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Inland Rail – Parkes to Narromine EIS – SSI 7475

Dear Ms Garland

Thank you for your letter dated 13 July 2017 seeking comment on the above. This response represents a joint submission of Transport for NSW (TfNSW) and Roads & Maritime Services, collectively referred to as TfNSW.

TfNSW has reviewed the Environmental Impact Statement (EIS) and considers that improvements should be made to the traffic and transport assessment. In particular further work should be undertaken to examine the efficiency and safety implications of increased freight rail movements at key road crossings. The NSW Government vision for the Newell Highway (Newell Highway Corridor Strategy, Roads & Maritime Services, 2015) of supporting greater access for Higher Productivity Vehicles along the full length of the Highway should also be considered. As a result of the increased rail movements, there may be an increase in the likelihood of incidents at level crossings. Key mitigation measures, such as grade separation (road bridges over the Inland Railway) or quadrant gated crossings, should be examined for effectiveness in addressing any increased risk.

A number of operational matters including ensuring adequate sight distances for State and Regional road crossings and Roads & Maritime Services involvement in the Construction Traffic Management Plan should also be addressed.

The Inland Rail will improve access to both Brisbane and Melbourne and may encourage greater movement of commodities on existing east west lines (Broken Hill and Main Western Lines), which may cause additional noise to be generated in Parkes. TfNSW has offered assistance to the proponent to understand the impact of rail noise in Parkes.

The above issues are detailed in the annexure.

TfNSW would be pleased to discuss the issues raised directly with the proponent. To arrange a meeting please contact Mr Tim Dewey, Senior Transport Planner, Land Use Planning and Development on (02) 8202 2198.

Yours sincerely



23/8/17

Mark Ozinga
Principal Manager
Land Use Planning and Development

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Annexure - Inland Rail Parkes to Narromine EIS

The following comments address the above and provide suggestions on how the current EIS could be improved for the crucial issue of safety at Railway Level Crossings. Comments are also provided in respect of appropriate conditions for the Construction Traffic Management Plan (CTMP) and noise mitigation in Parkes arising from Inland Rail.

Railway Level Crossings

When the full Inland Rail is operational in about 2025, freight trains that are longer, operate more frequently and travel faster than at present will travel between Parkes and Narromine to final destinations including Acacia Ridge (Brisbane) and Port of Melbourne. This will increase the likelihood of incidents at level crossings and impact freight movement efficiency on highways such as the Newell.

The EIS generally considers grade separation at section 6.1 of Technical Report 1 Traffic, Transport & Access Assessment noting:

- Delays to road vehicles would be removed entirely, and the safety risks associated with train/vehicle conflict eliminated.
- Grade separation would involve a variation to the proposal and would impose extra impacts in terms of construction footprint, costs and environmental issues.
- Due to the small volume of vehicles that cross the rail line, grade separation is not likely to be feasible at most level crossing locations.

Section 6.3.3 has considered options for the treatment of some 71 level crossings along the proposed site. The proponent is suggesting a two stage assessment process. Stage 1 (already undertaken) identified options and a preferred mitigation strategy. Stage 2 (yet to be undertaken) would involve confirming with stakeholders the preferred approach.

As part of the stage 1 process, improvements have been identified to a number of level crossings (but not specifically identified). Any changes to level crossings should be specifically outlined as part of the EIS so that environmental issues including impact on public safety and transport efficiency can be properly assessed and form the basis for discussion with relevant stakeholders such as TfNSW and regional councils.

It is suggested that the Stage 2 assessment should be completed as part of the current EIS process. Any changes to level crossings need to be considered in accordance with the specific road / rail interface agreements that are in place, which contemplate "infrastructure changes". These agreements require assessment of changes to the risk as a result of the infrastructure and services changes such as the Inland Rail.

As a minimum, the Stage 2 assessment should involve a review of the Australian Level Crossing Assessment Model (ALCAM) for all of the 71 sites to help identify potential risks at level crossings and help determine the optimal treatments.

The Main Report of the Parkes to Narromine EIS (See 9.2.2.) considers traffic volumes and level of service and safety in a general sense. Detailed issues are not documented for any particular Railway Level Crossing. A number of other general issues are outlined below:

- 2009-2013 data has been used. However, 2015 data has been finalised and available. It is noted that 2016 data is nearly complete and TfNSW offers this data to the proponent for any additional study undertaken.
- Safety related statistics presented do not include Level Crossing Crashes. The EIS should document the two level crossing crashes in the period 2011-2015 on the Parkes Narromine section of the rail, both in Narromine. One was a fatality at The McGrane Way level crossing in 2015. The other was a serious injury crash at the Backwater Road level crossing in 2012. TfNSW can supply the relevant details.
- Rail crossing drive-through incident statistics recorded by rail operators should be presented given railway level crossings are the main transport interface for the project.

Key State Road Crossing Implications

The proponent should undertake a comprehensive examination of the safety and efficiency implications of IR on four State Roads (Henry Parkes Way and three crossings of the Newell Highway). It is also proposed that one regional road (McGrane Way) be further considered. For all five road crossings it is suggested that the proponent works with TfNSW and Roads & Maritime Services as part of the Stage 2 process mentioned above, and if the risk assessment warrants, the proponent consider appropriate mitigation measures, including potential grade separation. This is discussed in more detail in the following sections.

Issue 1: Analysis of the impact on Henry Parkes Way

Henry Parkes Way is a State Road crossing the defined Parkes to Narromine Inland Rail alignment. The road carries about 1300 vehicles per day of which about 200 are trucks (2014 survey west of Moulden Street) including 36.5m HML Type 2 Road Trains.

Queue length on the State Road Network:

The issue of adequate queue length for Henry Parkes Way has not been satisfactorily addressed in the EIS for either the current time or future years 2025 or 2040. Given the IR proposal will increase train movements and delays, and that Henry Parkes Way is on this section of rail line, this issue should be addressed in the response to submissions and appropriate measures taken to eliminate the risks if inadequate queuing length is shown to exist at present or in the nominated future years. The range of measures for consideration should include grade separation.

Investigation of Henry Parkes Way Level Crossing including ALCAM analysis:

Section 6.3.4 of the Alternatives and Proposal Options assessment report identifies a road over rail bridge as the preferred option for Brolgan Road within the preferred option for the Parkes north west connection to the Broken Hill line.

Similar treatment should also be considered for the Henry Parkes Way intersection at the northern end of the proposed connection. Henry Parkes Way carries significantly higher volume of traffic and includes road trains, which are not permitted on Broilgan Road, at the proposed over bridge location. Henry Parkes Way intersection has limited sight distance in both directions (Broilgan Road would only be limited in one direction) and would carry more rail traffic than the connection line that crosses Broilgan Road.

Section 6.1 of Technical Report 1 *Traffic Transport & Access Assessment – Mitigation and Management* acknowledges that train/vehicle safety risks would be eliminated by a grade separated crossing but then goes on to suggest that grade separation is not under active consideration for any of the crossings because:

- It would require a significant variation to the proposal, and would have additional impacts in terms of construction footprint, costs and environmental issues.
- Due to the small volume of vehicles that cross the rail line, grade separation is not likely to be feasible.

It is noted that current or future traffic volumes on Henry Parkes Way are not quoted in the Traffic, Transport and Access Assessment. The proponent should present the analysis that supports their preferred approach.

An Australian Level Crossing Assessment Model (ALCAM) assessment has not been provided. Given that this is the nationally agreed assessment tool for railway level crossings it would be appropriate to provide both the score and the details of the inputs for all impacted level crossings. It is also suggested that for the purposes of the ALCAM assessment, traffic volumes for future years 2025 and 2040 are used and agreed with Roads and Maritime Services.

Section 9.3.3 of the Traffic, Transport and Access Assessment correctly acknowledges that the main travel time impacts would arise from increased train activity at crossings. It is then suggested that level crossing delays may be lessened for individual crossings as trains speeds may increase from the present 90km/h up to 110 kilometres an hour in 2040.

However the Inland Rail Business Case (p.370) identifies likely areas of congestion delay as including the approach to Parkes travelling Northbound and the approach to Parkes travelling southbound. Holding loops are suggested as mitigating this issue but it is not clear if constructing holding loops for trains will translate into improved or increased waiting times for crossing vehicles.

A cumulative assessment of delay on Henry Parkes Way should be presented for the forecast 8.5 trains per day in 2025 or 15 trains per day in 2040. Decelerating trains on the Henry Parks Way Level crossing should be considered (speed potentially below 90km/h) to enter existing and planned intermodal terminals.

Existing and forecast travel demand and associated traffic volumes to service the additional freight demand at Parkes and Narromine should be considered.

Way Forward on Issue 1 – Henry Parkes Way

It is suggested that the proponent undertakes a comprehensive assessment of the existing crossing on Henry Parkes Way given the forecast change in rail operations to assess the appropriate design for crossing (grade separated, active protection, active protection with booms etc). The method used should be agreed with TfNSW prior undertaking the assessment.

The final assessment should, at a minimum provide:

- Existing (using current counts) and forecast demand on Henry Parkes Way agreed to by Roads and Maritime Services. The numbers of light and heavy vehicles should be separately counted. These counts should then be extrapolated to estimate travel demand (comprising light and heavy vehicles) in 2025 and 2040 using a growth rate agreed by Roads and Maritime Services.
- Advise the Australian Level Crossing Assessment Model (ALCAM) score at the current time and with train frequencies and highway traffic at 2025 and 2040 levels. TfNSW would be pleased to assist in this process.
- Forecast demand on Henry Parkes Way in future years must take into account regional demands generated by the Parkes National Logistics Hub.
- The analysis must nominate the peak times for rail traffic.
- The analysis must nominate the peak times for road traffic.
- The analysis must specifically consider and comment on the impact of trains slowing down through Henry Parkes Way Level Crossing in order to enter the Parkes National Logistics Hub for both 1800m and 3600m trains or accelerating to attain top speed having left the Parkes National Logistics Hub or at rail network signals.
- The analysis must consider what rail operational procedures will be adopted to ensure that freight trains do not queue across Henry Parkes Way Level Crossing while waiting to gain entry to the Parkes Intermodal Terminal.
- Specific site measurements must be taken and compared against the relevant standards to demonstrate adequate sight lines exist for the longest traffic queues generated in 2025 and 2040.
- The report must demonstrate how the proposal will comply with the RMS Guideline Lighting for railway crossings.
- Estimate the strategic cost of a grade separated crossing of Henry Parkes Way to TfNSW satisfaction. This estimate to include the cost of land acquired on a parallel alignment to the existing road to enable traffic to operate unhindered until the grade separated crossing was operational.
- The report must demonstrate how the proponent will evaluate and ensure the crossing is future proofed to meet 2040 train crossing frequencies by evaluating the crossing against the RMS Railway Crossing Safety Series 2011, the documents making up the series are:
 - Plan: Establishing a railway crossing safety management plan (policy number PN239G)
 - Identify: The railway crossing safety hazard checklist (policy number PN241G)
 - Assess: Applying risk tolerance and risk assessment criteria to railway crossings (policy number PN238G)
 - Evaluate: Applying the railway crossing cause consequence bow tie models (policy number PN240G)

- Considering the above information the proponent should then develop a revised *Railway crossing safety management plan* in a track changed format for Roads and Maritime review.

Issue 2: Analysis of the impact of the project on the Newell Highway

The Newell Highway is crossed by the Inland Rail at the following three locations:

- Forbes Road / Newell Highway Level Crossing (Main West Line 3km east of Goobang Junction)
- Welcome Level Crossing Newell Highway near the Welcome Road (3.7 kilometres south east of Goobang Junction)
- Newell Highway, Tichborne Level Crossing (10 kilometres south east of Goobang Junction)

TfNSW suggests these crossings are impacted by the current EIS and specifically detailed at SEAR 17(2)(e) "*Assess and model the operational transport impacts of the project for both road and rail including wider transport interactions including local and regional roads and freight transport and the broader NSW rail network.*"

Forbes Road / Newell Highway Level Crossing

When the Inland Rail is operational, additional supporting rail traffic to the Parkes National Logistics Hub through the Forbes Road / Newell Highway Level Crossing can be expected. This point is made in the Inland Rail Business Case 2015. The subsequent impacts on this intersection, which carries approximately 9000 vehicles daily, of which 1370 are heavy vehicles (Sept 2006 survey), should be evaluated and included in the EIS.

On 8 December 2016 the then Roads Minister announced the preferred route for the Newell Highway bypass at Parkes creating a western bypass alignment of from Maguire Road through to Barkers Road. The need for the bypass is driven partly by the need to provide a grade separated bridge for double stacked containers as an alternative to the current Newell Highway/ Bogan Street inner bypass which experiences significant level crossing delays.

No construction funding is currently allocated to the Newell Highway bypass and the current road traffic patterns should be used to assess the impacts of the IR project. The proponent should therefore commit to evaluating and implementing appropriate mitigating measures for the Forbes Road Level Crossing in recognition of the impact that higher frequency rail freight services will have as a result of IR.

Issue 2B - Welcome Level Crossing and the Tichborne Level Crossing

The Welcome Rail Level Crossing and the Tichborne Level Crossing are on the Newell Highway south of the rail track currently identified for upgrade as part of the IR project 3.7km and 10km south of Goobang Junction respectively. Both crossings have a strong road freight transport function and it is suggested the operational impacts should be assessed and modelled as per SEAR 17(2)(e).

Welcome Rail Level Crossing has approximately 4120 vehicles each day of which 1250 are heavy vehicles (Aug 2014 survey). Tichborne Rail Level Crossing has approximately 3950 vehicles each day of which 960 are heavy vehicles (Aug 2014 survey). Current approved heavy vehicle access for this section of the Newell Highway is for 26m Higher Mass Limit (HML) B-doubles. The NSW Government included in its vision for the Highway (Newell Highway Corridor Strategy, May 2015) the intent to “*Support greater access for Higher Productivity Vehicles along the full length of the highway*”. For the Parkes to Forbes section of the highway this includes providing access for 36.5m HML B-Triples and Modern Road Trains. The purpose of the vision is to support end-to-end productivity improvement including to major freight intermodal hubs such as the Parkes National Logistics Hub. A copy of the strategy can be found at the following web link:

<https://www.transport.nsw.gov.au/projects/current-projects/newell-highway-corridor-strategy>

The proponent should engage TfNSW and Roads and Maritime Services at the earliest opportunity to determine how the efficient and safe operation of the Newell Highway can be maintained in an environment of more frequent, faster and longer train crossings.

Way forward on Issue 2 Newell Highway

The proponent should evaluate the impacts of the aforementioned crossings given the increase in train movements as a result of the Inland Rail. This would include site specific assessments as outlined above for Henry Parkes Way level crossing with future volumes of road and rail traffic in 2025 and 2040. The proponent should prepare a specific report for level crossing mitigation works following the same process as for Henry Parkes Way (above).

Issue 3 – The McGrane Way (Tullamore to Narromine Road)

The McGrane Way/Tullamore Road is a Regional Road carrying around 810 vehicles per day of which about 350 are heavy vehicles (February 2014 survey near Narwonah Road). It is a road that is crossed by the Inland Rail south of Narromine.

Way forward on Issue 3 Tullamore Road

The proponent should prepare a comprehensive evaluation of the impact of Inland Rail on the McGrane Way/Tullamore Road Railway Level Crossing following the same method as outlined above for Henry Parkes Way. As this is a local road, the local council will need to be consulted as the relevant roads authority.

Issue 4 – Construction Traffic Management Plan (CTMP)

TfNSW notes the proponent has proposed a condition to prepare a Construction Traffic Management Plan.

Way forward on issue 4 Construction Traffic Management Plan

TfNSW would appreciate the opportunity to review a draft of the CTMP and continues to advise that the plan will need to specifically address access and egress locations to public roads. Access locations will need to be shown to achieve Safe Intersection Sight Distance in accordance with Austroads Guide to Road Design. It is suggested that the proponent be conditioned to require Roads & Maritime Services approval before it is accepted for use by a contractor.

Issue 5 – Rail noise in Parkes

The Inland Rail program will result in an increase in freight train movements outside the subject project area including in and through Parkes. The Parkes to Narromine EIS has not considered these impacts. It is understood that ARTC plans to address these impacts through their noise abatement program. TfNSW looks forward to working with ARTC and other government agencies to address rail noise.

Section 4.1.6 of Technical report 5 of the Parkes to Narromine EIS states that a curve noise correction of +3dB has been applied in the noise predictions for curve radii between 300m and 500m. TfNSW noise monitoring data at almost 200 locations across the NSW freight rail network indicates that curve noise corrections may be greater than +3dB at radii up to 800 metres. Table 6-1 of Technical report 5 of the Parkes to Narromine EIS states “there are very few tight radius curves in the proposal, so track lubrication would have limited application”. TfNSW recommends that the EIS commit to implementing effective track lubrication within the project area as a minimum to manage curve squeal noise.

Way forward on Issue 5 - Rail noise in Parkes

TfNSW offers to work with ARTC to share knowledge about the latest data on noise modelling to produce an updated version of Technical Report 5.

TfNSW also offers to share rolling stock standards which include performance requirements for freight wagons which have been shown to substantially eliminate wheel squeal.

Issue 6 - Specific Issues noted in EIS Review

Reference	Page No.	EIS Wording	Comments
2.1 Methodology	16	Determine the existing and future delays (total closure time) at level crossings based on train lengths, travel speeds and pre- and post-train closure times	The methodology of determining delays should also take into account train frequencies both current and projected.
2.2 Legislative and policy context	16		Include TfNSW Closure of Level Crossing Policy https://www.transport.nsw.gov.au/projects/programs/level-crossing-safety
3.5 Level crossings	24		Include locations to the five listed crossings
4.1 Table 4-1 Quantity and type of level	26	Retain existing passive protection (stop sign) 20;Public	To confirm all (39) retained passive protected crossings meet the AS 1742.7 based on the

Reference	Page No.	EIS Wording	Comments
crossing changes		19; Private	proposed changes to train operations of the IR proposal
5.3.5 Impacts to train paths	34	It is possible that on some parts of the rail network there would be additional train activity, either in terms of train length or frequency. This may increase the frequency of delays at some level crossings.	Additional train activity would also increase risk exposure at those level crossings. Can ARTC advise how the increased risks would be managed?
5.4.3 Table 5-7 Level crossing delays per train	35	Scenario Maximum delay at crossing (sec) Existing with 1800 m maximum train length 122sec Year 2040 with 1800 m maximum train length 109sec	Both of the maximum train delay times for 'Existing' and 'Proposed' in this table appear to be low. Can ARTC demonstrate how these values were determined? An accurate way to verify the 'Existing' delay times is the use the data from the level crossing data logger to provide the average gate down time for each level crossing as a baseline and then compare this with the projected year 2014 1800m times to provide an accurate comparison. The daily gate down time duration will increase due to the increase in frequency of trains. Also what is the effect on the delay time with the introduction of 3600m trains in 2040?
5.4.3 Second last paragraph	36	On the busier roads crossed by the proposal, such as Henry Parkes Way, there is sufficient room for traffic to queue without obstructing any major junctions.	The effect long vehicles queues do not only relate to obstructing intersections but it also relates to the increase of motorist impatience and likelihood of them disobeying crossing controls (driving around boom gates). Appropriate measures must be considered to reduce the likelihood this type of motorist behaviour.
6.1 First Dot	38	With improved train	The improvement in delay time

Reference	Page No.	EIS Wording	Comments
point		speeds, the duration of delays would be less than existing.	<p>due to improved train speed would be minor. Note the increase in train frequency will result in an increase in frequency the crossing would operate.</p> <p>A comparison over a 24 hour period would provide a more accurate analysis.</p>
6.2.2 During operation	39	Transport for New South Wales fund an ongoing program of ALCAM assessments in NSW in order to maintain the relevance of the ALCAM data.	IR Project to provide TfNSW details of all level crossings that are upgrades and or closed when commissioned.
Generally			<p>The IR EIS only provides scope for level crossings to be either left as existing, upgrade to half boom gates, closure or grade separation. This means if crossings do not meet the warrants of a grade separation but are upgraded to active half boom gate controls there is a real possibility with the increase frequency of long trains (1.8km and possibly 3.6km in the future years of IR) that some motorist may become impatient and decide to ignore the active controls of the crossing (i.e.: drive around the boom gates) Quadrant gated controlled level crossings have been used extensively overseas for a number of years to mitigate this very issue and should be included for consideration as a possible mitigating measure.</p>
Generally			<p>The words 'Slight' and 'Minor' are commonly used throughout the report. It would be helpful to have the quantifying values of these impacts.</p>

Way forward on Issue 6 – Specific Issues noted in EIS Review

The response to submissions should address the above issues.