Under this scenario a supplementary EIS would be produced for the project and the variation exhibited prior to determination. Exhibition pathways and public engagement would need to be similar to the processes undertaken with the original application given the level of change proposed. This approach would have potential risks for project delay and is not supported.

6.3.4 Amendment of consent as issued

Under this scenario a similar process would apply to amendment of the existing application, however it would not delay implementation of the existing application but could occur as a parallel process. ARTC, as the proponent, would need to ensure that their project implementation provided for the variation. This is feasible, as the existing Jones Avenue Overpass can be considered as an "stand-alone" element in the project. This would also be the case with the relocation.

This scenario is preferred as the overpass is considered an essential component of the base ARTC Inland rail project. In this regard, it is the Inland rail upgrade itself which generates the need for the overpass to facilitate freight movements, due to the increased volume and length of rail traffic that would utilise the line, in particular during harvest periods.

6.3.5 Inclusion of the overpass as part of the East West connector

The overpass could be considered as part of the East West Connector. This would be subject to its own statutory approval processes. In this regard under the SEPP (Infrastructure) 2007, development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf the public authority without consent on any land. Accordingly, the East West Connector would fall under the provisions of Part 5 of the EP & A Act and would require a full review of environmental factors. It should be noted that this approval pathway would not obviate the need for modification of the application or consent for the Inland Rail project. In practice, therefore, it is considered preferable for the bridge element to be addressed as part of the modification of the Inland Rail application or consent. This would ensure that there was a consistency in the approval regime between the existing proposal for Jones Avenue and the relocated overpass proposal.

7. ENVIRONMENTAL IMPACT ASSESSMENT

7.1 SEVERANCE EFFECTS

A key issue is the impact of removing the Jones Avenue overpass on the severance effects due to the Inland rail corridor passing through the Moree urban area.

7.1.1 Base Case

The base case is the current existence of a rail corridor which adjoins the recently constructed Moree Bypass, a component of the Newell Highway. Together this road/rail corridor already provides a significant severance effect on the town of Moree. Legal road crossing points occur at Alice Street (Gwydir Highway) and at Bullus Drive, approximately 1.5 km to the south. Legal pedestrian crossing points occur at Alice Street and at the Moree railway station which is located immediately to the south of the Alice Street crossing.

Informal pedestrian movement paths occur across the road/rail corridor from East Moree to various destinations on the western side of the road/rail corridor. These movement paths are shown on Figure 5.

Figure 5 – Informal movement paths

7.1.2 Impacts of Inland Rail

The Inland Rail project would not alter the current legal road rail crossing points. It would, however, prevent the current informal but illegal pedestrian movement paths across the road/rail

corridor. Additional impacts of Inland Rail would be an increased frequency of train movement together with longer trains. The current ARTC service offer looks to some forty trains per day, of 1.8 km in length. These would operate within an 80 km/h speed environment. This frequency and length of trains is likely to only develop after some seven – ten years of operation of the Inland Rail project due to the need to resolve access issues to the Port of Brisbane. In this regards, inwards from Acacia Ridge the current rail network caters for urban rail traffic. Separation of the Inland Rail operation from the urban rail traffic would be required to facilitate the full service offer.

Level crossing closure times would increase both in length of time and the number of times per day. Closure times are estimated at two minutes forty seconds with up to 40 closures per day occurring. The Alice Street level crossing operates in conjunction with a set of traffic lights which manage the intersection of the Gwydir and Newell highways. Coordination between the traffic lights and the level crossing currently occurs.

7.1.3 The Jones Avenue overpass proposal

The Jones Avenue overpass proposal is intended to address three issues. The first is to provide an alternative path, particularly for emergency vehicles, at times when the level crossing is closed due to train movements. The second is to provide a third pedestrian and cycle access path that facilitates movements along the current informal movement paths while the third issue is to cater for a situation where a crash at one of the current level crossings blocks both crossings due to the length of the trains being utilised. These three issues are addressed below.

7.1.3.1 Emergency Response Times

Changes due to increased length and frequency of trains

A review of the changes to emergency response times was undertaken to assess the impacts of the increased length and frequency of trains, and also to address the situation where both level crossings may be rendered unusable by a crash.

A spreadsheet model was constructed including all relevant road links to determine existing response times from the key emergency services of Police, Fire and Rescue and Ambulance. Response times were to the centroid of the East Moree area which was considered to be a representative destination for the purposes of the modelling. The model includes time allowances for intersections and level crossing closures, and has been verified by actual driving times. Outputs of the spreadsheet model are presented in Appendix D.

The Inland Rail project would have negligible impact on closure times associated with the Alice Street level crossing in large part due to the current traffic light cycle with the Newell Highway. Closure times on Bullus Drive would increase due to the longer trains involved. Frequency of closure would obviously increase. Assuming trains at 1800m, and 80km/hr plus 20 seconds before and 5 seconds after each train, the total “closed” time per train would be approximately 1 minute and 50 seconds. Modern train management systems mean that actual train times would be available to emergency services, which would allow the optimum crossing point to be selected based on train timing.

Typical response times for other regional towns were assessed from the location of the Fire and Rescue facility in that town to the edge of the urban area. This is similar to the situation in Moree. Times were assessed using Google Maps and the results for Armidale, Narrabri and Tamworth are presented in Figures 6a, 6b and 6c below. As indicated, typical response time from origin to destination (not including time to crew vehicles) is in the order of ten minutes. This time is longer than the times for Moree based on additional length of level crossing closure time associated with Inland rail. This indicates that even with Inland rail operating at its defined service offer response times are still within acceptable limits.

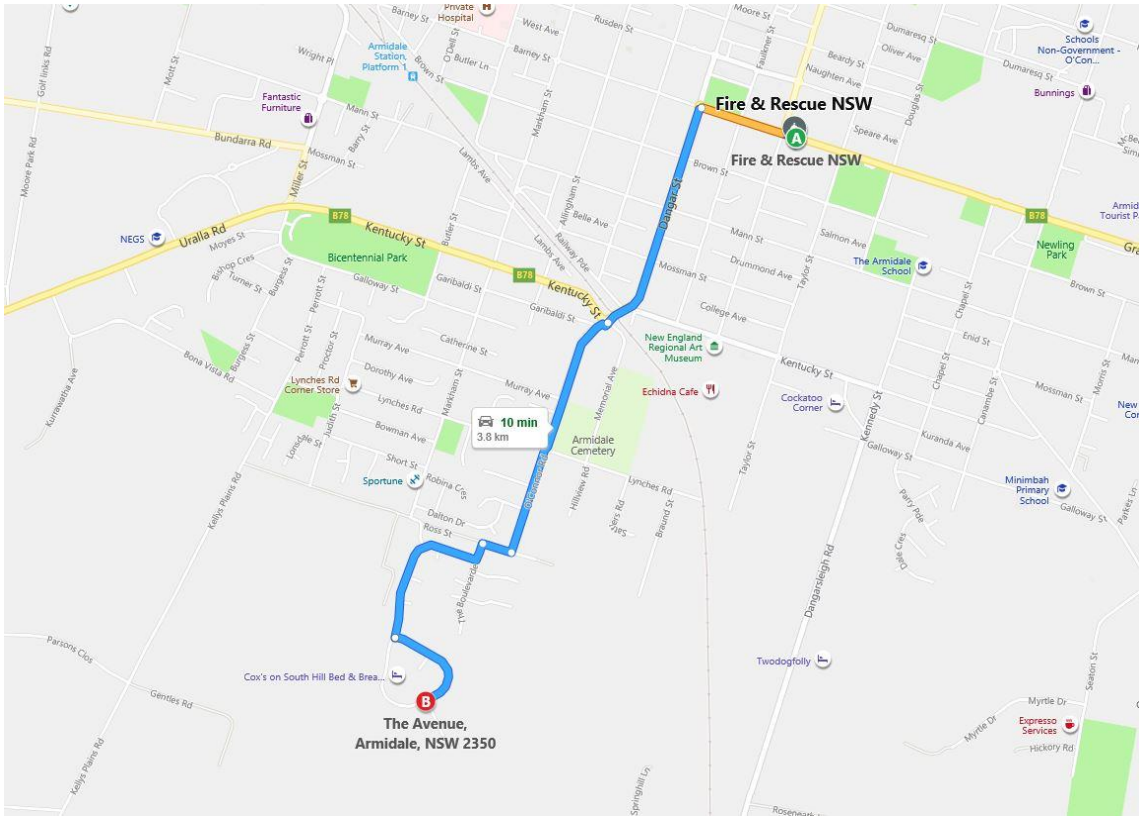

Figure 6a – Time to urban edge – Armidale

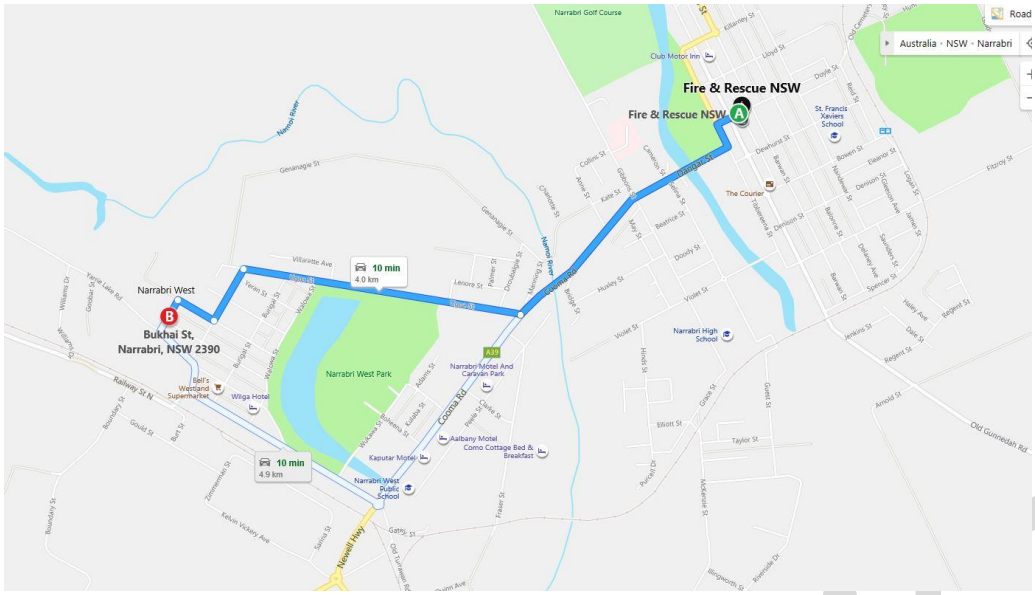

Figure 6b –Time to Urban Edge – Narrabri

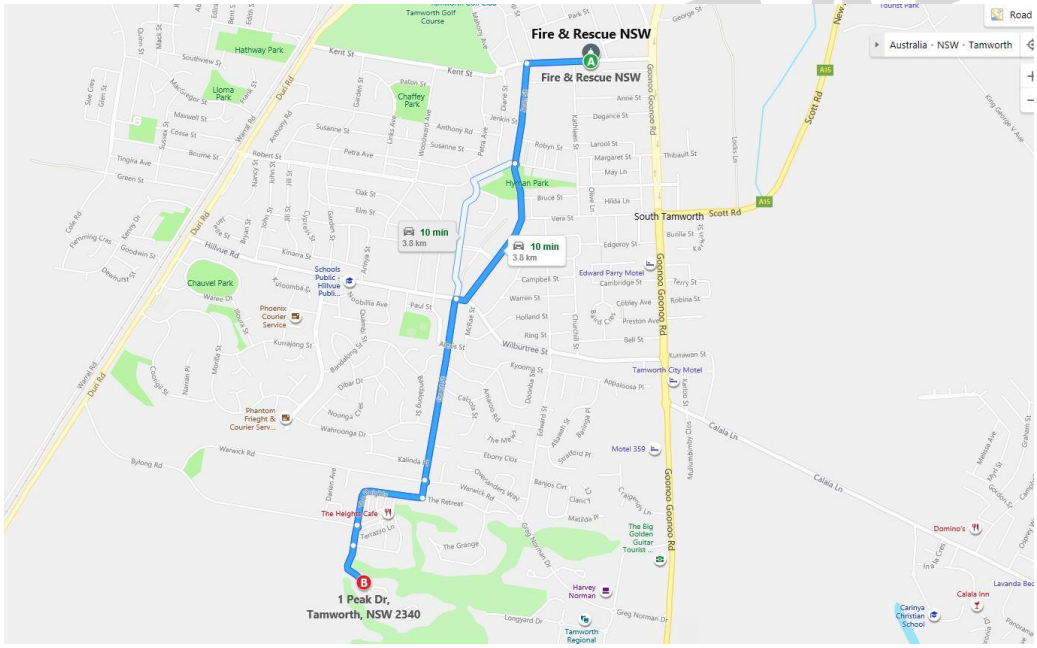

Figure 6c – Time to urban edge – Tamworth

Changes due to potential closure of both crossings simultaneously

In addition, a risk assessment (probability study) has been undertaken to determine the likelihood of both level crossings being blocked simultaneously based on the ARTC service model of 40 trains per day at 1800 m in length. It is noted that the distance between the two level crossings is approximately 1500 m. Potential blocking of both level crossings could only occur if a northbound train has crash at the Gwydir Highway (Alice Street) level crossing or, alternatively, a southbound train has crash at the Bullus Drive crossing. ARTC is not expected to achieve the service model train frequency and length for approximately 7-10 years. There is, however, expected to be a growth in trains longer than the current typical 600m-700m associated with the Intermodal Project south-east of Moree. This would not affect the Alice Street crossing.

Both Alice Street and Bullus Drive crossings are protected by boom gates and are therefore significantly lower risk in terms of crashes. Based on existing records, there has only been one incident involving a level crossing in the Moree area in the past 8 years that involved a collision with a road vehicle, and that was at a crossing unprotected by boom gates[1].

Looking more generally at statistical analysis on crash risk[2], heavy vehicles are over-represented in crashes at level crossings. The proposed southern overpass would very substantially reduce heavy vehicle usage of existing level crossings, most particularly during harvest periods. Overall, approximately 25% of crashes involve boom gated crossings, noting that this type of crossing has the lowest crash occurrence for heavy vehicles. There are some 800 boom gate crossings in Australia[3] with boom gate crashes occurring at the rate of approximately 1.1 crashes per 1,000,000 trains. Translated to the Moree situation, using national average vehicle volumes for boom gated crossing (remembering this also includes a high number of high volume urban crossings) this translates into 1 crash every 68.5 years. Adjusted for traffic volumes in Moree, the rate drops to a much lower level due to the very high volumes in urban areas (typically between 30,000 and 100,000 vehicles per day)[4] . In addition, the Alice Street crossing is coordinated with the Newell Highway/Alice Street traffic lights, which further significantly reduces crash likelihood.

In practice the chance of a double blockage situation occurring is minimal. This scenario was, however, addressed utilising the spreadsheet model. This included modelling the response times by the proposed Halls Creek overpass instead of the proposed Jones Avenue overpass. When compared with transit times to the periphery of the urban area in Armidale, Narrabri and Tamworth times are still acceptable. One issue, however, is manning of emergency vehicles which is specifically relevant to Fire and Rescue. In this regard, some staff would need to travel from East Moree to the Fire and Rescue base prior to the Fire and Rescue service responding to an incident. Noting the availability of the southern overpass, overall response times are still considered acceptable noting that journey times would still be comparable with other regional towns.

7.1.3.2 Informal Movement Paths

Consultation was undertaken with the residents of East Moree through an “yarn up” held near the Moree railway station on Wednesday, 26 June 2019. This had been advertised through social media and through a letterbox drop the previous week. The purpose of this meeting was to provide an overview of transport infrastructure changes and future pedestrian access options across the railway line and Newell Highway in Moree. Community input was sought on pedestrian access matters relevant to this area. As part of the information provided, a draft was provided to the community of proposed upgrades to pedestrian routes within East Moree. The majority of these would be shareways providing for both bicycle and pedestrian movements. This is discussed further under mitigation.

[1] ARTC data
[2] Transport Safety Bulletin – Issue 2 – Level Crossing Accidents in Australia 2012
[3] Meiers, Guo and Levasseur, 2012, Crossing, vehicle and environmental characteristics influence on crash likelihood in Australia and New Zealand
[4] Report – Red Light Infringements at Level Crossings MRWA 2006

During the letterbox drop the following issues from east Moree residents were noted. These issues were therefore addressed as part of the "yarn up".

- Safety for children crossing
- The 'Murri' access point past Dingwall Place (informal crossing points)
- Issues with motorbikes using the mounds already in place
- When houses are burnt these are new 'tracks' for people to start using – not knowing potential dangers in the long grasses
- Noise levels already heard as most said they have heard the trains late at night and some are aware that its heavy machinery or other
- Is there really an opportunity for the community to have a say in what is happening?

The meeting on Wednesday 26 June 2019 was attended by 19 residents. Council was represented by Laura Colley, Roslyn Laws, Renee McMillan and Murray Amos.

The discussions with residents indicated the following:

- **Access locations** - The road and rail crossing located at the Moree Railway Station should be the primary crossing linking east and west. The Alice St crossing also important. Consideration should be given to pedestrian access options from Jones Avenue.
- **&Pedestrian overpass** - pedestrian overpass should be constructed for pedestrians at the Moree Railway Station crossing.
- **Vehicle crossings** - Council staff advised that the proposed vehicle crossing at Jones Avenue was to be relocated to south of the Moree airport. No residents raised concerns about this.
- **Morton Street** noise mound - The noise mound adjacent to Morton St is not supported by Morton St residents due to issues with bikes, kids traversing the mound and hiding etc. This issue is relevant to how noise control measures would be implemented as part of the core Inland rail project.
- **Employment** - Inland rail and related employment opportunities were seen as a positive opportunity.
- **Shared pathways** - Positive feedback was received in relation to the proposed installation of shared pathways along Robinson Road, Adelaide Street and Morton Streets as documented on the map distributed.
- **Emergency vehicle access** - An alternative for emergency vehicles could be under Greg Jones Bridge (see Figure 7). This would be dependent on vehicle height but police and ambulance should be able to pass beneath this bride and potentially the RFS could cover fire emergency should an incident occur that blocks both Alice Street and Bullus Drive.

- **Future meeting** - the local Aboriginal Elders would like to combine and have one big meeting with both Inland Rail and Council in the near future. Discussion points could include Aboriginal employment, safety strategies and noise levels.

In summary, local residents did not express significant concern regarding the southward relocation of the Jones Avenue overpass although a view was expressed that the current informal movement path should be supported. This needs to be balanced against the potential for upgrades to the existing legal pedestrian crossing points which are proposed as part of the Inland Rail project and the ability to facilitate improved usage of those crossing points through the urban design measures. While a pedestrian overpass at Moree railway station could potentially be provided, there are significant issues around infrastructure maintenance, in particular lift access, and also the overall height of the structure in terms of stair access. Train volumes would be very significantly less than controlled pedestrian at-grade crossing points within metropolitan areas and accordingly this option is not considered necessary to achieve appropriate safety levels.

In general, the Inland Rail project was seen as a positive in economic and employment terms noting appropriate mitigation measures would be required to address noise issues.

A further issue that should be noted is current community concern regarding bus access by school children once they reach high school. This is calculated on a direct line basis rather than the most direct practical walking route. This means that once children reach high school, school bus access is unavailable or many within East Moree. This issue is discussed further under mitigation.

7.2 ECONOMIC COSTS AND BENEFITS

The overall economic costs and benefits of the proposed relocation of the overpass are set out in the Business Case brought forward to the NSW State Government as part of consideration of a Special Activation Precinct for Moree. This is included at Appendix C. The overall benefit cost ratio for the Intermodal Park and associated road infrastructure is 2.63:1. This strong positive figure compares to a situation where the Jones Avenue overpass has a very minor impact on transit times which would need to be offset against the impacts of additional heavy vehicle traffic on the Moree township generated by the overall project.

In summary, the major driver for the overpass relocation is the considerable economic benefit that would derive to the Northwest region in general as well as Moree township in particular.

7.3 CHANGES TO TRAFFIC FLOW

Changes to traffic flow were reviewed. This includes changes associated with implementing the Jones Avenue proposal as compared to implementing the Halls Creek proposal. Both were compared against the current base case model including both average traffic volumes (a ATT) and also peak harvest flows. This assessment considered the situation where the Halls Creek overpass was constructed in the absence of a westward connection from the overpass to the Gwydir Highway west of Moree. This modelling was undertaken using the existing traffic model for Moree which was developed as part of the transport and Intermodal study package. The outcomes of this modelling indicated that the Jones Avenue overpass would provide slightly shorter travel times between East and West Moree, including to the industrial precinct.

The model indicated a slight increase in travel times if heavy vehicles were directed to the southern overpass rather than utilising level crossings in Moree township. These increases in travel times need to be considered against the following general benefits:

- Avoidance of vehicle queueing associated with movements across the Newell Highway, in particular given the restrictions on queueing opportunities associated with the existing level crossing at Bullus Drive due to the proximity of the Newell Highway and the rail corridor.

- A reduction in cross corridor movements across the Newell Highway and inland rail by heavy vehicles.

In summary, the Halls Creek overpass would perform a useful function even in the absence of the construction of the East West Connector, although construction of that road is necessary to achieve the full utilisation and economic benefits of the Halls Creek overpass.

Significant funding opportunities exist for this road element, even if funding for it is not included within current proposals for the Special Activation Precinct. Further, construction of the overpass asset would strengthen the case for funding of the East West Connector with the associated benefits to urban Moree of removal of heavy traffic and improved safety.

7.4 AGRICULTURAL LAND FRAGMENTATION

Of itself, the Halls Creek overpass proposal predominantly impacts on public lands including the Newell Highway corridor, the ARTC corridor and Crown lands further to the east. There are, however, impacts on private land to the west of the Newell Highway corridor. These include impacts associated with the footprint of the overpass structure itself, the link road to a new – movement intersection at the Newell Highway and the impacts of the East West Connector.

All private land impacts affect a single owner, Lawson Grains. Consultations have been undertaken with Lawson Grains who have indicated their primary areas of concern, while accepting that the project has a significant positive economic benefit for Moree Township and the region. Those concerns are:

- Impacts (in particular noise) on residential premises on the land;

- Paddock severance into shapes which are not optimised for the use of agricultural machinery

- Access across the proposed East West connector

A process has been agreed for minimising the impacts on Lawson Grains based on the preferences they have indicated. Conceptual design work has been undertaken by the MU group to review potential route options. This conceptual design work has been undertaken to the level that the road alignment has been refined to be consistent with RMS standards. The preferred route is shown in Figure 2.

A further relevant consideration in terms of impacts on Lawson Grains is the proposed southern extension of the Moree Regional Airport primary runway. This constrains the potential route

alignments through Lawson Grains land and would further disrupt agricultural operations in the eastern portion of their site. The total holdings of Lawson Grains are shown in Figure 7.

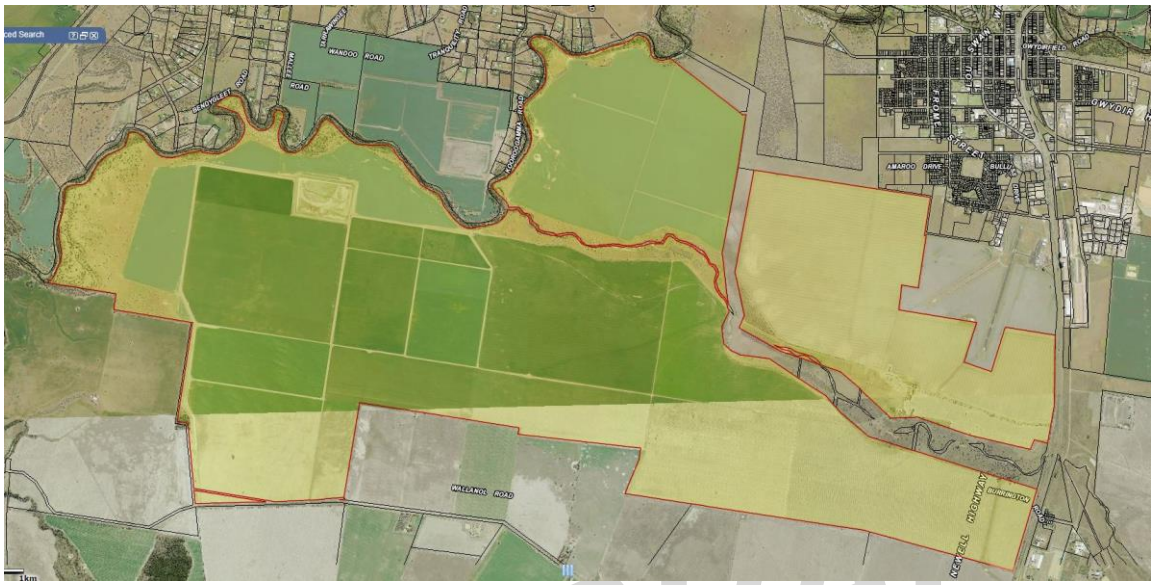

Figure 7 – Lawson Grains total holding

7.5 FLORA AND FAUNA ASSESSMENT

Flora and fauna assessment was undertaken by OzArk covering the route of the East West Connector, the area surrounding the proposed Halls Creek Overpass as well as the proposed North South Link to which it would connect east of the road/rail corridor. This report is included at Appendix E. The main issues arising relate to the East West Connector and its crossing of the Mehi River close to the Gwydir Highway connection. Refined route selection in this location mitigates the majority of the impacts noting that some impacts would inevitably occur in the riparian zone. These impacts would be addressed as part of approval processes for the East West Connector.

The location of the Halls Creek Overpass does not raise any concerns from a flora and fauna perspective. Route revision to the East West Connector west of the Mehi River would be necessary to minimise riparian impacts.

7.6 NOISE

The base case for noise is the anticipated noise footprint for the existing Jones Avenue overpass proposal. Significant mitigation measures would be required due to the elevated nature of this facility within an existing urban area. While surrounding land uses to the West are generally non—residential, there are residential uses adjoining the eastern footprint for the proposed overpass where it joins Tycannah Street.

By comparison, the Halls Creek overpass is not within close proximity of any existing residential areas and accordingly noise impacts associated with the overpass itself are not considered significant.

As part of detailed design acoustic modelling would be undertaken to verify this assumption and any necessary mitigation measures could be taken.

7.7 VISUAL IMPACT

The base case for visual impact is the impact of the proposed Jones Avenue overpass on the Township Moree. The overpass height is significant, requiring a 7.1 m air draft over the Inland rail component. In addition, during the process of design refinement, significant mitigation measures were identified to address potential antisocial issues including rock-Ethrowing and the like. These would require significant barrier structures (including, potentially, full caging) of the proposed overpass. Measures would also be necessary to address graffiti and other issues. The Jones Avenue overpass would have a substantial visual impact on that part of Moree with limited opportunities for mitigation of that impact.

By comparison, the Halls Creek overpass can form a positive visual element within a more rural landscape. In terms of overall height and scale, the overpass would not be incompatible with major silo complexes, cotton gins and the like in terms of overall visual presence. Additionally, however, the overpass could perform a Gateway function to the southern area of the Moree township; essentially defining the southern limits of development. Appropriate visual treatments would enhance this Gateway opportunity. The overpass would create a clear sense of arrival into Moree.

7.8 ABORIGINAL AND EUROPEAN HERITAGE ASSESSMENT

Aboriginal and European heritage was assessed simultaneously with the flora and fauna assessment and are included within the report at Appendix E. No issues were identified that would affect the Halls Creek overpass. Minor route refinement of the East West Connector west of the Mehi River would be required to address route proximity to scarred trees.

7.9 CONSTRUCTION IMPACTS

7.9.1 Soil and Water

The site drains naturally to Halls Creek. Standard methodologies for the management of erosion and sedimentation would be applied during construction as set out in protocols in the main ARTC EIS.

7.9.2 Noise and Vibration

The nearest sensitive receiver is approximately 635m from the eastern end of the bridge and embankment construction. NSW EPA Construction requirements would apply during the overpass construction period. Hammered piles would not be used, which would avoid significant vibration impacts. Protocols would be as set out in the main ARTC EIS

7.9.3 Traffic Management

Traffic management plans would follow the protocols set out in the main ARTC EIS.

8. MITIGATION MEASURES

A range of mitigation measures are available and proposed to address impacts associated with the following project impacts:

- Impact of removal of the Jones Avenue overpass on emergency service response times
- Impact of not providing an alternative pedestrian/cycle route from Tycannah Street to Jones Avenue
- Impacts on private landholders of the Halls Creek overpass
- Visual impacts of the Halls Creek overpass
- Construction impacts

These mitigation measures are set out below.

8.1.1 Emergency Response Times

The service most affected is Fire and Rescue due to the need to collect response crews at the existing base prior to responding to an event. Some of those crewmembers live in East Moree. It should be noted, however, that the Rural Fire Service has its headquarters east of the road/rail corridor.

There are opportunities, therefore, in the very unlikely instance of both level crossings being blocked simultaneously for the Rural Fire Service to provide an initial response within East Moree pending arrival of the Fire and Rescue Service.

There are precedents for arrangements for combined activity in responding to events which have been developed in other places, such as rural residential areas around Armidale. Appropriate administration arrangements would therefore be put in place.

8.1.2 Non—provision of grade separated pedestrian/cycle facility

Relocation of the Jones Avenue overpass would mean that facilitation of the current informal and illegal pedestrian movements would not occur. Based on resident consultation, the next best option is upgrading access to and the facilities associated with the Moree railway station. In the longer term, there may be justification for a pedestrian overpass facility at this location supported by lift access to meet access requirements for people with disabilities. If such justification is demonstrated, appropriate funding could be sought at that time towards such a facility.

In the short to medium term and before Inland Rail achieves its full service offer, other mitigation measures are available. In particular improvements to the pedestrian and cycle pathway network within East Moree could be implemented together with other elements such as seating, water points, and the provision of shade elements through treeplanting. The general community support for the first draft mitigation measures indicates that these can be further developed in

consultation with the local community and that they would offset many of the community's concerns.

In addition to seek a relaxation of the distance requirements associated with access to the school bus for high school students. Again, there are precedents for this occurring and this mitigation measure would substantially address community concerns regarding child safety crossing the road/rail corridor as part of journeys to school.

8.1.3 Impacts on private landholders

Significant impacts on Lawson Grains are inevitable and must be balanced against the overall economic benefits of the proposal. The primary mitigation measures relate to optimising route layout of the East West connector to minimise severance effects. Route selection would also reduce noise impacts on existing dwellings, and additional mitigation measures could be provided if needed as part of the detailed design process.

Noting the impacts on the eastern portion of Lawson Grains land, which, together with the runway extension would occupy some 3.5% of their holding, the preferred outcome would be acquisition of the eastern portion of the land is shown on Figure 8. This position would occur under the provisions of the Just Terms Acquisition Act and would take into account impacts on the overall agricultural operation as well as the value of the land resumed.

Figure 8 – Potential acquisition area of fragmented agricultural land

Indications from Lawson Grains are that they recognise some form of acquisition would be necessary and this would occur through a negotiated process.

8.1.4 Visual impacts of the Halls Creek overpass

The primary mitigation measure is to treat the overpass as a visually positive impact acknowledging its role as a gateway to Moree township. Mitigation measures would include keynote treeplanting adjoining the batters, together with visual treatments of the overpass services and highlight night time lighting.

In summary, mitigation measures are available to address the negative issues associated with the relocation of the overpass.

8.1.5 Construction Impacts

Mitigation measures would be adopted consistent with protocols in the ARTC EIS.

9. CONSULTATION

9.1 MOREE INTERMODAL PARK AND ASSOCIATED INFRASTRUCTURE

Consultation was undertaken with a range of groups and organisations in the development of the Moree Intermodal Park concept together with the associated infrastructure. The key consultations undertaken were:

9.1.1 Moree Intermodal Task force

The Moree Intermodal Task force is an open membership organisation that is open to any groups or organisations that have an interest in the logistics chain between farm gate and port. Members include:

- Commodity traders and intermodal facility operators at Moree
- Trucking industry - various local and regional operators
- Rail industry
- Port of Newcastle
- Producer organisations
- Moree Plains Shire Council
- Local Roads Advisory Group

This group was a key participant in workshops which undertook the multi-criteria analysis around the potential greenfield site for a new intermodal facility. They also participated in workshops that determined the preferred alignment for the East West Connector.

Key elements in terms of road transport related to the ability to "keep running" and also to avoid the slowness and complexity of urban environments. Additional travel distance and time web referenced over shorter more congested routes of a "stop start" nature. Avoidance of queueing at key level crossings and at traffic lights was also considered of high importance.

9.1.2 NSW Roads and Maritime Services

Consultations took place regarding the approach of the RMS to the concept of the southern bypass of Moree and this potentially becoming a State Highway. Additional detailed consultations took place in terms of the impacts of the Newell Highway pavement upgrade, which includes a proposal for an overtaking lane south of Moree finishing at Halls Creek. Discussions are currently in progress regarding a potential southwards movement of the 80 km/h speed zone and the provision of an additional full movements intersection south of the airport access road.

Based on these consultations it is considered that technical solutions exist that would achieve RMS objectives with respect to the Newell Highway as well as providing for the road

infrastructure to support the Moree Intermodal Park. These solutions would be further developed with RMS as the project moves into design phase.

9.1.3 Transport for NSW

Consultations have taken place directly with Transport for NSW around the overall strategic transport framework that has been developed.

Transport for NSW has indicated support for the overall project including the Jones Avenue overpass relocation.

9.1.4 Department of Premier and Cabinet

Consultations have taken place with the Department of Premier and Cabinet who were on the steering committee for the Moree Transport and Intermodal Study. The Department has subsequently provided advice regarding project development.

The Department of Premier and Cabinet as indicated support for the overall project, including the Jones Avenue overpass relocation.

9.1.5 Emergency Services

Consultations have been held with Police, Ambulance, Fire and Rescue and the Rural Fire Service.

While those services would have a clear preference for any infrastructure which would reduce response times, there is a general appreciation of the overall risk environment and the economic benefits to the region of the proposed overpass relocation. Further discussions would occur including around proposed mitigation measures set out in this report.

9.1.6 Community Consultations

Specific consultations have been undertaken with the residents of Gwydirville, the nearest village to the proposed East West Connector and also with residents of East Moree.

Gwydirville residents are generally supportive of the Moree Intermodal Park project together with the associated changes to road and rail infrastructure. East Moree residents are generally comfortable with the relocation of the Jones Avenue Overpass noting that a number of mitigation measures would be required to address some of the concerns raised.

Further consultation would be held as the project moves through design and implementation phases.

9.1.7 Moree Inland Rail Activation Group

This group developed from the Moree Transport and Intermodal Study steering group and now contains representation at the regional level from a wide range of state agencies, including Transport for NSW, RMS, Premier and Cabinet, Planning and Environment, Industry and Regional Development.

This group is a key facilitating group for the overall project and provides guidance and review project development. The group would continue to provide guidance through project design and implementation.

10. EVALUATION AND CONCLUSION

The proposed relocation of the Jones Avenue overpass is an essential component of the integrated masterplan associated with the proposed Special Activation Precinct and the development of the Moree Intermodal Park. The proposed road infrastructure, of which the Halls Creek overpass is a key and critical element would not only serve existing intermodal facilities but also the proposed greenfield intermodal site and supporting industrial and agricultural processing industries.

There is very significant economic benefit in investment in the Halls Creek overpass as compared to the Jones Avenue overpass. In addition, the negative externalities of the Jones Avenue overpass would be avoided, in particular:

- Impact on existing businesses
- Safety and security issues
- Traffic management including "rat running" behaviours, in particular by heavy vehicles
- Visual impact, and
- Disruption to services

In addition, the facility would enable access to a proposed Highway Service Centre immediately south of the existing Moree airport which would provide opportunities for breaking up road trains prior to service deliveries occurring to areas which do not currently permit these.

Acceptable mitigation measures are available to address impacts on emergency service response times and pedestrian and cycle connectivity from East to West Moree.

The proposed Halls Creek overpass location would also have a positive impact from a visual point of view, forming a significant Gateway function to Moree, and defining the southern extent of the townships future growth.

11. LIST OF APPENDICES (SEE SEPARATE DOCUMENTS)

A – Multi-Criteria Analysis – Greenfield Site and East West Route

B – Original SEARS

C – Business Case

D – Emergency Services Model

E – OzArk Reports – Flora and Fauna and Aboriginal Heritage

F – Mu Group Economic Review