

Received from Ms Danica Leys, Chief Executive Officer, Country Women's Association of NSW at the public hearing held by the Committee on Investment, Industry and Regional Development on 7 May 2021

Attachment D - Economic analysis

1. Economic analysis – Narromine to Narrabri (N2N) Inland Rail Project

1.1 Background and request

- (a) Post Covid Solutions (PCS) has been engaged on behalf of the NSW Farmers Association (NSW Farmers) and Country Women's Association of NSW (CWA) to provide economic advice in the context of a submission in response to the Environmental Impact Statement (EIS) for the Narromine to Narrabri Project (N2N Project).
- (b) PCS has been asked to review those parts of the EIS that relate to the economic analysis used to justify the N2N Project, including the route selection and to advise on a number of specific questions that have been raised on behalf of the NSW Farmers and CWA collective. The specific questions are:
 - (i) Question 1 - What is your assessment of the overall Inland Rail Projects costs and benefits, including the costs/benefits for the N2N Project;
 - (ii) Question 2 - What is your opinion on the use of multi-criteria analysis to choose route selection; and
 - (iii) Question 3 - Provide an economic analysis on the alternative proposal that would see the alignment use the existing rail line to Coonamble.
- (a) PCS has had a chance to review the June 2006 report, July 2010 final report, August 2015 report, the 2016 Infrastructure Australia Report, the official 2017 NSW Treasury Cost Benefit Analysis (CBA) guidelines, the Multi Criteria Analysis (MCA) for the route selection, the latest economic analysis that supports the NSW application, and all publically available consultant reports and related documents that PCS could readily access.

2. Summary of findings

- (a) I am at a loss for words about the Inland Rail Project from an economic, financial, and farming perspective.
- (b) There are so many important weaknesses in some proponent reports that there is enough to throw out the Project, the conclusions, assumptions, methodologies, viability, timing, route and service offering into question.
- (c) I have previously recommended that some proponent reports be withdrawn and significantly improved.
- (d) Inland Rail's CEO Richard Wankmuller reportedly said that detailed investigations undertaken by the Inland Rail team over the last five years identified that additional investment was needed and the cost is now \$14.5 billion.
- (e) When Inland Rail was only \$10 billion it was then questionable if it generated a net economic benefit. That was long before COVID, coal shipments stranded off China, and before barley, wine, lobster and other trade issues.
- (f) The issues raised by KPMG in *Appendix B: Treatment of coal demand for the Inland Rail EIS* on page 84 highlights that at a 7% discount rate, the project has a Benefit Cost Ratio (BCR) less than one (BCR = 0.96) and that it takes coal demand from a linked unfunded Queensland Rail (QR) project to get the Inland Rail Project marginally over one (BCR = 1.02).

- (g) The Inland Rail Project was always marginal at best and there are superior uses of that money. The opportunity costs are significant given that alternatives have much higher BCR's and real net public benefits.
- (h) Importantly, the ARTC now have actual and detailed capital (capex), operational (opex), speed, timetabling, public relations (PR) and other useful information from the sections of the Inland Rail Project that are already completed and/or in progress.
- (i) The proponents should also have the benefit of access to the latest cost benefit and other information from experts, quantity surveyors, economists, Infrastructure Australia and NSW Treasury.
- (j) The use of 2015 data, unrealistic assumptions, costs, benefits and questionable analyses are completely unacceptable. These proponent reports and their proposal should now be rejected by the Department of Planning, Industry and Environment. This is 2021, not 2015, and the world is significantly different.
- (k) The NSW Land and Environment Court should now adjudicate especially considering the State of NSW will own the rail corridor and be paid a lease by ARTC and because of the Chief Justice's opinions articulated in *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7.
- (l) One of the reasons for refusal of that application and appeal was, *"the economic and public benefits of the mine are uncertain and overstated and not shown to be greater than the public costs of the mine."*
- (m) That Land and Environment Court opinion is currently true with Inland Rail's existing proposals, including the N2N Project.
- (n) My opinion, based on desktop reviews, is that Inland Rail's total project costs and net benefits for the entire project and including the N2N section, all at a 7 percent discount rate as currently proposed, is expected to have Net Present Value of approximately zero or less (NPV < 0) and a BCR of nearly or less than one (BCR < 1.00). There are many uncertainties, risks and unrealistic assumptions.
- (o) There are just so many diverse reasons that this rail project is an unfortunate lemon as originally formulated. It is not a simple fix such as throwing another \$5 billion more at the problem as just happened in December 2020.
- (p) Starting with the actual known costs would be smart. Known costs will likely have a much smaller variance around them, such as 10 per cent or less. It would then be clearer if the project needed \$15 billion or \$20 billion in benefits to help it pass a NSW Treasury Cost Benefit test.
- (q) Inland Rail also requires a fresh out-of-the-box holistic analysis with synergistic systems solutions.
- (r) Further, Inland Rail's applications to the NSW Department of Planning, Industry and Environment should have fully complied with NSW Treasury CBA Guidelines, with the NSW Land and Environment Court rulings, and with Infrastructure Australia's Technical Guidelines. Instead it has relied on optimism bias, unrealistic assumptions, and lack of transparency to help game the results.
- (s) This needs to be considered when assessing the adequacy of the EIS for the N2N Project.

3. Question 1 - What is your assessment of the overall Inland Rail Projects costs and benefits, including the costs/benefits for the N2N Project?

3.1 The Inland Rail Project as a whole

- a) The current budget for the Inland Rail Project is \$14.5 billion. This is far in excess of the initial capital cost (nominal, undiscounted) which was used in May 2016 Infrastructure Australia Project Business Case Evaluation which was \$9.89 billion (P50) and \$10.66 billion (P90).
- b) Based on what we know, we can extrapolate that Inland Rail currently costs \$8.5 million for each kilometre. Even before the most recent increase in the budget the Inland Rail was already statistically a project with a Net Present Value (NPV) of zero.
- c) The significance of this is that a positive net present value ($NPV > 0.00$) and a benefit cost ratio greater the one ($BCR > 1.00$) when comparing all discounted total costs, all relevant benefits, cumulative and threatened species impacts, and their unbiased mean-centred expected values properly monetised excluding any double counting, and over the entire life of the project indicates that the project is in the public interest.
- d) Government policy in NSW, as advised via NSW Treasury (2017 p.1) *Guide to Cost-Benefit Analysis*, is to **seek to maximise the welfare of the NSW community** (emphasis added). NSW Treasury also notes that Australia-wide analysis may be required when a CBA is being undertaken for Federal funded projects. Thus, in the first instance guidance is that a CBA of an interstate project or policy include all costs and benefits. Then supplementary analyses estimate the impacts on the welfare of the NSW as whole and relevant local communities.
- e) In contrast, a negative or almost zero net present value ($NPV < 0.00$), or a benefit cost ratio of statistically around one or less ($BCR < 1.00$), clearly identifies that there are superior alternative projects that can make society much better off. They also identify opportunity costs from foregoing the projects that maximise the NPV and BCR.
- f) A low NPV flags that NSW welfare is not maximised and the project is inefficient.
- g) There are also other many other capital projects with much higher BCR's and NPVs (e.g., $BCR > 4.00$ at a 7 per cent discount rate) and large positive NPVs. From an economic perspective, the Inland Rail Project should be stopped and the money spent on other more worthwhile projects.
- h) The recent announcements about an additional \$5.5 billion for "*project enhancements*" (16 December 2020) were very light on detail on what those project enhancements were and how the identified additional benefits were derived.
- i) Infrastructure Australia (IA) has previously stressed the need for a full cost-benefit analysis comparing the preferred option against alternative options, including increasing road capacity between Melbourne and Brisbane.
- j) The central tenet of the Inland Rail Project is the service offering: summarised as a desire to move freight via rail between Melbourne and Brisbane in less than 24 hours, at a cost comparable to or better than road, with a 98 per cent reliability and is available when the market demands.
- k) There are a number of important assumptions that underpin the Inland Rail Business Case that no longer hold true:
 - (i) **Costings.** The Business Case was advanced on P50 rather than the more realistic P90 costings. Those costings have not proven to be accurate.

- (ii) **Discount rate.** The Business Case results are very sensitive to the discount rate. The Business Case failed to adopt the standard 7 per cent discount rate instead preferring to use a 4 per cent discount rate. The Business Case also in some instances failed to disclose the impact of a 10 per cent discount rate.
- (iii) **Price of Oil.** The Business Case considered oil prices at (USD) \$70, \$120, and \$200 per barrel. High oil prices, and with high oil and fuel costs, the benefits of Inland Rail increase significantly. The assumed USD \$120 a barrel is more than double the current and forecast prices which is somewhere around USD \$50-55 a barrel. A low oil price scenario (US \$50 per barrel) by 2030 would result in a 2 per cent decrease in total rail freight.
- (iv) **Introduction of B-triples or super B-doubles.** The introduction of higher productivity vehicles for inter-capital freight on the Hume and Newell Highways has reduced the price competitive of the Inland Rail Project relatively to road.
- (v) **Coastal shipping.** To the extent that empty ships can move freight cheaply and that full coal ships are currently idled off the coast of China may be more relevant. This may also be relevant if an extra \$5 or \$6 billion is needed to get across Brisbane into the Port.
- (vi) **Coal exports.** If no capital investments are made to the Western Line or Brisbane metropolitan rail network to enable coal train lengths to increase from 650 metres to 1,010 metres, coal volumes would be restricted to 8 million tonnes per year as a result of reaching the cap of 87 coal paths. If China continues to restrict imports of Australian coal then the producers must diversify markets or cease operations at some point. If some mine expansions are not approved, coal could be even less.
- (vii) **Coal Prices.** Coal prices vary with the type of coal (e.g., hard coking coal and thermal coal), the reference prices in Australia, a discount such as 90% of the reference price, and the relevant exchange rate (including AUD and USD rates), and trade disputes.

3.2 The Present Value of Costs

- (a) At a cost of \$10 billion, when measured at a 7 per cent discount rate, Inland Rail has a Benefit/Cost Ratio (BCR) of 1.02, meaning that the benefits are roughly equal to the cost. Under a scenario in which all sensitivity factors were applied at once, the BCR was 0.9 using the 7 per cent discount rate and P50 capital costs without Wider Economic Benefits (WEB), and 1.0 including WEBs.
- (b) Even the 1.02 number should be treated with caution. The assumption in the Business Case was that a complementary investment in Western Line would increase the BCR from 0.96 to 1.02 based in what is noted in KPMG's Appendix B.
- (c) From the outset the economic justification for the Inland Rail project was only marginal. This is reflected in Infrastructure Australia's Project Business Case Evaluation (May 2016) which clearly states that:

"Infrastructure Australia notes that the options assessment undertaken by the proponent did not robustly consider the value for money and deliverability of the full range of options. Infrastructure Australia would prefer if the proponent could present a more complete, transparent and objective assessment of the options considered, with greater detail of the relative costs and benefits of alternative options. A full cost-benefit analysis comparing the preferred option with the principal alternative option – increased road

capacity between Melbourne and Brisbane – would facilitate greater scrutiny of the relative merits of the two alternative options.”

3.3 Revenue will not cover capital costs

- (a) While the economic analysis indicates that Inland Rail will deliver a net economic benefit to Australia, the expected operating revenue over 50 years will not cover the initial capital investment required to build the railway—hence, a substantial public funding contribution is required to deliver Inland Rail.

3.4 Narrabri to Narromine

- (a) The ARTC has not advanced any economic argument to justify the N2N Project. This is because it is said that *“the results will not capture the full economic impact that is expected to be delivered upon completion of the Inland Rail program.”*¹

- (b) Similarly it says that:

*“Although further costs and other technical and economic data is expected as each project progresses through design development, the 2015 Inland Rail program Business Case endorsed by the Australian Government is currently the most detailed assessment for the Inland Rail Project. For this reason, and in the interests of maintaining consistency, cost and demand profiles for the Inland Rail Project economic assessments have been based on the 2015 Inland Rail program Business Case.”*²

- (c) Clearly these statements are nonsense. It is the ARTC that has chosen to advance each part of the Inland Rail Project as separate projects. The ARTC should also have actual costs from the newly constructed Parkes to Narromine that can be used to update the anticipated costings for the N2N section. These actual costs will have less expected variance and bias. The Inland Rail Business Case has been discredited. The ARTC should not be able to progress the N2N Project without a robust cost/benefit analysis that fully complies with NSW Treasury and IA’s guidance and technical notes.
- (d) We suspect that the ARTC are unable or unwilling to advance such a case because the costs have risen, the assumptions that underpin the Business Case about oil and coal prices, and moving freight off the road no longer hold. All previous data is pre-COVID. As with other sections of Inland Rail there are very few tangible benefits to the communities in Gilgandra and Coonamble and a considerable number of costs.

4. Question 2 - What is your opinion on the use of multi-criteria analysis to choose route selection?

- (a) Decisions on route selections have been made partially on the basis of a sub-optimal Multi-Criteria Analysis (MCA).
- (b) The choice of a MCA rather than a cost/benefit analysis (CBA) is a pragmatic one. Driven by a desire to select routes that best fit the articulated ‘inflexible’ service offering rather than looking at the costs and benefits of the project as-a-whole and synergistic opportunities in specific areas.

¹ KPMG’s Economic Benefits Assessment on page 8 of Inland Rail Narromine to Narrabri: Environmental Impact Statement Economic Assessment - Revision C – 21 October 2020

² KPMG’s Inland Rail Narromine to Narrabri: Environmental Impact Statement Economic Assessment - Revision C – 21 October 2020, page 28

- (c) It is important to restate that a MCA is not a CBA. A MCA compares and sums metrics in different, incompatible dimensions. A MCA is a form of 'non-monetary' valuation. The resulting score has no real units and no meaning beyond the specific piece of analysis. Even the meaning within the analysis is questionable due to the subjectivity and lack of transparency around conversion, scores and weights.
- (d) In contrast a CBA is a 'monetary evaluation' where all units are in monetary terms, and where impacts are robustly sensitivity tested to produce mean-centred expected values. In contrast with other methods such as MCA is 'non-monetary' and ordinal evaluation. CBA is standard practice and has been for decades. CBA Master Guidelines and special guidance for coal mines, coastal erosion, sea level rises, housing, electricity savings, biodiversity losses, transfers, problem shifts, discount rates, re-switching etc. are available.
- (e) NSW Treasury (2017, p67) state:
- "A CBA with valuations is always preferred over multi-criteria analysis (MCA). MCA may be used only in rare cases where it is not possible or practical to value costs or benefits in monetary terms."*
- "Unlike CBA, MCA does not require that benefits exceed costs. MCA carries the risk that the program/project might be inconsistent with improving welfare, and that doing nothing might in fact be preferable. In practice MCA can also inadvertently include contradictory criteria, making it difficult to interpret the results of the analysis for fiscal decision making purposes."*
- "Given its disadvantages, notably the lack of any valuation principles, MCA should not be used as a substitute for CBA."*
- (f) In the words of the ARTC the:
- "Achievement of the Inland Rail Service Offering requires a rail line that is as flat and straight and fast as possible."*
- (g) It is those considerations flat/straight/fast that are weighted heavily in the MCA done to date for the project.
- (h) The problem with the focus on the service offering is that the design of a project to that service offering results in very few benefits beyond those for residents of Melbourne and Brisbane highlighted in the Business Case (and assuming the assumptions hold).
- (i) The immediate concern is that because the focus of the design of the project has not been actively looking for benefits to regional communities the ARTC now's says that additional investment is required through further linkage funding to bring benefits to regional communities.

5. Question 3 - Provide an economic analysis on the alternative proposal that would see the alignment use the existing rail line to Coonamble.

- (a) There has been no robust economic cost-benefit analysis of an alternative proposal that would follow the existing rail line through to Coonamble.
- (b) The reason for this is that the focus has always been on identifying opportunity to gain time against the service offering and that anything that increases time would not be considered, even if the resultant benefits could in a cost/benefit sense offset any additional travel time.

- (c) From an economic perspective there are a number of tangible benefits that would arise from changing the alignment.
- (d) There is currently very little in the way of economic benefits to either Gilgandra or Coonamble as part of the Project as it is currently formulated. The most that can be said is that Gilgandra will get a work camp and the rail line will run close to the disused grain silo at Curban.
- (e) From Coonamble's perspective, it is anticipated that most of the workforce and the regional spending will accrue to centres like Dubbo where people would commute weekly to work rather than to rent or buy in those local government areas. Further, there may be four proposed work fronts, although ARTC works normally tend to progress along the track with the same crews.
- (f) In terms of the dis-benefits, there are the noise and vibration impacts of the new rail line, the enduring flood impacts, and the loss of productive farm land, the delays/deaths caused by the additional level crossings and the social disruption caused by the establishment and operations of work camps.
- (g) The level of connectivity between the existing grain line running between Gilgandra and Coonamble and the Inland Rail Project is currently very poor.
- (h) The current proposal does very little to improve things. One map suggests part of the Dubbo Coonamble line may be removed, another suggests connections may be added sometime later.
- (i) The focus of Inland Rail is currently more about moving containerised freight from Melbourne to Brisbane than moving grain from the region to export markets.
- (j) The current arrangements see grain shipped from Coonamble and Gilgandra to the Port of Newcastle and Port Botany, via Dubbo. Those arrangement also leave very little opportunity for value-added services.
- (k) The current planned connection is limited to a West to North connection (i.e. from Coonamble, ability to go north only) and an East to South connection (i.e. from Gilgandra, ability to go south only).
- (l) The Coonamble line is below the Inland Rail operational configuration. Works required to bring the Coonamble line up to a standard to comply with the Inland Rail Service offering would include formation reconditioning plus new ballast, 60 kg rail and concrete sleepers.
- (m) Culvert and bridge structures would all need to be assessed for increased capacity and flooding and may need to be replaced, although no relevant flooding has been reported on the existing Dubbo and Coonamble corridor and the line has been properly maintained.
- (n) Less land needs to be acquired, meaning that the impacts (and legal costs) associated with severance are also less significant. This is because the farms that already adjoin the existing alignment have been historically developed with this limitation in mind and no accidents.
- (o) Coonamble already has significant infrastructure in and around the vicinity of the existing rail line including large depots, silos and other storage infrastructure, and Coonamble Shire Council has already been investing in the maintenance of growth of this infrastructure. As opposed to Curban where much of the existing infrastructure has been decommissioned for some time. For example, the landholders say the Curban Silos have decommissioned and have been closed somewhere between 6-8 years and didn't even reopen last harvest, which

was one of the biggest harvests in recent years. In recent times grain was railed out of Coonamble in containers by Agrigrain inferring the economic viability of that practice.

- (p) Redirecting grain North-South rather than East-West creates opportunities to access both feedlots in South East Queensland and mills and Ports in Victoria.
- (q) The location of the alignment to the west of the Castlereagh River up to Coonamble would avoid the crossing of the Castlereagh River at Curban which we understand may have also significant flooding and hydrology issues.
- (r) The existing rail line has already been earmarked for significant upgrade works as part the Country Lines Improvement Program. This means that some of the funding for this part of the Project could be redirected towards this alignment, rather than the proposed alignment, thereby reducing costs and potential 'train-kills.'
- (s) Safety benefits for the community, residents and seasonal workers, as a result of avoided incidents, removing dangerous vehicles from the road, reduced distances travelled by heavy trucks which can also damage roads and rail crossings, and make them all more hazardous.
- (t) Melbourne to Brisbane rail traffic generated by the Inland Rail Project would be in addition to the existing rail traffic using other lines that the proposal interacts with, including for example the Dubbo to Coonamble Line. The trains could be a mix of grain, bulk freight and other general transport trains as originally envisioned.
- (u) The demise of the Coonamble to Dubbo rail line, and loss of Coonamble grain, wheat, barley, chickpeas and canola, being directly loaded into containers, could accelerate the use of larger trucks. Highly productive assets in Coonamble can become stranded without direct access to Inland Rail. A Coonamble Special Activation Precinct is recommended.

5.1 Potential Disadvantages

- (a) The principle disadvantages of greater utilisation of the existing track to Coonamble are said by the ARTC to be as follows:
 - (i) The route and the travel time are said to be longer. The ARTC claim that the extended route would jeopardise the operational business case requiring sub-24 hour travel time from end to end. Analysis by NSW Farmers in March 2018 identified that that additional travel time was 4 minutes (when the savings associated with going through the Piliga State Forest were considered).
 - (ii) The current alignment was said to be relatively flood-free and could capture potential fill material for construction. We note that we question this assertion regarding flooding and hydrology, which will be dealt with by way of a separate expert report.
 - (iii) The ARTC claim that a route travelling to Coonamble is longer and therefore more costly in time, dollars, and harm to the service offering.
 - (iv) But there are other locations where up to 120 km can be removed and speeds improved as demonstrated by the National Trunk Rail (NTR) 1,595 km proposal which saves 1 hour.
- (b) Excluding opportunities such as the Coonamble line, the largest grain, wheat, barley, chickpeas and canola area in Australia, and a Coonamble Special Activation Precinct, is

amazingly hypocritical and short-sighted considering the importance of the unfunded QR line project, coal trade issues, and NS2B (Inland Rail – North Star to Border) farmers' solutions summarised by Holding Redlich in its letter of objection to the EIS for the NS2B Project on 6 October 2020.

6. Conclusions

- (a) The Inland Rail Project has a NPV of zero or less. Many of the assumptions that underpin the Business Case no longer hold.
- (b) As part of the EIS, the ARTC have not advanced any cost/benefit analysis of the project as a whole (having regard to updated information and more robust assumptions) or of the specific N2N Project and synergistic options.
- (c) Decisions around route selection have largely been driven by Multi-Criteria Analysis. The central tenant of those analyses was the service offering and the desire to keep the travel time below 24 hours.
- (d) No cost benefit analysis has been carried out on the proposal to use the Coonamble rail line and synergistic options to help increase the projects NPV and BCR.
- (e) Greater use of the existing Dubbo and Coonamble rail line and adjacent lands has a number of benefits and few disadvantages.
- (f) However, to do so would require the N2N SSI to be refused in its current formulation, with more detailed holistic analysis required to be undertaken adopting a holistic cost-benefit problem shifting analysis approach to drive up the real and enduring benefits to the community and to Australia thereby generating a stronger BCR and NPV. At a minimum, the CBA must be complaint, robust, transparent and pass the public interest tests required.
- (g) At a 7 per cent discount rate, a low NPV and BCR flags that NSW welfare is not maximised and the project is inefficient. A high NPV and BCR says that NSW and Australia are better off if done properly.

