Submission to the Productivity Commission

Progress in Rail Reform

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The Institution of Engineers, Australia

1. Background

The Railway Technical Society of Australasia (RTSA) has assumed the functions of the former National Committee of Railway Engineering (NCRE) of the Institution of Engineers, Australia. As of 21 September, the RTSA had over 280 members, and had five Chapters established in mainland capital cities.

The Institution has considerable expertise in railway and transport engineering focused around the Institution's expert groups: the Railway Technical Society of Australasia and the former National Committee on Transport.

The present submission to the Productivity Commission will draw upon a previous submission of the NCRE to the House of Representatives Standing Committee on Communications, Transport, and Microeconomic Reform (the Neville Committee) examining the role of rail.

Freight is a significant cost to business and consumers, and in a globalising economy, it is becoming increasingly urgent that the transport sector becomes as efficient as possible.

Unfortunately, while Australia boasts probably the world's most energy efficient freight trains (being the privately owned iron ore trains), much of the nation's interstate mainline network is in an unsatisfactory state. For example, the network has numerous speed-weight restrictions due to:

- old wooden sleepers in Victoria;
- light weight rail on the Melbourne to Albury standard gauge track;
- a curve for every kilometre plus steep ruling grades from Albury to Sydney
- poor alignment from Sydney to Brisbane; and
- some 575km or 40% of the mainline interstate track in NSW fails to meet basic fast freight train standards of no grade steeper than 1 in 66 and no curve radius tighter than 800 metres. (Between Melbourne and Perth the failure figure is only 4%).

Consequently there is considerable opportunity to improve the efficiency of the railways and offer significant cost savings to freight users. The financial benefit of even small efficiency gains will be significant considering the size of the rail freight sector. In 1996-97 the rail freight tasks in Australia was some 110 billion tonne-km which is about 45% of Australia's land freight transport task.

Improving rail efficiency is a national freight priority and the Institution of Engineers, Australia is pleased to be able to contribute to this process.

The RTSA generally supports the 16 recommendations of the report "Tracking Australia" and particularly supports the following five recommendations of the Neville Committee.

Recommendation 1.	**The Committee recommends that the Commonwealth assume the leadership role and consult widely in developing an integrated national transport strategic plan to be published by 1July 1999.**
Recommendation 3.	**The Committee recommends that the Commonwealth takes a strategic approach to provide consistency in rail safety standards and practices for the national track.**
Recommendation 5.	**The Committee recommends that the Commonwealth in conjunction with the States/Territories and appropriate parties, develop and accredit national qualifications**

based on consistent curricula and accredited training courses available to all rail employees from approved educational centres.

Recommendation 10. **The Committee recommends that the Commonwealth ensures the Australian Rail Track Corporation adopts an access regime providing for transparent and accountable pricing. Such a regime should include:**
- **access pricing based on a two part tariff, comprising a flagfall and a variable component which allocates costs on a user pays basis; and**
- **posted access pricing by track segment.**

Recommendation 12. **The Committee recommends that the Commonwealth develops a more consistent, equitable approach to transport infrastructure charges to ensure competitive neutrality between modes.**

These recommendations are similar to ones made by the NCRE in 1997 to the Neville Committee. Supporting statements for these recommendations are contained in Section 2.

In addition, the RTSA also strongly supports two additional recommendations of the Neville Committee. They are

Recommendation 2. **The Committee recommends that the Commonwealth, in consultation with States and Territories, enhance the role of rail in the national transport network by:**
- **declaring a national track for interstate rail services on the standard gauge network from Brisbane to Perth**
- **addressing chronic deficiencies in the interstate national track**
- **adopting agreed national standards for the condition of the national track.**

Recommendation 14. **The Committee recommends that the Commonwealth:**
- **undertake responsibility for investment in the declared national track;**
- **allocate, in addition to the $250 million committed to the Australian Rail Track Corporation in 1997–98, a further $750 million over three years for investment in the national track to be expended according to priorities developed by the Commonwealth and States/Territories; and**
- **allocate, on an agreed basis, an additional $2 billion over ten years from 2001 for investment in rail infrastructure of national strategic importance, to be directed primarily to the national track, and with provision for designated tracks of national importance (TONIs).**

Supporting statements for these recommendations are contained in Section 2.

The RTSA would also invite the Commission to consider four other recommendations made by the NCRE in 1997 to the Neville Committee. They are;

The Federal Government form the National Infrastructure Advisory Council.
Transport infrastructure is not developed in isolation with other forms of infrastructure, nor over short time periods. Therefore a framework of national infrastructure development is essential. The proposed National Infrastructure Advisory Council would provide the

necessary mechanism to ensure a coordinated national approach to infrastructure development occurs.

The Federal Government urgently reviews the level of the fuel excise paid by rail freight providers.
The diesel fuel excise paid by the railways is one prominent example of market distortion. Not only does it add to costs, it also indirectly subsidises road transport as some of it is applied to road development. A review of the level of the excise paid by rail transport is urgently needed.

The Federal Government encourages rail infrastructure and rail freight organisations to undertake railway engineering and research via mechanisms such as investment allowances, tax concessions, government funding of a railway research and development organisation, and improved funding of research at tertiary institutions.
The amount of railway research and development has decreased significantly over the last decade. This is having a detrimental impact on the current and future operations of railways in Australia. Encouragement is required to ensure that both old and new rail organisations work undertake railway engineering and research.

That a working group is constituted to consider developing a rail sector-wide strategy to address future rail engineering skills shortages. The working group is to be made up of representatives from industry, government, professional associations and education providers.
The rail industry has extensively downsized and a 6 month research project undertaken by the Australasian Railway Association, the Institution of Railway Signal Engineers and the Institution of Engineers Australia has confirmed that shortages of railway engineers will occur in the future. Action is required to be undertaken to address this problem immediately.

Detailed supporting statements for these four recommendations are contained in Section 3.

2. Comment on particular Neville Committee recommendations

Neville Committee Recommendation 1. Re: an integrated national transport policy and Recommendation 12. Re: competitive neutrality.

Australia's main land transport sectors of road and rail do not compete on a level playing field. Cross-subsidies, failure to correctly price externalities and market distortions have all contributed to Australia's rail network being at a considerable disadvantage compared with road transport. This has resulted in significant losses to the Australian economy.

The fundamental cause of the uneven playing field is that policy makers have focused on the means of transport rather than the function of transport. This has resulted in a division being created between the transport modes, as each has tried to maximise its funding, efficiency and effectiveness in isolation with minimal consideration of the other.

For the user of freight services, the mode of transport is irrelevant. What does matter is that goods arrive at a particular destination in the most economic, timely and consistent manner.

The solution for building the most efficient and effective transport network lies not with improving the micro-efficiency of each transport sector in isolation, but with improving the macro-efficiency of the entire transport network. The best way to achieve this is for the Federal Government to develop an integrated freight transport policy based on a level playing field between transport modes.

Developing an integrated freight transport policy will not be easy due to pressure from interest groups, and the capture by interest group of some elements of the bureaucracy. In particular, the government will find it very difficult to quantify cross-subsidies between different types of road users, and to quantify road and rail externalities such as road damage due to the different types of road users, accidents, pollution and greenhouse gas generation.

There are two main elements to an integrated freight transport policy.

Firstly, a focus on increasing inter-modal freight. Inter-modal freight is an important tool in reducing the cost of freight. This is because most freight tasks have a number of segments and for each segment one of the freight sectors will be most efficient. However because of the inefficiencies in changing between modes, it is often more cost effective for freight users to use only one single mode even though it may not be the most efficient for all segments of the transport task. The Federal Government's recent creation of the National Transport Interface Committee is an important step in working towards improving multi-modal transport.

Secondly, a focus on increasing investment in transport infrastructure. Considerable investment is required in some elements of transport infrastructure, notably inter-modal facilities, inter-connectivity of transport modes and interstate mainline track infrastructure. In particular, investment is required to replace wooden sleepers with concrete, straighten track, reduce grades, raise overhead clearance and increase the weight of rail.

To attract the investment requires different strategies to remove the bias between the modes of transport. Initially, considerable upfront investment will be needed just to rebuild the network so that it is within reach of being competitive with road freight. The Government will probably be required to introduce active policies to encourage this investment. As the playing field becomes more level, investment will be attracted from the market as the cost advantage of rail becomes more apparent. Of central importance to attracting the investment is the development of standardised criteria on which decisions are made for all forms of transport infrastructure investment.

Two of the other benefits in developing an integrated freight transport policy are that it will create a positive business climate due to the demonstration of political leadership, and that it will provide a focus to re-energise the micro-economic reform process in this critical sector.

A model of an integrated freight transport policy is the United States Intermodal Surface Transportation Efficiency Act 1991. It states that, "It is the policy of the United States to develop a National Intermodal Transportation System which is economically efficient and environmentally sound, provides the foundation for the nation to compete in the global economy and will move people and goods in an energy efficient manner."

The NCRE recommended to the Neville Committee that the Federal Government develop an integrated freight transport policy based on a level playing field between transport modes. Thus the RTSA specifically supports Recommendations 1 and 12 of the Neville Committee.

Neville Committee Recommendation 3. Re: rail safety standards and practice, and Neville Committee Recommendation 5.Re: accreditation of qualifications and training courses

Another important impediment to increasing efficiency and increasing private sector involvement in railways is the lack of standardisation in technical and operational aspects across rail authorities. While the establishment of the national standard gauge network was an important step, there are many other areas which lack standardisation.

Examples of this include the multiple radio systems and some 22 safe working systems throughout Australia that are encountered by interstate standard gauge trains.

The rail authorities need to accelerate their programs of standardisation of signals, communication networks, construction and other technical aspects, and of safe working, train running and other operational aspects.

The NCRE recommended to the Neville Committee that the Federal Government and State Governments encourage the rail authorities to accelerate their programs of technical and operational standardisation. Thus the RTSA specifically supports Recommendations 3 and 5 of the Neville Committee. The question of ensuring that there are sufficient numbers of trained and qualified engineers is also taken up in Section 3 of this submission.

Neville Committee Recommendation 10. Re: ARTC access regime

A critical issue for private rail freight organisations is rail track access. Not only must access conditions be standardised across the entire rail network, but any changes to conditions must not be arbitrary. These requirements raise two main challenges for the government. Firstly that any national regime to establish access conditions has the power to enforce its views, such as to eliminate state anomalies and ensure transparent access pricing. Secondly, if the track infrastructure is privatised, then it is essential that an access regime is established which ensures that the privatised rail infrastructure organisation does not exploit its monopoly position. Any uncertainty in track access arrangements will result in a reduction of the sale value of the above rail assets, track users under-investing, and unnecessary legal action.

The NCRE recommended to the Neville Committee that the Federal Government and State Governments give priority to defining and improving track access conditions including establishing clear mechanisms for setting charges. Thus the RTSA specifically supports Recommendation 10 of the Neville Committee.

Neville Committee Recommendations 2 and 14. re investment in national track

The RTSA supports the Australian Transport Council's 1997 agreement to lift the average speed of intermodal intercity freight trains to 80 kilometres per hour by 2002. In addition the RTSA welcomes the recommendation No 2 in the *Tracking Australia* report for early remedial action to address "chronic deficiencies in the interstate national track". The need for substantial rail investment has been highlighted in the past with the NTPT advising that a total mainline interstate investment exceeding $3 billion is required.

The RTSA supports the Neville Committee's No 14 recommendation which is for an outlay of $1 billion ($250m already committed plus $750m) over the next three years, plus a further $2 billion from 2001.

3 IEAust recommendations

National Infrastructure Advisory Council

A critical element in an integrated freight transport policy is transport's role within the wider context of infrastructure in Australia. Transport infrastructure is not developed in isolation and considering that transport infrastructure development requires a long-term perspective, a framework of national infrastructure development is essential. The Coalition recognised this in its 1996 pre-election commitment to form a national infrastructure council.[1] The commitment acknowledges the fact that there is a clear role for the Federal Government in infrastructure strategy setting and management due to inefficiencies between States and within particular sectors.

There is significant industry support for an infrastructure council and the Institution has been involved in proposing one model called the National Infrastructure Advisory Council (NIAC). The NIAC would be a national council reporting to the Council of Australian Governments (COAG). The NIAC would consist of private sector representatives and Federal, State and Local Government representatives. By June 1997, 22 peak business and industry associations had endorsed the NIAC proposal.

The mission statement of the NIAC would seek to facilitate the efficient and equitable provision of national infrastructure by public and private sector stakeholders through long-term strategies and sustainable development for present and future generations.

The NIAC would achieve this mission by establishing a distinctive national perspective on:
- strategic development, best practice and standards,
- cross-jurisdictional issues and impacts,
- relationships and interaction between different forms of infrastructure,
- the principles of ecologically sustainable development affecting the provision of infrastructure, and
- overall balance of infrastructure provision.

The terms of reference of the NIAC would require consultation with all interested parties on matters relevant to its aims, and advise and report to the COAG on areas including:
- the state of infrastructure and future infrastructure needs (including national accounting standards and data collection),
- best practice principles in infrastructure provision and management,
- the co-ordination of infrastructure provision across all levels of government,
- the type and quality of information which infrastructure providers should make publicly accessible,
- the establishment of a set of principles to guide infrastructure planning, and
- infrastructure issues referred to it by COAG.

The NIAC could also provide valuable support to the major projects facilitator appointed within the Prime Minister's Office, and facilitate information exchange in international forums, such as APEC and WTO, on regional infrastructure issues.

Recommendation
The Federal Government form the National Infrastructure Advisory Council.

[1] 1996, *The Coalition's Local Government Policy*, Melbourne, pp. 11.

Diesel Fuel Excise

The diesel fuel excise paid by the railways is one prominent example of market distortion. The rail authorities pay about $160 million per annum in diesel fuel excise and this cost raises the price of freight by about 5 per cent. Unlike other industries, the rail authorities are not entitled to the diesel fuel rebate. While there are some externalities associated with the use of diesel fuel by railways, the high level paid by the rail authorities is inequitable. Not only does it add to costs, it also indirectly subsidises road transport as some of it is applied to road development.

A review of the level of the excise for rail transport is urgently needed. It may be appropriate to reduce the excise significantly or channel the entire excise back into rail infrastructure development.

It is noted that the Neville Committee in its report did address the question of fuel excise, but took the view (page 124 if the report, Box 5.1), as per its 1997 report on roads, Planning not Patching, that fuel excise goes into consolidated revenue, and, in the case, it is not appropriate "...that rail should be exempted from fuel excise...". The RTSA, noting the earlier findings of the Commission in its 1991 report on Rail Transport, and those of the former Inter-State Commission, that further consideration should be given to this issue.

Recommendation
The Federal Government urgently review the level of the fuel excise paid by rail freight providers.

Railway Research and Development

With the closure of the Australian Railway Research and Development Organisation in 1985 and the reduction in funds to the state-owned railways, virtually no railway research and development is being undertaken in Australia. This has led to the rail authorities not gaining the benefits from research and development. With the increasing involvement of the private sector in railways, this view should change, albeit slowly. The acceptance of the importance of rail research and development could be accelerated with encouragement by the Federal Government. This encouragement could take a number of forms including investment allowances, tax concessions, government funding of a railway research and development organisation, and improved university funding. Australian universities could play a major role in the railway research and development.

One particularly important area for research and development offering enormous benefit is the wheel / rail interface. Examples of beneficial research in this area include self-steering bogies and head-hardened rail.[2] With the separation of rail infrastructure and rail freight operations, a focus on the wheel / rail interface will become more important as, left to itself, the area would probably be ignored as each side has only a partial interest in the interface.

The RTSA notes although the Neville Committee in its report (page xi, Chairman's Preface) stated that "The Committee believes the rail industry would benefit from greater research and development so that rail might better prepare itself for the 21 st century." and support was given for training etc, no specific mention in the 16 recommendations were made of research. Thus, the RTSA asks that the Commission give consideration of

Recommendation
The Federal Government encourages rail infrastructure and rail freight organisations to undertake railway engineering and research via mechanisms such as investment allowances, tax concessions, government funding of a railway research and development organisation, and improved funding of research at tertiary institutions.

[2] Both self-steering bogies and head-hardened rails increase wheel and track durability.

Skills Training and Education

The rail industry has extensively downsized and it is of concern that, in the future, there will be insufficient Australian expertise to adequately service the rail industry. Shortages have already occurred in specific areas. For example, the shortage of signal engineers was one of the main causes in the delayed commissioning of the Brisbane tunnels and standard gauge link to Brisbane's main port at Fisherman Island.

The shortages will become increasingly apparent in the near future as many of the industry's aged workforce retire. Currently, due to the fragmented nature of the industry and the industry's turmoil resulting from large-scale retrenchments, rail organisations have not undertaken skills training to mitigate the anticipated skills shortages, particularly for tradespeople and professional engineers.

A 6 month research project undertaken by the Australasian Railway Association, the Institution of Railway Signal Engineers and the Institution of Engineers Australia has confirmed that shortages of railway engineers will occur in the future. The RTSA supports the principle recommendation of the project. It is

> **Recommendation**
> **That a working group is constituted to consider developing a rail sector-wide strategy to address future rail engineering skills shortages. The working group is to be made up of representatives from industry, government, professional associations and education providers.**

Attachment 1 is a summary of the engineering skills study undertaken by the Australasian Railway Association, the Institution of Railway Signal Engineers and the Institution of Engineers Australia.

4 Conclusion

The Institution of Engineers, Australia considers that with the creation of a level playing field and a range of actions to improve the efficiency of both rail and intermodal transport options, railways in Australia can deliver considerable transport cost savings to business and the community. Environmental benefits will also flow as a result.