



Association Number A03958 | ABN 64 217 302 489

AUSTRALASIAN RAILWAY ASSOCIATION SUBMISSION

To

Infrastructure Australia

On

The Infrastructure Audit



THE ARA

The Australasian Railway Association (ARA) is the peak body representing all passenger, freight, track operators and the wider rail industry in Australia and New Zealand. As a not for profit member-based association, the ARA is actively involved in the development of rail policy with the purpose of creating an environment that will permit the Australasian rail industry to prosper and the vision is that rail will become the mode of choice for both passenger and freight transport due to its economic, social and environmental advantages.

The ARA thanks the Infrastructure Australia for the opportunity to provide this submission to the *Infrastructure Audit*. For further information regarding this submission, please contact Rhianne Jory, General Manager Industry and Programs via rjory@ara.net.au or 02 6270 4504.

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 2 (Attachment 1).

ARA GENERAL COMMENTS

The ARA agrees with Infrastructure Australia (IA) that productive and sustainable infrastructure is important to drive economic growth, increase employment and enhance quality of life. When transport networks work effectively, they raise productivity and strengthen our economy and international competitiveness.

As IA is aware, for some time now the ARA has been advocating to the Federal and State governments on the impending challenges facing our nation. These challenges, including road congestion, population growth, and rising transport demand in both the freight and passenger sectors, have been clearly articulated in the Audit report. As such, the ARA will not reiterate these points. This submission will focus on what needs to be done to address these challenges while we grow our economy and increase our productivity. These solutions are:

- Stronger role of IA
- Long term pipeline of infrastructure projects with genuine funding commitments for delivery from all levels of governments
- The Federal Government must 'Step Up' and invest in both passenger and freight rail
- Market and funding reforms

- Procurement and tendering process reform
- Maintenance and resilience of infrastructure
- Improved planning
- Building and maintaining sustainable infrastructure

Before discussing recommended solutions, the ARA would like to acknowledge its agreement with key Findings of the Audit Report. The ARA commends IA for its work in highlighting the serious challenges we are facing as a country. Without close attention from IA and long term commitment of resources from the Federal Government, these challenges will not be met and Australia's infrastructure backlog will grow even larger.

WHERE TO FROM HERE?

A stronger role for IA

The ARA believes that IA could play a greater role in developing a long term pipeline of productive and sustainable infrastructure for Australia's future. With the support of both sides of politics, IA's role should include:

- Providing a clear, national leadership to develop a new long term vision for the infrastructure sector;
- Developing a long term pipeline of infrastructure projects with genuine funding commitments for delivery;
- Reviewing the structure and operation of the freight market to ensure that there is competitive neutrality between modes of transport and the market is able to function efficiently including accelerating implementation of pricing reforms;
- Actively working with all levels of governments and the private sector to create a favourable environment for private sector investors, including procurement reform; and
- Maintaining rigorous and transparent approach in identifying infrastructure priorities for investment and areas for regulatory and policy reforms.

A long term pipeline of infrastructure projects with a solid public sector funding commitment

A large number of rail infrastructure projects are underway and in the pipeline. These projects cannot be delivered overnight. They take years of planning before the green light is given to

proceed. The procurement, tendering, and funding process is demanding, time consuming and expensive. Gearing up and implementation can span years.

There must be certainty in this process. A “go / no go” approach dependant on political whim in the electoral cycle is not acceptable -- a problem compounded by Australia’s federal system with nine federal, state and territory governments in the mix.

Rail contractors in Australia have a proven record in delivery. They combine technical capability with workforce skills for a most satisfactory outcome. Peaks and troughs in the demand cycle can strain available resources or can quickly render them redundant. The smoother the demand curve the more efficient the utilisation of available resources will be.

Cancelling or delaying projects has a significant adverse impact

A slash of the pen can result in a major rail infrastructure project being cancelled or delayed. Unfortunately this occurs all too often and the adverse impact on productivity, performance and the availability of capability including labour skills is not understood. It is a practice not isolated to one state or any particular political party or private sector client, but with better planning and commitment, it may be avoided or at least minimised.

Recent examples of the adverse impacts of project cancellations and delays across Australian jurisdictions include:

New South Wales: In 2011-2012, the cancelation of CBD Metro project valued at circa \$3.48b resulted in \$500m to \$700m in compensation paid to proponents funded by tax payers.

Victoria: The surprise election win of the Coalition in 2010 resulted in a two year delay in new projects due to a lack of government consensus on transport infrastructure planning. Project knowledge and capability drifted away to NSW, WA and overseas with the weak pipeline of projects leading to dissolution of the rail capable workforce and specialised plant and equipment. For example, the Regional Rail Link project was delayed by six months and rescoped, increasing project costs, while the change of alignment of Melbourne Metro generated further delays and saw much good work on a project deemed ‘Ready to Proceed’ by IA in 2012 sidelined.

While the 2014 Victorian election was largely fought over the East-West Link road project, the change of government also affected rail infrastructure planning. The Labor government has also overturned infrastructure projects it does not support, including the capacity enhancing Dandenong Rail Corridor project and the previous government’s Melbourne Rail Link (the

realigned Metro). However, it has offered a strong suite of rail infrastructure and rolling stock projects to shore up a long-term pipeline of projects beyond the electoral cycle.

South Australia: The withdrawal of Commonwealth funding relating to the Gawler rail project, due to its change in urban rail policy, has reduced the presence and capability of rail contractors in the state.

Western Australia: The Roy Hill Maintenance Alliance scheduled for 2013-14 and valued at circa \$120m has resulted in significant tender costs (estimated to be \$400K), wasted expenses for international partners and possible exposure of IP on asset management.

Tasmania: The election of a new state government saw the winding back of the Tasmanian rail revitalisation project, which has seen significant investment in track and bridge rehabilitation in recent years, co-funded by the Tasmanian and Federal governments. This has affected economic activity as local firms reallocate resources away from bidding for and working on rail projects and reduce the ability for Tasrail to become a more efficient rail operator.

No further studies into the problem are needed

These are recurring issues. Study after study has emphasised the importance of an enduring, longer term pipeline of infrastructure projects. The COAG process has not delivered this. The Productivity Commission and the House of Representatives Standing Committee on Infrastructure and Communications are united in recognising this need, but cannot ensure governments heed their recommendations.

Relevant players within the rail sector also highlight the importance of having a longer infrastructure plan and projects pipeline to the ARA. Aligning with the views of its Rail Contractors Group and the broader rail industry, the ARA concludes that a coherent pipeline of projects is required to allow industry to develop effective delivery plans and better workforce management, particularly in the engineering disciplines. Clearly defined planning schedules linked to medium – long term budgets would support the development of appropriate project pipelines.

There must be a better way

It is not good enough to be complacent about the impact of project cancellations and delays. Government, our federal and state infrastructure agencies in conjunction with the industry must work together to develop a longer term pipeline of projects which provides greater certainty and avoids cost blow outs and the diminishing of available capability.

Looking abroad, in Canada for example, the Government has committed as part of its 2013 budget, to maintain funding for at least 10 years to the Building Canada Fund. Like Governments in Canada and the United States, Australian and State governments need to present 10 year budgets and estimates of their infrastructure outlays. The estimated funding should be related to a minimum, fixed percentage of the country Gross Domestic Product.

The Federal Government must 'step up' and invest in both passenger rail

The ARA is disappointed with the Federal Government's 2015-16 Budget, which announced the lion's share of transport infrastructure funding to go toward roads, with no new money for the important rail infrastructure needs of the country's biggest cities. Federal contributions to state government rail projects have effectively halved between this budget and the last, making up less than 5 percent of the \$8.6 billion infrastructure spend in 2015-16.

This situation will not improve over the forward estimates without sustained future co-investment between Federal and State governments in urban rail. Federal funding of urban rail projects is forecast to decrease from \$514 million in 2014-15 to only \$17 million in 2018-19.

Australia as a nation is facing increasingly serious economic, social and environmental problems with traffic congestion clogging our roads, transport emissions choking our urban environment, fluctuating fuel prices and the continued growth of our major cities. The Federal Government's long-term approach to infrastructure funding that prioritises roads over rail will not address the long term transport needs of our growing cities. The ARA believes the Federal Government must play a greater role in building productive and sustainable urban passenger and freight rail networks.

Public transport is a priority in our cities

Most of our main cities are at the size where it is impossible to rely solely on private motor vehicles for commuting journeys, due to land use constraints and population volumes. Comprehensive public transport networks are essential for the long term success of Australia's cities. IA must continue to work hard with jurisdictions to develop well planned enhancements to urban public transport networks. These networks must be planned alongside land use strategies, so that new residential and employment areas are well served by public transport, and to ensure that public transport does not itself encourage unsustainable urban sprawl. A detailed discussion of this issue is provided in the Moving Australia 2030 taskforce publication, A

Transport Plan for a Productive and Active Australia. The publication is provided in Attachment 2.

Market reforms and funding

As the Audit report pointed out, Australia has spent more on infrastructure in the last five years than the preceding 20 years. Having said that, there is widespread agreement that Australia has a substantial infrastructure backlog. IA previously costed the national infrastructure deficit at \$300 billion while some commentators place the required investment as high as \$800 billion over the next ten years – a figure equivalent to more than half the combined market value of all companies listed on the Australian Stock Exchange.

This backlog is compounded by limited funds and competing priorities. Australian governments cannot afford to continue relying on an allocation from general Government funds for public transport improvements and infrastructure investments. Although efforts have been made in some jurisdictions, the approach to transport funding and financing must broaden nationally. Australia's infrastructure investment requirements go beyond political terms. Australian governments must establish alternative funding sources for public transport whilst ensuring that the private sector plays its part in financing the infrastructure the nation needs.

Continued investment and expansion of public transport is crucial for the success of the nation. Whether Australians travel by public transport or not, they still benefit from its existence and use by others. For instance, the average passenger train takes 525 cars off the road, reducing road congestion, improving road safety and decreasing transport-related emissions. As a result, an individual may not travel by rail or other modes of public transport but they still benefit from those who do.

Australian governments must innovate and embrace some of the many funding tools successfully used in cities, states and countries around the world.

Alternative revenue raising tools such as value capture, transit-oriented developments, congestion charging, payroll, sales and fuel taxes and Superannuation funds have been providing dedicated funding sources for transport operations and expansions around the globe for over a century. To capitalise on the broad social, economic and environmental benefits public transport provides and to continue improving Australia's public transport systems, sustainable, long term funding that allows planned improvements to service offerings and the expansion of existing infrastructure is vital.

The ARA released a report on *Innovative Funding and Financing for Public Transport* (Attachment 3). The report explored a selection of funding and financing mechanisms currently implemented around the globe. Rather than recommend one over another, the intention is to spark debate and highlight the innovative options that could be implemented to ensure long-term investment in Australian infrastructure. The ARA encourages IA to review the report and work closely with the industry and Government to explore the full spectrum of possible solutions to Australia's infrastructure funding challenge.

Procurement reform

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'.¹

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

¹ Productivity Commission, *Inquiry into Public Infrastructure report*, 2014, viewed on 10 June 2015 at <http://www.pc.gov.au/inquiries/completed/infrastructure/report>.

pressures and does not support the capacity for a project to receive financing at best market rates available'.²

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. 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. A trial by governments of testing the benefits of applying past contract performance by tenderers as a means of selection a preferred bidder (and shortlisting high-performing tenderers);
5. Government clients should provide concept designs using Building Information Modelling (BIM) to help lower bid costs;
6. For complex projects, government clients should pre-test the market to gain insights into possible savings from packaging the project into smaller components (de-bundling projects);and
7. Government should invest more time and money in understanding site risks and update the information provided.

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?

² Australian Constructors Association, *Submission into Infrastructure Planning and Procurement Inquiry*, 2014, Viewed on 18 June 2015 at <http://www.constructors.com.au/publications/2014-06-10/ACA%20Submission%20to%20House%20of%20Reps%20Inquiry%20into%20Infrastructure%20Planning%20and%20Procurement.pdf>.

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)..."³

The Australian Contractors Association has heeded this advice and has prepared a comprehensive document, "Guidelines for Tendering".⁴ 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.

Reforming regulation and markets

The current road pricing regime for heavy vehicles is viewed as unfair and inequitable in three key areas, namely, it recovers well below the true cost of road use by heavy vehicles, user

³ Productivity Commission, *Inquiry into Public Infrastructure report*, 2014, viewed on 10 June 2015 at <http://www.pc.gov.au/inquiries/completed/infrastructure/report>.

⁴ Evans and Peck, *Guidelines for Tendering*, 2006 Australian Constructors Association, Viewed on 12 June 2015 at http://www.constructors.com.au/publications/tendering_guide/ACA%20Guidelines%20for%20Tendering%2011%20August%202006%20Final%20.pdf.

charges (registration and fuel excise) from cars and light vehicles effectively cross subsidise heavy vehicles, and the heaviest trucks travelling the longest distances on the national highway system pay less than lighter vehicles travelling on urban and regional roads.

The current road pricing regime is also a significant competitive disadvantage for rail freight. ARA research from 2010 shows that while heavy vehicle user charges account for 5 to 10 per cent of costs for freight carried by road, in comparison user charges make up 30 to 40 per cent for the equivalent freight carried by rail.

A regime of road user charges for heavy vehicles has been in place in New Zealand since the late 1970s. This was seen as a necessary pre-requisite for rail reform. While the NZ regime does not fully recover the costs of heavy vehicle use, it does effectively price the impact of heavy vehicles on the road system and provides some road/rail competitive neutrality. Revenue collected through this system is earmarked for re-investment in the NZ road system along with a range of other revenues.

The rail industry supports a mass-distance-location (MDL) charging system for road users, as this places heavy vehicles on a similar regulatory and pricing framework to rail freight and other infrastructure utilities (gas, water, electricity).

The ARA believes that MDL charging coupled with reforms to infrastructure investment to ensure road infrastructure plans and levels of service would provide:

- A better cost recovery model for road use
- A more transparent process for investment in road infrastructure

Existing Infrastructure

The ARA acknowledges the Audit report's major theme of maintenance and resilience of infrastructure and agrees that maintenance standards for existing infrastructure is often below par. Recent media reports have starkly illustrated this issue on Melbourne's rail system, the backlog of foregone rail maintenance and the high level of recapitalisation required to bring the system back to a state of good repair.⁵ The ARA agrees with IA that infrastructure network owners and operators need to improve their asset maintenance and management processes to

⁵ Adam Carey. 'The Six Problems Ruining Melbourne's Rail Network'. *The Age*, 22 July 2015. Viewed on 5 August 2015 at: <http://www.theage.com.au/victoria/exclusive-the-six-problems-ruining-melbournes-rail-network-20150722-gji8ps.html>

ensure optimal levels of service can be provided now and into the future. However, the deferral of maintenance on Australia's rail system over previous decades also needs to be acknowledged.

The ARA would support IA developing a set of 'state of good repair' (SGR) guidelines for Australia's urban heavy and light rail systems similar to those developed by the US government's Federal Transport Administration.⁶ Adoption of SGR guidelines would ensure the 'maintenance gap' to achieve an SGR on Australia's mature rail infrastructure (particularly urban and regional rail) networks is identified and quantified, along with the level of investment required to maintain it in SGR.

Land Use Planning and Transport Project Evaluation

The integration between transport and land use planning remains a weak spot in Australia's urban infrastructure policy. In recent decades, most state jurisdictions have developed comprehensive strategic land use plans, but have tended to fall short on implementation.

Land Use Planning

The costs of servicing low-density outer suburban greenfield developments with the full range of infrastructure expected by the Australian community is high. Funding and building the kind of urban heavy and light rail infrastructure required to connect residents of these communities to the full range of metropolitan jobs (and educational, commercial and medical services) is high and often lagging years or decades behind residential development. At the same time as outer suburban communities demand heavy and light rail infrastructure, a decades-long backlog of infrastructure renewal on rail infrastructure in the inner and middle suburbs means urban rail networks are unable to effectively manage patronage growth.

Similar to infrastructure planning, there is often an inconsistency in land use planning that is closely linked to the political cycle. Rational land use planning that seeks to control urban land supply and provide a mixture of both outer suburban 'greenfield' sites and 'brownfield' sites in job-rich and infrastructure-rich inner and middle suburbs that are well served by public transport and other infrastructure is undermined by a range of factors.

⁶ Federal Transit Administration (2010), *National State of Good Repair Assessment – June 2010*. Viewed on 4 August 2015 at: http://www.fta.dot.gov/documents/National_SGR_Study_072010%282%29.pdf

In particular, the increasingly deregulated land-use planning system rather than strategic land use planning is guiding and shaping metropolitan development. All state and territory governments have released large amounts of 'greenfield' land to ensure a forward supply of land for housing, abandoning urban growth boundaries contained in strategic plans. This means land use planning in our major cities essentially defaults to the 'business is usual' trajectory of the past 60 years, meaning expansion in capital city populations are largely housed on 'greenfield' locations on the urban frontier with consequently high servicing costs for providing water, sewerage, energy and transport infrastructure.

The COAG Reform Council's recent efforts to ensure that state and territory government land use planning for Australia's capital cities are equipped with:

...strong, transparent and long-term plans in place to manage population and economic growth; plans which will address climate change, improve housing affordability and tackle urban congestion...⁷

has failed, largely because the land use planning system in Australia is failing.

Regional development

Planning and consultation around land transport infrastructure development can often give rise to a mentality (particularly in parts of regional Australia) where the transformative aspects of new infrastructure are overstated, creating false expectations of the benefits and underplaying the cost. Past history of road and rail building in Australia reinforces this view; while recent interest in the transformative capacity of the Inland Railway and East Coast High Speed Rail proposals reignites old arguments around the capability of these projects to promote greater economic development for regional Australia and decentralisation from the capital cities.

The ARA supports IA (in conjunction with other agencies) to better quantify and explain the regional development benefits and costs of transport and other infrastructure to better inform all levels of government, private sector firms and project proponents.

⁷ Council of Australian Governments. *Communique – COAG Meeting 7 December 2009*. Viewed on 5 August 2015 at: <https://www.coag.gov.au/node/90#4.%20Capital%20City%20Strategic%20Planning%20Systems>

Transport project selection and evaluation

The influence of the prevailing ideologies and short-term imperatives political level of government and institutional preferences on the current system of transport project evaluation and selection in Australia values large scale, high cost infrastructure 'megaprojects' more highly than small scale, lower cost, higher impact network improvement projects.

The effect of these influences on project evaluation and selection have been noted previously by the Productivity Commission⁸ and BITRE⁹ as barriers to raising the productivity of Australia's transport systems, while the often better value-for-money of small-scale network improvement projects over megaprojects was noted Infrastructure Australia in its 2013 *National Infrastructure Plan* report.¹⁰ The ARA calls upon IA to reform transport infrastructure project selection and evaluation to encourage proponents to offer IA (and its state and territory counterparts) a broader range of projects to be evaluated for their funding potential, including innovative capacity enhancement and network optimisation projects.

Achieving this goal requires a mechanism that removes project selection and evaluation processes from political and ideological imperatives and avoids the capture of these processes by the short-term pressures of the electoral cycle. Such a mechanism should encourage public transport agencies (particularly rail operators) to develop and maintain a broad range of 'plans in the drawer' for infrastructure projects to be offered up to IA and its state and territory counterparts for evaluation and selections. These plans should ideally range from megaprojects (such as the Sydney and Melbourne metro proposals) to more localised rail infrastructure projects that may involve treatments of a single junction or line that reduce delays, increase capacity or optimise performance. Such a mechanism will go a long way to helping to evaluate and select transport projects that will better manage growth on the existing urban rail networks in Australian cities, prepare networks for long-term network expansion and patronage growth and be ready to face the range of future challenges in the 21st Century.

⁸ Productivity Commission 2014, *Public Infrastructure, Draft Inquiry Report*, Canberra.

⁹ Bureau of Infrastructure, Transport and Regional Economics (2014), *Infrastructure, Transport and Productivity*. Viewed on 22 July 2015 at:

http://www.bitre.gov.au/publications/2014/files/is_055.pdf, p. 1.

¹⁰ Infrastructure Australia (2013), *National Infrastructure Plan*. Viewed on 3 August 2015 at: http://www.infrastructureaustralia.gov.au/coag/files/2013/2013_IA_COAG_Report_National_Infrastructure_Plan_LR.pdf, p. 34.

A New Approach to Project Evaluation

In its ideal state, infrastructure planning is an exercise in decision making which selects a preferred option from a range of options for an alternative future. Providing decision makers with genuine choices between alternative options to achieve goals of infrastructure provision is at the heart of project evaluation methods. These methods have dominated infrastructure planning around the world for over half a century.

Ensuring that evaluation processes provide genuine alternatives for decision-makers to best direct public and private sector investment in Australia's infrastructure systems remains important. Traditional cost-benefit analysis (CBA) techniques provide a rigorous methodology for limited public (and private) sector resources. However the limitations of traditional CBA techniques in evaluating and selecting infrastructure projects are becoming increasingly apparent. Many of the limitations of CBA techniques have been outlined through the work of Danish academic Bent Flyvbjerg and others, including:

- Underestimating costs and overestimating benefits to create overly optimistic cost-benefit ratios (such as many toll road projects constructed through PPPs)
- Choosing high discount rates that undercount benefits to the detriment of infrastructure projects with long-term, multigenerational benefits (such as public transport infrastructure)
- CBA scope limited largely to 'first round impacts' such as direct user benefits and direct environmental externalities, missing long-term benefits such as deferral of future costs
- Difficulties for CBA methodologies in estimating and quantifying Wider Economic Benefits (such as agglomeration economies) of infrastructure projects,
- How to integrate 'Triple Bottom Line' accounting in CBA techniques for transport infrastructure project, particularly for environmental benefits (such as reduced carbon emissions and improve air quality).¹¹

Sustainable Infrastructure

Rail is the least emissions intense land transport mode for passenger and freight haulage. If reducing GHG emissions is one of Australia's greatest economic, social and environmental

¹¹ See: Bent Flyvbjerg (2009). 'Survival of the unfittest: why the worst infrastructure gets built and what we can do about it'. *Oxford Review of Economic Policy*, 25 (3) and SGS Economics and Planning. *Cost Benefit Analysis – key features and future directions*. Viewed on 5 August 2015 at: <http://www.sgsep.com.au/insights/urbecon/cost-benefit-analysis-key-features-and-future-directions/>

priorities, the rail industry is uniquely positioned to help in the transition. The need to reduce GHG emissions has led to the call for the increase use of public transport in cities and a modal shift of freight from road to rail transport. Rail is the least GHG emissions intense form of land transport in Australia: while rail carries over one billion tonnes of freight and 770 million passengers per year, it produces on 3.5 percent of transportation sector-related GHG emissions.¹²

Over the next two to three decades as Australia inevitably makes its transition to a low-carbon economy, Australia's infrastructure networks are facing the pressing need of becoming more environmentally sustainable and resilient to environmental impacts. Infrastructure networks must become more sustainable by being increasingly efficient in the use of increasingly finite and expensive resources such as energy and water; and also more resilient as the effects of climate change will become increasingly felt during this period. More sustainable and resilient rail infrastructure that can handle an increasing part of Australia's land transport task will be an important element of any national climate change adaptation and mitigation strategy.

In an earlier section of this submission, the problems faced by the rail industry from the lack of a clear infrastructure project pipeline and the bending of rational infrastructure planning to the vagaries of incumbent governments and the electoral cycle were outlined. In a similar fashion, the rail industry has also been affected by inconsistent Federal Government policies regarding greenhouse gas (GHG) emissions reduction in recent years, along with related taxation policy settings that penalise rail for its existing environmental efficiency compared to other land transport modes. Examples include:

The rail industry was competitively disadvantaged by the loss of diesel fuel tax credits with the introduction of carbon pricing in by the previous Federal Government in 2012. In comparison, the road freight industry retained their diesel fuel tax credits until the introduction of the Emissions Trading Scheme in 2014.

Since 2014, the repeal of the Carbon Tax and the introduction of the 'Direct Action' emissions reduction plan by the current Federal Government continues to put rail at a competitive disadvantage to road. Rail freight's greater fuel efficiency and lower emissions per net tonne

¹² Australasian Railway Association. *Rail and the Environment*. Viewed on 5 August 2015 at: <http://ara.net.au/Rail-and-the-environment>

kilometre compared to road freight makes it difficult for the industry to successfully bid for emissions reduction fund money compared to less efficient land transport modes.

The ARA believes that IA has a role to play in ensuring that governments, infrastructure planners, owners and operators are pursuing sustainable environmental outcomes and adapting to climate change as a core responsibility.

CONCLUSION

Once again, the ARA congratulates IA and those involved in delivering the Audit report. The report provides an in-depth discussion on our challenges now and in the future. It also highlights where major reforms are needed to ensure we build and maintain productive and sustainable infrastructure for future generations. In this submission, the ARA discusses key reforms relevant to the transport industry, all of which are important and require urgent attention. These reforms cover issues such as a stronger role for IA, the delivery of a long term pipeline of infrastructure projects with a solid public sector funding commitment, market and funding reforms and procurement reform. The ARA looks forward to the opportunity to be involved in and contribute to the development of the National Infrastructure Plan. It would also welcome an opportunity to discuss in detail the industry infrastructure priorities for the future.