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AUSTRALASIAN RAILWAY ASSOCIATION SUBMISSION

To

Transport for New South Wales

On

Procurement Reform



THE ARA

The Australasian Railway Association (ARA) is a not-for-profit member-based association that represents rail throughout Australia and New Zealand. Our members include rail operators, track owners and managers, manufacturers, construction companies and other firms contributing to the rail sector. We contribute to the development of industry and government policies in an effort to ensure Australia's passenger and freight transport systems are well represented and will continue to provide improved services for Australia's growing population.

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THE RCG

Formed in 2014, the RCG represents the interests of companies who build new infrastructure for the Australian and New Zealand rail industry. These projects include track construction, tunnels, stations, signalling and electrification of railway networks. In addition to the domestic rail infrastructure construction these companies successfully tender for and deliver work all around the globe.

The RCG's vision is to align the interests of major contractors through proactive advocacy to:

- build a pipeline of opportunities that endure in the longer term;
- enhance the environment and regulatory framework in which contractors operate; and
- establish best practice in project procurement, risk allocation, skills development, safety and construction innovation.

The RCG has developed its Strategy and Priorities 2015 - 2017. Please find the RCG Strategy, 'Three Year Strategic Plan' **here**.

RAIL IS CRITICAL TO AUSTRALIA'S ECONOMIC GROWTH, SOCIAL ENHANCEMENT AND GLOBAL COMPETITIVENESS

Rail infrastructure supports Australia's growing and demographically diverse population, drives productivity and improves our living standards. Continued investment in rail for improved passenger and freight movements will contribute to a stronger economy, reduce social exclusion and enhance the overall prosperity of our nation.

Rail is the backbone of Australia however its scale and importance are not always fully appreciated.

- Australia's rail network is the sixth largest in the world.
- Our freight network carried in excess of 1 billion tonnes of freight in 2013-14. Bulk movements account for 97% of the overall rail freight task.
- Our intermodal freight task continues to grow. Tonnages have increased by 65% since 2009-10 to 27 million tonnes in 2012-13.
- More than 80% of the total land-freight task on the East-West Corridor is moved by rail.
- Our heavy haul operations in the Pilbara are world leaders as is Australia's componentry and systems integration.
- Australian heavy and light rail operators provided 850.3 million passenger trips. This is equal to 16.4 million passenger trips per week or 2.3 million people travelling by train every day of the year.
- More than 110,000 people are employed by rail in a wide range of occupations, disciplines, and professions.
- There are 2,235 locomotives and 32,000 passenger carriages and freight wagons currently in operation.
- Rail is the solution to congested roads – one train takes 525 cars or 110 trucks off the roads.

The significance of the rail industry warrants special attention and investment from governments. Our networks of infrastructure and services connect people and communities, support freight transport across the country, help deliver our resources to overseas markets and continue to generate economic growth and employment.

For more information about the rail industry's network and operational performance and trends please refer to the ARA – Bureau of Infrastructure, Transport and Regional Economics' publication: Trainline 3) at https://bitre.gov.au/publications/2015/train_003.aspx.

PREAMBLE

Tendering processes have a significant impact on the outcome of public infrastructure development. As the Productivity Commission pointed out in its 2014 Inquiry into Public Infrastructure report:

'The way in which government clients procure Australia's public infrastructure can play an important role in determining its costs. What is done prior to market, the type of contracts let and consequent risk allocation between parties, along with the ability of governments to subsequently manage the project are all critical ingredients of the story'. (Productivity Commission 2014)

Current tendering processes for public infrastructure in Australia are slow, expensive do not always promote new technologies and innovation, and tend to exclude private sector financing such as superannuation funds. Furthermore, a financial burden is placed all bidders, not just the successful one, representing the expenditure of considerable resources before construction has even begun. Design costs can sometimes comprise fifty per cent of tender costs, while tenders also routinely involve the submission of documentation relating to non-design issues such as workplace relations management and health and safety management. The consequence of this is that tendering is becoming cost prohibitive to manage potential bidders according to the Australian Constructors Association:

"Procurement models and commercial risk management differ from government to government and even between agencies within the same government. This results in confusion for tenderers seeking consistency of approach, adds to cost and time pressures and does not support the capacity for a project to receive financing at best market rates available". (Productivity Commission 2014)

The complexity and costs of bidding for major projects (particularly for Public Private Partnerships), has become a major barrier to entry into the Australian infrastructure market. Few private companies, including superannuation funds have the financial capability to be involved in tender processes that require significant upfront investment.

The Solutions

There is wisdom among the various solutions that have been advanced – by the Productivity Commission, the House of Representatives Standing Committee on Infrastructure and Communications and others. Some of the solutions include:

1. A more streamlined information requirement for bidders, meaning detailed, non-design management plans are only required of the preferred tenderer;
2. In fixed scope Design and Construct or Construct only opportunities, Governments should invest more time and resources in the initial concept design specifications to help reduce bid costs (centralising common elements);
3. Governments should consider contributing to the design costs on the condition that governments own the design (co-funding design or purchase of IP rights);
4. Government clients should provide concept designs using Building Information Modelling (BIM) to help lower bid costs;
5. For large and complex projects, government clients should engage the market to gain insights into potential risk mitigation and packaging scenarios prior to final procurement strategies being decided.
6. Government should invest more time and money in understanding site risks and update the information provided.
7. Nominating and then keeping to the number of shortlisted proponents should be considered with no more than three proponents for Design & Construct or Manage & Construct tenders and no more than two for Early Contractor Involvement processes.

Implementation

The identified solutions are easier said than done. What is the best way to make progress to a more acceptable approach to procurement, tendering and risk mitigation?

The Productivity Commission suggests the way forward:

“... Australian, State and Territory Governments should facilitate the development of a common set of standards and protocols in close consultation with industry, including private sector bodies that undertake similar types of procurement (and include in the procurement guidelines detailed advice to agencies on the efficient use of BIM)...”
(Productivity Commission 2014)

The Australian Contractors Association has heeded this advice and has prepared a comprehensive document, “Guidelines for Tendering”. These Guidelines are appended and rail contractors, in supporting them strongly, invite a wider review to remove any conjecture and to engender universal support for them. This would be a major step towards best practice in procurement.

Risk Mitigation

The tendering process, contract conditions and risk mitigation are inextricably linked. However, the long standing principle that “the person best able to manage the risk should take the risk” is inappropriate in today’s commercial environment. Not infrequently, contractors are exposed to some risks over which they have little or no control – for example, delayed events (rain and the like), site conditions, design errors, ambiguities and delay in approvals all fall into this category.

The key issue is to avoid unrealistic expectations that can lead to adversarial relationships and to the detriment of a successful project. There should be a critical examination of risks that may arise and then they must be allocated fairly. Easier said than done, but as the Productivity Commission recommends, for larger and more complex projects, government clients should pre-test the market to gain insights into possible savings from packaging the project into smaller components, reducing the level of risk borne by any one contractor.

COSTS OF INFRASTRUCTURE PROJECTS

The powerful growth of the infrastructure markets in the last twenty years has brought with it a legacy in terms of relatively high costs of infrastructure compared to many of Australia's global peers. On simple metrics, the cost of building core infrastructure in Australia appears to be high in world terms. For example, the cost of building the Brisbane Cross River Rail project is estimated to be around \$300m per km. This compares to the London Cross Rail project (another exceptionally complex urban heavy rail project) at US\$180m per km, the US North-East corridor line at US\$166m per km and the California High Speed Rail project at US\$50m per km.¹

The future sustainability of Australia's rail construction sector hinges upon driving down the high costs of tendering, more consistent project planning on behalf of governments and greater industry collaboration.²

In the recent report "Rail Infrastructure Project Costing in New South Wales", Evans and Peck summarised the main contributors of high costs of rail construction in Australia, in particular in NSW, identifying three main factors: Scope, Delivery Constraints and High Cost Base.³

For this submission, the ARA has selected several key cost driving factors that have been raised by the major contractors. They are as follows:

Greenfield and Brownfield Construction

An important factor affecting the costs of rail infrastructure projects is whether the construction site is a greenfield or brownfield site.

¹ Pottinger, Building Australia, New Models for financing infrastructure, 2013.

² Rail Express, The Sustainability of Rail Contracting in Australia, 2012.

³ General Purpose Standing Committee No. 3, Rail infrastructure project costing in New South Wales, 2012.

A greenfield site refers to projects which are constructed away from existing operating infrastructure. In the case of rail projects, this means a new rail line in a new corridor. Examples include the South West Rail Link, the Epping to Chatswood Rail Link, the Perth to Mandurah Link, or the Alice Springs to Darwin Link. Greenfields construction projects are not significantly affected by real or potential constraints from existing operational infrastructure except at the connection or crossing points.⁴

In contrast, the term brownfields applies to those projects which are constructed within or alongside operating infrastructure. This results in constraints on construction sequence, methods and access within the worksite.

In brownfield rail projects, the operator's objectives may include the continuity of rail operations throughout the construction program. Examples include the Kingsgrove to Revesby Quadruplication, Richmond Line Duplication and Southern Sydney Freight Line.

The complexity and constraints imposed because of brownfields construction significantly reduces construction productivity compared to greenfields construction and requires significant additional design, construction and management resources, from both the contractor and the client organisations.⁵ The ARA has estimated the difference of construction costs between the two is at an average of \$40 million.⁶

To elaborate on the above, the construction of three significant brownfield projects cost \$50 million, \$80 million and \$24 million (inclusive of civils, earthworks, stations and rail systems), while three greenfield projects cost \$11 million, \$3 million and \$4 million (inclusive of civils, earthworks and rail systems).⁷

⁴ Evans and Peck Pty Limited, Submission to General Purpose Standing Committee No. 3 inquiry into rail infrastructure project costing in NSW, 2011.

⁵ Evans and Peck Pty Limited, Submission to General Purpose Standing Committee No. 3 inquiry into rail infrastructure project costing in NSW, 2011.

⁶ ARA RCG board meeting, Road versus Rail Construction Cost, 2013.

⁷ ARA RCG board meeting, Road versus Rail Construction Cost, 2013.

Procurement process

The procurement process in Australia had been criticised as costly and time consuming, which results in even higher cost as time is considered a cost. The tendering costs in Australia are estimated to be around 1-2% of a project's total cost, which are high compared with world benchmarks of 0.5%.⁸

Compared to the UK experience specifically Australian procurement practices for Government projects result in far more expensive outcomes. This is ultimately due to UK projects being more defined with less risk pushed onto the contractor at bidding phase. The result is less design requirements, less cost attributed to risk allocation, lower bid costs and a great reduction in the amount of information/schedules required. Having said that, private sector processes in Australia are generally quicker and are less incumbent by requirements to fulfil and schedules to complete.

The ARA acknowledges that small changes in this area are occurring, with some of the industry's major clients now paying for some of the tender fees to attract quality contractors.

In the context of rail infrastructure projects, it is often the case that the projects are larger projects, where only the major companies have capability and capacity to go through the tender process. It has been suggested that if projects were to be split into smaller packages, more companies could be involved in the projects.⁹ The break down into appropriate sized packages would increase competition between tenderers and lower barriers for local business.

Inappropriate Contracting Arrangements

A number of projects have suffered from cost overruns due to inappropriate contracting arrangements. Lessons must be learnt from these widely publicised projects to enable all parties to enter into contracting models with their 'eyes wide open' to ensure the right model prevails to deliver a specific project. A number of projects have also been rescued by changing

⁸ Rail Express, The Sustainability of Rail Contracting in Australia, 2012.

⁹ Mr Bryan Nye, CEO, Australasian Railway Association, Evidence, General Purpose Standing Committee No. 3 inquiry into rail infrastructure project costing in NSW, 2011.

the arrangement once a project is seen to be suffering. This is a positive move and should be encouraged to ensure projects are not just dragged to the ground due to inflexible models.

High cost base

Australia is known as a country with high-cost of living due to the lack of economies of scale that comes with the small population and also the impact of a two-speed economy.

The two-speed economy in Australia creates competition for resources between transport infrastructure construction and the mining industry. This results in higher costs for resources and labours. While looking into the transport industry itself, the size of the industry is relatively small with only several major players. This leads to a lack of competition and as a result, higher costs.

Australia's labour costs are reported to be four times higher than in other countries.¹⁰ Local factors in the Australian market also play a role in increased costs for rail projects. These include labour costs and the small size of the domestic infrastructure market. The NSW Audit Office reported on shortages of skilled workers as one of the reasons for delays and cost escalation on a range of urban rail projects in Sydney¹¹

The skilled labour shortage issue does not only translate to a lack of skilled engineers and skilled tradespeople in construction companies, it also includes a lack of engineering and procurement skills in transport agencies. This issue leads to an over reliance on external consultants to prepare cost estimates, and to do project design and project management. This lack of in-house procurement expertise is one of the contributors that leads to inflated costs. It is understandable that due to the small volume of railway design and project costing, transport agencies find it challenging to keep design specialists and cost engineers

¹⁰ Herbert Hermens, Rail Opportunities Abound, 2013.

¹¹ Scott Martin, Costing Australian Passenger Rail Projects 2000 – 2012: How much did we pay and what did we get?, 2012.

gainfully employed, however it is recommended that transport agencies recruit experienced commercial project managers at the most senior level.¹²

Inadequate infrastructure planning

More efficient and effective infrastructure planning is playing a central role in determining the final project costs because it allows for early planning in surface rail corridors reservation. The lack of reserving rail surface corridors means that new infrastructure has to be located in the tunnels which will significantly increase in the project costs.

A study has shown that the greatest escalator of per-kilometre costs for heavy rail projects is the decision to pursue tunnelled rights of way. The technical and geological complexity and risk of these projects greatly increases this cost.¹³

Removing the two most expensive projects with tunnelled rights-of-way (Epping-Chatswood and Sydney Airport Railway) from the equation, the average construction cost drops by around one-third to \$27.95M per-kilometre. Removing the top five most expensive projects (involving either extensive tunnelled rights-of-way, cut-and-cover tunnelling and grade separations (Varsity Lakes extension), tunnelling and rail construction in the inner core for a new CBD station (Britomart Transit Centre) or erecting a new bridge over a waterway (Clifton Hill duplication)) reduces the average construction cost by 60 per cent to \$17M per-kilometre.¹⁴

¹² General Purpose Standing Committee No. 3, Rail infrastructure project costing in New South Wales, 2012.

¹³ Parliament of Victoria, Reviewing the Last Decade of Public Transport Infrastructure Projects in Australia, 2011.

¹⁴ Parliament of Victoria, Reviewing the Last Decade of Public Transport Infrastructure Projects in Australia, 2011.

Change of standards

Change of standards mid-way through a project has an impact on the costs. Change of standards after the project has commenced means engineering design work has to be redone to meet the new standards.¹⁵

The rail operators' design standards are constantly under review and are periodically revised to achieve improved outcomes. The design standards cover a wide range of issues such as environmental, acoustic, safety, performance, durability and maintenance requirements. Design standard changes can occur at any stage, and they generally result in increased costs. An allowance for potential changes to design standards needs to be considered in the contingency allowance. Alternatively, projects should be quarantined from changes in design standards after the design has been approved, as is common practice in major road projects.¹⁶

UNCERTAIN PROJECT PIPELINE

The current uncertainty around rail's pipeline of projects is also impacting the sector's ability to retain, train and invest in its workforce. Boom-bust project cycles are affecting contractors' ability to provide jobs for their workforce during the "spaces between major projects".¹⁷

RCG members are of the view that there is a need for greater surety on behalf of all levels of government in Australia around the pipeline of rail projects, and also a need for a nationally-agreed procurement method. This would enable the future sustainability of the sector and would help in better costing.

¹⁵ General Purpose Standing Committee No. 3, Rail infrastructure project costing in New South Wales, 2012.

¹⁶ Evans and Peck Pty Limited, Submission to General Purpose Standing Committee No. 3 inquiry into rail infrastructure project costing in NSW, 2011.

¹⁷ Rail Express

Pipeline of Rail Opportunities

In November 2015, the ARA and its members developed a [pipeline of rail opportunities](#). This document provides political leaders and key decision makers with a visual representation of the rail industry's pipeline of projects from today out to 2030s. The Pipeline can better inform political leaders and decision makers on planning future directions for infrastructure investment beyond the short – term electoral cycle. Some of the projects have been committed but not yet been fully funded by governments and some projects are at the conceptual stage.

The industry is now working in conjunction with state infrastructure bodies to secure the pipeline.

NSW – SPECIFIC COMMENTS

Expression of Interest (EOI) Stage

The TfNSW EOI process takes about 3 months from start to finish and costs the industry every time it is used. Could a registration process combined with a demonstration of meeting minimum criteria not be used instead? ARTC have used this process for the first packages on Inland Rail last year. The process was that industry was made aware of packages via industry briefings, advert in national press seeking Registrations of Interest , advert detailed interested parties should contact ARTC for pre-qualification documents to be sent to them. The two page prequalification docs were a series of 5 questions that were minimum criteria that the tenderer needed to complete and return to the satisfaction of ARTC in order to then get the tender docs released to them. The advert stated the registration of interest timescales of a two week closing period.

This process could be successfully used to significantly shorten timescales – 2 weeks instead of 3 months plus and significantly reduce the costs to the industry. The questions within the prequalification documents can be tailored according to the specific needs of the project and used as a filter according to the scale of the project ie \$200m threshold for previous rail projects in NSW for example.

Feedback Sessions – Honest Feedback

There is a general consensus within the industry that formal feedback sessions given to the losing proponents on a bid could be of a lot more value. They are typically very clinical meetings, with TfNSW attendees literally reading from a pre prepared script and watching every word they say due to the probity auditor being present. The conversation is very one way. As a result the proponent attendees rarely get to ask questions and really get to understand why they were not successful. When questions are asked they are usually along the lines of “can you explain that a bit more” or “what do you really mean by that?”. However very rarely is the conversation allowed to develop so that the proponent can get to the bottom of the issues. Generally the TfNSW representatives in response to these more detailed questions will re-quote the script in front of them. As a result the proponent generally comes away frustrated from these sessions as he is unable to understand what he needs to do differently next time. Therefore, TfNSW potentially also lose out as well as the proponent will not be able to directly address what they want him to put right as this was not discussed in detail. Industry would welcome the level of engagement where we could discuss in detail what was really wrong or what we need to do differently next time.

CONCLUSION

To conclude, the ARA thanks TfNSW for the opportunity to provide this submission. Efficient public infrastructure such as transport infrastructure plays a key role in a competitive and productive economy. As outlined in this submission, there are a number of reforms much needed in the areas of infrastructure procurement including reducing the stringent and costly nature of the project tendering process and ensuring the continuation of project pipelines. The ARA is committed to assist the NSW Government in these reforms and would welcome an opportunity to discuss this issue further.

BIBLIOGRAPHY

- Australia's Future Tax System 2010, Report to the Treasurer. Part 1 and 2, December.
<http://www.taxreview.treasury.gov.au.ezproxy.uow.edu.au/Content/Content.aspx?doc=html/home.htm>.
- Australian National Audit Report 2010, 'Management of the Auslink Roads to Recovery Program', *Audit Report*, No. 21 2009-10, Performance Audit.
- Bowen, C. (2009), "Reforms to Streamline the National Access Regime", Press Release No. 025, April.
- Business Council of Australia 2007, *Infrastructure Roadmap for Reform*, Melbourne.
- Conroy, C 2009, 'Historic Reforms to Telecommunications Regulation', Media Release 15 September.
- Emerson, C 2009, 'In the Zone', Speech given to the In the Zone Conference, November 2009.
- Ergas, H, Robson 2009, 'The Social Losses from Inefficient Infrastructure Projects: Recent Australian Experience', Productivity Commission Roundtable, 17-18 August.
- Fagan, M 2007, 'Introducing Competition into Natural Monopoly Industries: An Evaluation of Mandated Access to Australian Freight Railroads', Working Paper, Rpp-2007-05, Regulatory Policy Program, Harvard University, Cambridge, 18 March.
- Giorno, C 2011, 'Meeting Infrastructure Needs in Australia', *OECD Economics Department Working Papers*, no. 851, vol. 2011, pp. 91.
- Gold Coast Rapid Transit 2014, *Lessons Learnt; Planning and Approvals*,
<http://gcrtlelessonslearned.com.au/lessons-learned/planning-and-project-approvals/>
- Infrastructure Australia 2008, 'A Report to the Council of Australian Governments. December <http://www.infrastructureaustralia.gov.au/publications.aspx>.

NCC (National Competition Council) (2008), "Goldsworthy Railway. Final Recommendation", 28 August.

NCC (2009), Annual Report 2008-09, Melbourne, <http://www.ncc.gov.au/index.php/publications/C41>.

Productivity Commission 2005, 'Review of the National Competition Policy Reforms', *Report*, No. 33, Canberra.

Productivity Commission 2006, Road and Rail Freight Infrastructure Pricing, *Report*, No. 41, Canberra.

Productivity Commission 2008a, 'Financial Performance of Government Trading Enterprises', 2004-05, *Commission Research Paper*, Canberra, July.

Productivity Commission 2008b, 'Submission to Infrastructure Australia's National Infrastructure Audit', September.

Productivity Commission 2013, 'Inquiry into Infrastructure Costs', Australian Government Productivity Commission, November.

Productivity Commission 2014, Draft Inquiry into Public Infrastructure, Australian Government Productivity Commission, March.

Sims, R 2010, 'It is Timely to Consider Urban Congestion Charges', Article published in the Australian Financial Review, 30 April.