

*Summary of Submission to the House of Representatives  
Standing Committee on Transport and Regional Services Inquiry into the Integration of  
regional rail and road freight transport and their interface with ports*

*from the Railway Technical Society of Australasia (RTSA) - May 2005*

**Introduction** Given the state of much of Australia's rail network, the current inquiry by the Committee is timely. Although Australia's iron ore railways perform at world best practice, the 2004 OECD report on Australia and recent statements by the Reserve Bank of Australia show that Australia is now facing serious economic problems due to bottle-necks caused by inadequate transport infrastructure. Australia has also demonstrated an over-reliance on road freight of bulk commodities to ports.

**Branch lines and grain transport** In part due to rail privatisation, problems of grain movement and maintaining branch lines as 'fit for purpose' is a particular issue for Victoria, New South Wales, South Australia and Western Australia. The impacts of grain movement in regional and rural Australia have wider economic and social impacts that require national consideration. Closing branch lines with the consequent increase in B-Doubles and other heavy trucks on regional roads is likely to impose high external costs.

**Intercity rail freight** AusLink is a good start but the first five year plan needs some modification to provide some funding for rail on each of the Brisbane - Townsville and Burnie - Hobart corridors. Advanced planning for a second five year track upgrade programme (2009-2014) for the North South rail corridor is also needed and this upgrade will require major track straightening on the NSW Main South line. As is well known from experience, road or rail deviations have long lead times to address environmental impact assessment and land acquisition. Rail corridor protection at an early stage is essential.

**More on regional rail** It is necessary to restore the intended funding of \$400 million for regional strategic transport initiatives to include rail as proposed by the AusLink White Paper. The need for grain line rehabilitation is urgent in most mainline states as is the need to make provision for major developments such as the timber industry in South Australia and NSW. There is a case for improving regional rail passenger services, rather than withdrawing them. Here RTSA commends the 'Queensland model' of upgrading mainline track for faster and heavier freight trains, and the use of medium high speed trains.

**Other** RTSA supports a microeconomic reform program to focus on land transport. This includes a reassessment of road pricing for the heavier long distance trucks. Better land transport data is needed. The prospect of sustained higher oil prices ('Peakoil') is something Australia may well need - sooner better than later - to address.



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**Submission to  
House of Representatives Standing Committee on Transport and Regional Services**

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interface with ports - May 2005**

**INTRODUCTION**

1. The Railway Technical Society of Australasia (RTSA) is a technical society of Engineers Australia. The RTSA now has over 800 members and hosted a major Conference on Railway Engineering in June 2004 at Darwin with about 400 participants. It is hosting another such conference at Melbourne in 2006. The present submission outlines RTSA member concerns, and updates a submission made in late 2003 to the Committee re the Economic and Social Impacts of the Privatisation of Regional Infrastructure and Government Business Enterprises in Regional and Rural Australia.

2. The RTSA notes that the committee will assess, in part policies and measures required to assist in achieving greater efficiency in the Australian transport network, with particular reference to:

- land transport access to ports;
- capacity and operation of major ports;
- movement of bulk export commodities, such as grain and coal;
- the role of intermodal freight hubs in regional areas;
- opportunities to achieve greater efficiency in the use of existing infrastructure; and
- possible advantages from the use of intelligent tracking technology;

The Society will address some aspects of rail and road freight in this submission.

3. At the outset it is worth noting that due to extensive research and development, and appropriate investment, the iron ore railways operating in the Pilbara Region of Western

Australia do so at world best practice. Some information about the BHP Iron Ore operations is given in an article by Mr Mike Darby, 2001 *Technology for profit*, Proceedings 7th International Heavy Haul Conference. This article notes in part that diesel use has decreased by 43 per cent between 1980 and 2000 to about 0.75 litres per tonne of iron ore. In turn, this gives an energy efficiency of at least 12 net tonne per Megajoule (net tkm/MJ) on a Full Fuel Cycle (FFC) basis where 1 litre of diesel is equivalent to 41.77 MJ. This exceptional and world best performance compares with an Australian average for non iron ore freight trains of about 3.3 net tkm/MJ (Rail CRC data for 2001-02).

However, as well as having the best in the world in terms of delivering bulk commodities to ports by rail, Australia has some of the worst in the western world as shown, in part, by the deteriorating condition of some grain lines. Australia has also demonstrated an over-reliance on road freight of bulk commodities to ports with high external costs. One particular example was the road haulage of up to six million tonnes of coal over public roads to Port Kembla over many years with some loss of life.

4. As identified by the Reserve Bank of Australia, and the 2004 OECD Report on Australia, at this point in time Australia is facing serious economic problems due to bottlenecks caused by inadequate and/or substandard transport infrastructure. Since the 1970's, investment in infrastructure has fallen from about 7% of GDP to 3.6% of GDP. This is reflected in the inadequacies of transport systems particularly those servicing mineral exports. Rail is a key land-side mode and the failure to provide adequate rail networks for the bulk freight that use rail is leading to lost export opportunities.

5. As shown with privatisation of rail in Britain and New Zealand, it is not sufficient for the Government to dispose of rail assets to the private sector with a few regulations and somehow expect rail freight performance to improve. In each of Britain and New Zealand, further Government outlays to maintain and improve rail track have been necessary. Government needs a proactive approach of both logistics / transport policy as well as regional development policy rather than relying solely on fiscal policy. Without a balanced industry policy, privatization ends up placing disproportionate burdens on sections of the community. This is particularly so for regional, rural and remote Australia.

6. The RTSA has welcomed the initiative of the Federal Government in producing the AusLink White Paper. The approach adopted by AusLink is consistent with the findings

and recommendations of the 1998 report 'Tracking Australia' from the Committee. The RTSA was an active participant in this inquiry.

The White Paper released June 2004 outlines a 'new approach to planning, developing and managing Australia's national land transport infrastructure.' The new approach is in part prompted by the projected growth in the total domestic freight task from about 375 billion tonne kilometres (btkm) in 1999-2000 to about 650 btkm by 2020. This is with an annual growth rate of 2.8 per cent, with non-bulk road freight growing at 4.3 per cent pa and interstate road freight growing even faster at 5.1 per cent pa. If nothing is done to change existing trends, then interstate road freight will almost triple by 2020.

Since "*freight traffic is the major cause of road wear*" (p. 13) such a scenario is costly to the nation.

7. The call for Government investment in rail track is, in the main part, driven by large ongoing Government investment in roads. This investment in roads does not require road users to pay 'up front' for new works, nor does it equitably recovery the cost of this investment across classes of road users (trucks hauling heavy loads over long distances are causing significant road wear with costs that are being funded by other road users). Ongoing Federal Government transport reform along with investment in interstate mainline rail track in Australia is necessary and long overdue. This need was identified by the Committee in its 1998 report 'Tracking Australia' and its 2001 report 'Back on Track' and is recognised in the AusLink White Paper.

8. The Society also considers that there is an ongoing role for intercity passenger trains to serve regional Australia. The experience in Queensland in providing moderately high speed tilt trains on existing track (upgraded for faster and heavier freight trains) suggests that this is an effective proposition.

9. It is noted that much rail reform was accomplished whilst under Government ownership. This includes the drive of Australian National and Westrail towards commercial operations during the 1980s, and the success of National Rail during the 1990s (in turning around a business losing about \$300 million per year around 1990 to make a small profit in 2001). In addition, in our view, Queensland Rail continues to do well in an increasingly competitive environment.

10. As well as an understanding of the economic dynamics between modes of transport (road-rail competitive neutrality) there needs wider recognition and understanding of the market dynamics of the modes (particularly regional rail markets) and their impacts on regional development. Privatisation of regional infrastructure of itself will not induce new demand for services.

Much of regional Australia's early agricultural and industry development was based on co-operatives or 'farmer activism'. Many of these co-operatives have now successfully transformed into professional commercial enterprises (such as the Wheat Board and various state grain handling authorities).

11. The UK Institute of Public Policy Research (IPPR) has case-studied a number of privatization programs around the world (*'In the Public Interest? Assessing the Potential for Public Interest Companies'*). They have found that where demand for services is weak, and where services are dependant on monopoly infrastructure then including this infrastructure, in the form of a 'Public Interest Company', with user groups in control of this company, is a sustainable business model. In a sense the IPPR has found a 'back to the future' approach (which was once a strong feature of Australia's regional development) is a valid model for some privatization programs.

12. It is of interest that the NSW Government in introducing on 12 November 2003 Transport Administration Amendment (Rail Agencies) Bill 2003 into the New South Wales Legislative Assembly, noted, inter alia, *"In a significant departure from existing State owned corporations, this bill waives the need for RailCorp to deliver a share dividend. This provision recognises that the primary focus of the new organisation will be to deliver public transport, not a dividend or return to government."*

The new models serve to highlight emerging trends, which are now focusing on participatory governance, 'growing the business', overcoming inefficiencies (in some institutions) as well as redressing some previously ill-founded reform decisions.

## **BRANCH LINES AND GRAIN TRANSPORT**

13. The problem for grain movement and branch lines is a particular financial issue for Victoria, New South Wales, South Australia and Western Australia. The impacts of grain movement in regional and rural Australia have wider economic and social impacts that require a national consideration. RTSA has reservations about closing branch lines with

the consequent increase in B-Doubles and other heavy trucks on regional roads. RTSA also has strong reservations about increasing mass limits, (with or without so called road friendly suspensions), whilst there is an ongoing strong debate about the adequacy of the level and structure of road pricing for heavy trucks.

14. Regional railways are noted in the Background Briefing Paper for a 2003 Committee inquiry, as *"An emerging issue is that of perceived cost shifting from the States to Local Government with rail branch line closures. The effect has been to transfer heavy grain haulage off of local branch lines onto local government roads with a consequential blow-out in road and bridge maintenance costs."*

Such 'cost shifting' is not new (see the Industry Commission's 1991 Report on Rail on page 115 re the costs of closing of the Wilmington – Gladstone line in SA) but has been accentuated by recent rail privatisations. This transfer of cost is viewed as a financial benefit to a state government, but is a significant economic and social 'disbenefit' to local communities. These 'disbenefits' further limits the services that local government authorities can offer their communities at a time of falling rural incomes, increasing poverty and at a time of both declining and ageing of rural population. This increasing call on services with a declining capacity to pay, places added burden on regional, rural and remote communities.

15. To quote from the Industry Commission's 1991 Report on Rail on page 115, as noted by the ALGA. *"In looking at the economies of closing the branch line, the cost of upgrading the road alternative to a standard where it can do the same job efficiently needs to be taken into account. From the perspective of developing a rational transport system, the economics of saving public expenditure by closing a branch line may be illusionary if the net result is a requirement to increase public expenditure on roads."*

16. To this can be added tragedy of road crashes involving heavy trucks. All road crashes represent more than an economic cost- they represent the loss of sacred life (particularly young drivers and whole families). Although research has been conducted on the economic cost of accidents, the RTSA feels that mortality and morbidity risk rates involving articulated trucks may be higher in rural areas than those of urban areas.

Indeed, the Australian Transport Safety Bureau Fatal Road Crash Database (<http://www.atsb.gov.au/road/stats/current.cfm>) shows that in the 16 years from 1 Jan 1989

to 31 Dec 2004, 71 per cent of all fatalities involving articulated trucks occurred on roads with a speed limit of over 80 km/h, whereas 49 per cent of all fatalities not involving articulated trucks occurred on such roads.

Increased use of heavy vehicles and road mass limits (for grain or other bulk haulage) may further increase the risk of fatal road crashes involving articulated trucks. Measures to mitigate this risk through improved road and vehicle performance standards or behavioural awareness campaigns may not be adequate.

It is estimated that the economic costs of accidents for rail transport are much lower than those of road (at some 0.5 cents per net tonne km for road as against 0.03 cents per net tonne km for rail). If 'likelihood' is correlated to the rate per net tonne km and 'consequence' is correlated to the economic cost, then the risks associated with rail transport are 1/10<sup>th</sup> of those for road.

17. Under-recovery of road system costs from the heavier trucks was recognised by the Bureau of Transport Economics in its 1999 report on Competitive Neutrality and the National Road Transport Commission (NRTC). This was also recognised by several enquiries in the 1980s, and is a long-standing issue in Australia

The issue is further complicated by ongoing relaxation of mass and dimension limits for heavy trucks. Pending a third determination by the National Transport Commission (NTC) of road user charges in 2005, there is a good case for putting on hold approvals in the areas of operation of longer and heavier trucks, and maintaining CSO's for rural grain lines.

18. Further concern about closing rural branch lines, and increasing extra road system costs, is given in an article 'Rail-roaded' in *The Land* (page 1 of 19 June, 2003) and comment 'Making sense of rail freight' on page 7 wherein it is noted "*On no account should these lines be closed. The fact that maintenance has been neglected is no reason to declare them 'uneconomic'. Simply, they must be brought up to standard.*"

20. Although regional *roads* are discussed in the AusLink Green Paper, regional *rail* was not. Real concerns were identified in a different Green Paper released in November 2002 by the NSW Farmer's Association. These included the observations (p. 7 from a BAH report), "*Track, structures, signals and communication systems over most of the CSO network were found to have deteriorated over the last 4 years and require restoration*

*to ensure continued operation at an adequate performance level...The inadequate performance of the CSO network has been a major constraint to operators impairing reliability and cycle times and consequently overall competitiveness."*

The NSW Farmer's Association Green Paper also notes (p. 7) *"In general terms, it is apparent that successive Governments have failed to adequately plan to invest in an integrated transport system. This is evident from the differences in track standards across Australia and the enormous variability in the quality and capabilities of rail and road systems in NSW. While upfront capital costs are significant, without adequate infrastructure rural communities, and the businesses servicing them, will be badly affected, and the divide between urban and country areas will only increase."*

21. In short, the Committee is invited to consider measures that will allow rail to play an increased, rather than decreased role, in serving regional Australia and moving bulk commodities to ports (even over comparatively short distances). There is ample evidence as to the significant costs of closing down branch lines when rural roads have to contend with an increased number of heavy trucks.

Given the recent expressions of concern re rural grain lines, the Society would request that consideration be given by the Committee to the value of maintaining rural branch lines. The Society would also suggest that a full study of grain transport and logistics economics be undertaken, to determine the optimum future network that fully accounts for both the financial and economic costs (including roads and all externalities). This would allow Governments to make informed decisions and not just allow events to take their present course on the basis of commercial interests.

## **INTERCITY RAIL FREIGHT**

22. As the AusLink White Paper notes, the land freight task is set to double by 2020, and unless rail tracks are upgraded, rail's ability to carry more freight will be limited. This will result in excessively high economic, social and environmental costs imposed by road freight.

Track work since 1998 to improve rail freight competition mainly comprises new railways for iron ore and coal, construction of the Alice Springs – Darwin railway, Rockhampton – Cairns resleepering, and work within a limited budget by the ARTC on the East-West corridor.

23. As established by the 1998 report 'Tracking Australia' from the Committee, the 1999 Smorgon Report on rail, the Productivity Commission's 1999 report on Progress in Rail Reform, and the detailed National Track Audit released by the Australian Rail Track Corporation (ARTC) in May 2001, there is a considerable backlog of mainline interstate track work on the North - South corridor linking Melbourne, Sydney and Brisbane.

The Track Audit found that '*significant track upgrades on the Melbourne - Adelaide corridor have reduced transit times considerably*' and such upgrades, with improved reliability, have allowed rail to attract additional freight traffic. After four decades of upgrades (going back to gauge standardisation in the 1960s, followed by concrete resleepering, more gauge standardisation and track straightening and other track work) the relatively good track condition and length of the Adelaide - Perth corridor has allowed rail to reach just over 80 per cent of land freight on this corridor. However, rail's modal share of land freight on the busy Melbourne - Sydney and Sydney - Brisbane corridors is a very low 15 per cent or so.

24. For rail to be efficient and competitive in moving freight between Australia's three largest cities, there will have to be major track upgrades with some track straightening. As well put in a letter "Rail network urgently needs federal funding injection" Australian Financial Review 4 February 2002, "*...The trucks are there because successive federal governments have invested billions of dollars into roads over recent decades while spending negligible funds on rail tracks. No matter how good the new train owners may be, they will still be trying to do so on tracks and routes little changed since the 1920s.*"

The ARTC in February 2005 has listed many potential rail deviation sites within New South Wales on the Main South Line between Campbelltown and Albury, and on the North Coast line, as well as identifying a number of other promising deviations. The RTSA has noted previously three major rail deviations on the Main South line was identified in the ARTC 2001 Track Audit. These are;

a deviation between Bowring and near Frampton (noted as the Hoare Deviation),  
 a deviation between Menangle and Mittagong (the Wentworth Route), and,  
 a deviation between Goulburn and Yass.

Construction of these rail deviations would improve the efficiency of rail haulage of wheat from the south western region of New South Wales to Port Kembla as well as improve intercity rail freight. It is of note that since 1974, over 85 per cent of the Hume Highway has been reconstructed to modern engineering standards using Federal funds.

25. The AusLink White Paper notes (as does the ARTC-NSW Government agreement of June 2004) present terminal to terminal times of 13 hr 30 min for Melbourne - Sydney, 21 hrs for Sydney - Brisbane, and 36 hrs for Melbourne - Brisbane. These transit times would be expected to be reduced to 10 hrs 30 min, 17 hrs 30 min and 29 hrs 30 min respectively, on completion of about \$1.8 billion of capital works prior to 30 June 2009

However, as per the Committee's earlier recommendations, an investment of about \$3 billion is required to ensure that the mainlines are fit for purpose. In 1994, a National Transport Planning Taskforce found that an investment of over \$3 billion was needed to bring interstate mainlines up to the standard for rail to compete with road. As well, the Bureau of Transport Economics in a 1996 report on Transport and Greenhouse - page 210 - noted proposed rail infrastructure investments by corridor with a total Stage I of \$1,263m by 2000, and \$2,155m by 2010 (on the Melbourne- Brisbane corridor). This included \$1,020m for Sydney - Melbourne (both stages). The AusLink White paper notes an allocation of \$477m for Sydney - Melbourne by 2009.

The estimate of \$3 billion was upheld by the Committee in its 1998 Report "Tracking Australia" which recommended this level of investment be made by the year 2010. One billion dollars was to be invested as a matter of urgency by 2001, and another two billion dollars over the next ten years.

To quote Committee Chairman Mr Neville speaking in Parliament on 8 February 1999 as Chairman of the House of Representatives Standing Committee on Transport etc *'...when you consider that Queensland Rail will have spent nearly a billion dollars between Brisbane and Townsville in less than a decade on just one line it is not a big ask that, for a national system that links the five mainland capitals, we spend \$2.75 billion over 12 or 13 years.*

26. As above, the AusLink initiative is commendable. This includes connectivity to ports with particular projects such as Campbelltown to Chullora freight line, improved crossing of Footscray Road (access to Swanson Dock), bi-directional track from Footscray to Tottenham, and duplication of Port Botany Line. Here again, the need to retain existing easements is important and this would include what is left of the easement to Webb Dock. Provision for future easements is also needed.

However, the first five-year AusLink plan needs some modification to provide funding for rail on the Brisbane - Townsville corridor. At present, all AusLink funds for this corridor are allocated to the Bruce Highway. This is despite of the demonstrable need

to expedite Caboolture - Landsborough duplication and realignment, and to start planning for other rail deviations and bridges.

Rail bridges needing attention include the Burnett River near Bundaberg which is now subject to a 15 km/h 'flat' speed restriction (ie no acceleration or braking).

In addition, some rail funding is required for the Burnie-Hobart corridor. At present, all AusLink funding for this corridor is proposed for road. This is despite a maximum speed limit of 60 km/h for any train (with no shortage of permanent and temporary speed restrictions, some as low as 20 km/h) and a light 18 tonne axle load limit.

It is also necessary to look at planning for a second five-year capital works programme (2009 - 2014) for the North South rail corridor, including provision for track straightening. This would complement the \$450 million allocation in the 2004 Budget for work on the NSW North Coast line. As experience in upgrading the Hume Highway and the Pacific Highway indicates, deviations - either road or rail- can have long lead times to address environmental assessment and land acquisition requirements. Advanced corridor protection is essential.

The RTSA supports development of an inland Melbourne - Parkes - Brisbane route, which, inter alia, will reduce pressure on the congested Sydney urban rail network and the congested Sydney - Maitland track. However, even when such a route is completed, **there is much 'unfinished business' in the area of interstate land freight.**

## **MORE ON REGIONAL FREIGHT**

27. It is necessary to restore the AusLink's White Paper (page 83) intended funding of \$400 million for regional strategic transport initiatives (including rail). RTSA understands that in the lead up to the 2004 Federal election, this money was diverted to 'Roads to Recovery' for direct payment to Councils. Although a lesser funded replacement scheme of \$150 million over 5 years was promised, most of this has been earmarked for roads (for example \$30m for the Outback Road). Rail is now at the back end of a long queue with possibly some funds for rail in 2008-09.

Yet the need for grain line rehabilitation is urgent in most mainline states. The RTSA understands that three projects have been put forward for funding under the strategic transport initiative:

- Rehabilitation of the Eyre Peninsular narrow gauge lines wheat lines;
- Reopening of the Heywood - Mt Gambier line with gauge standardisation; and,
- Reopening of the Tumut line.

Heywood - Mt Gambier is prompted by the coming on line of the Blue Gum Plantations and consequent wood chip exports through Portland.

Mt Gambier to Wolseley gauge standardization is also desirable.

The interest in the Tumut line is due to the development of the Visy mills at Tumut

In all cases, we suggest failure to invest in modest rail re-habilitation will result in additional large numbers of heavy trucks.

28. In regards to Victoria, the Society notes a background paper comments as follows:

- *Access to essential infrastructure: The private management of regional railways in Victoria has been an area of protracted dispute between the State Government and the private rail operator, Freight Australia in part because the two parties have been unable to agree on terms for third party freight operator access to the Victorian network. This has led to Freight Australia being reluctant to commit to the rail line gauge standardisation program; and The Victorian Government has also faced protracted delays in implementing its fast regional rail passenger upgrade programs to centres such as Ballarat, Bendigo and Traralgon. In part this would appear to be an outcome of the loss of direct control which the State Government has over the rail network since privatisation.*

Victoria did good work during the mid 1990s to ensure the rail alternative remains viable and competitive by investing in gauge standardisation to Portland when Melbourne - Adelaide was been standardised. The Society appreciates the investment of the Victorian Government in Regional Fast Rail and the earlier commitment to gauge standardisation. It was however, most unfortunate that relatively modest funds were not found to specify gauge convertible sleepers for at least the Ballarat and Bendigo lines.

Hopefully, with some Federal assistance (including that noted in the AusLink White Paper) the Victorian Government will be able to progress gauge standardisation on the other lines. National rail transport reform should support (but not necessarily drive) Victoria's broad gauge freight lines to be converted to standard gauge. This will be essential if Victoria is to achieve its stated ambition to be the freight transport and logistics centre of Australia.

## **OTHER COMMENTS**

29. The use of Public Private Partnerships (PPP) in project delivery has to be done carefully. The use of these types of fiscal policy instruments must work in concert with industry policy. Australia's record is mixed, with situations such as Sydney's Airport Rail

Link showing a need for caution. PPP should not be seen as getting public debt off the government balance sheets or ‘finding a market response’ to funding requirements as PPP replaces up front debt with other long-term liabilities. There needs to be more experience developed in PPP, particularly the development of a mature Public Sector Comparator (PSC). This, along with the abandonment of ‘Commercial-in-Confidence’ provisions of contracts would give rigour and confidence to PPP. Presently PPP is more transactional based, seemingly on a specific project, rather than an industry sector viewpoint. PPP’s are pushed either by project developers (to gain profits from construction or operations) or from equity trusts (to gain earnings for equity holders). Further comment on PPP can be provided.

The development of a PSC and new accounting standards for infrastructure asset depreciation and concession agreements are emerging (in fact in draft form as at May 2005) and it would be imprudent to move faster than the development of these standards. Lumbering future generations with inappropriate debt – unable to generate returns, should be guarded against. The term ‘*Inter-generational Equity*’ for the provision of infrastructure assets should be adopted as a guiding principle by Government in financing infrastructure.

A further limitation of PPP in land transport is that whilst it has provided finance for construction of some toll roads, and with the assistance of three Governments has allowed for the construction of the Alice Springs - Darwin railway line, PPP faces severe constraints as a way of funding long overdue capital upgrades of existing rail lines subject to third party access. Along with third party access rights and vertical separation of above and below rail functions (acting as a disincentive to investment in mainline track straightening and other upgrading), long standing 'highway subsidisation' of road freight operations will also discourage intercity rail investment. Underrecovery of road system costs for the heavier long distance trucks not only diverts more intercapital city freight onto road, but places pressure on track owners to lower rail access pricing.

Accordingly, it will be necessary for significant advances to be made in reaching competitive neutrality between road and rail regarding access pricing and regulatory environments before Government can reasonably expect the private sector to provide adequate funds for the track upgrades required to significantly reduce train transit times.

30. Separation of rail functions: The RTSA suggests that there is a very strong case for Queensland Rail (QR) maintaining its current configuration. It is worth noting that, from a technical viewpoint, there is a fundamental flaw in the concept of separating above and

below rail sections of the industry. The wheel/rail combination is an integrated system, and keeping wheels rolling on rails in an efficient manner is essential to good rail productivity. If the responsibility for different parts of this system are given to different organisations, inefficiencies in the use of the rail and the use of the rolling stock will creep into the system.

Technical advances encompassing the wheel/rail system will be retarded. Evidence of this has already appeared in Australia (with the delay in fixing the track between Geelong and Ararat where new concrete sleepers sat by the side of the track in poor condition for four years to 1999, the delays in installing a triangle at Parkes to 1999, and the ongoing delays in improving safeworking systems between Casino and Acacia Ridge); also in North America where some rolling stock owners have no responsibility for the track. One of the reasons why QR is doing well is that it remains vertically integrated. An example is the introduction of the first regular tilt train service in the Southern Hemisphere which required track upgrading as well as construction of the new tilt trains.

The case for reintegration of track ownership and train operations within the Greater Sydney Metropolitan Region was accepted by the NSW Government following the fatal Waterfall high speed train derailment on 31 January 2003.

31. The RTSA sees considerable merit in good public enterprise in the operation of efficient railways, and advocates a mixed ownership of rail networks. This is to foster competition between the public and private sector as well as increasing the opportunities for innovative activities.

32. The RTSA also sees it as essential that public, as well as private, rail entities be entitled to earn a good return on commercial operations; be able to provide sufficient funds to upgrade their infrastructure and uptake new technology so as to remain competitive and maintain skill levels.

33. RTSA believes that conditions for rail track access should be fair and equitable, and promote competition between rail operators. Governments at all levels should aim to improve competitive neutrality between rail and road transport.

Policies and measures should also facilitate independent freight forwarders. For example regional freight centres such as Blayney (NSW) and short services to places like Botany to Newcastle /Yennora/ Casula.

34. Whether or not Australia chooses to ratify the Kyoto protocol (and the Society in conjunction with Engineers Australia supports ratification), there is a need for the transport sector to 'pull its weight' in reducing greenhouse gas emissions ('business as usual' 2010 scenario forecasts greenhouse gas emissions to rise 48 per cent above 1990 levels).

As noted by the Western Australian Government's taskforce on sustainable transport, it is also desirable for Australia to reduce future dependence on imported oil. Peak Oil is no longer a wild theory, but something that requires Government at all levels to put in place contingency plans. The emerging view is that appreciably higher world oil prices is not a matter of if, but when.

Rail's inherent fuel efficiency, and the ability to substitute electrification on corridors with high tonnages, are all relevant factors. More information in energy use is given in Appendix A.

35. As indicated previously (eg Productivity Commission's 1999 report on rail, page 8) and again in 2002 in a Freight Logistics Action Agenda and the Government's Green Paper on AusLink, an improvement in the **quality and quantity of land transport data in Australia is called for**. The Australian Transport Council 2004 initiative is a good step forward. However, the Committee may wish to consider recommending that Government (preferably at a Federal level) draft and implement regulations to require public disclosure of basic rail data on at least an annual basis. This could usefully include urban passenger numbers and urban passenger kilometres, net tonnages of freight, net tonne kilometres and gross tonne kilometres.

As Australian states and Federal Government have proceeded with rail privatisation, little has been required of public disclosure by most jurisdictions. In fact, the Australian Railway Group's past record (including one page in the Wesfarmer's 2003 Annual Report which actually gave about 45 million tonnes moved) has led to the situation of many people going to Genesee and Wyoming's USA website for basic data on their Australian rail operations. Patrick and Toll's 2004 Annual Reports had, on one page, very little data about Pacific National's operations.

Such basic rail data is useful in transport planning. The USA has long required its private railroads to disclose basic rail data. There is a case for Government to require improved disclosure of rail operational data in Australia.

## **APPENDIX A Summary of submissions to the Productivity Commission re energy and external costs**

The Railway Technical Society of Australasia (RTSA) supports the 27 page submission to the Commission's inquiry into Energy Efficiency by Dr Philip Laird of the University of Wollongong prepared with the support of the CRC in Railway Engineering and Technologies. The following is part of a summary of this submission to the Productivity Commission, with notes on external costs mainly taken from a RTSA submission to the Commission in its inquiry into National Competition Policy.

### **General comments on energy**

The importance of energy and the impact of its utilisation on sustainable development cannot be over-emphasised. Energy is involved in every aspect of human activity including industry, commerce, domestic requirements and transport.

It is therefore incumbent on Government and Society that we use energy efficiently. Accordingly, investment in research and development that will reduce energy use is supported (eg a new Energy R and D Corporation). The Commission is invited to explore the proposition that Australia should reduce its domestic energy use (ie energy use in Australia excluding that directly involved in producing exports) per capita, and, ways of achieving this.

Reduced domestic energy use would also reduce greenhouse gas emissions. Here it is of interest that Canada has a One-Tonne Challenge which calls on all Canadians to reduce their annual greenhouse gas emissions by one tonne per annum. Australia could consider a similar challenge for all Australian's to reduce their energy use.

It is submitted that more disclosure of timely information on energy use by both government and industry would be in the national interest. One way to achieve this would simply be for government, through legislation, to require disclosure in the relevant annual reports. Put simply, if you are not measuring energy use, or the cost of energy is perceived to be so cheap, then there is little or no incentive for energy conservation.

### **Transport**

Transport accounts for 41% of Australia's final energy usage. Most of this is used in road transport. Transport energy usage is now 24% above 1990 levels, and by 2010 could be as high as 44%.

As part of the challenge to reduce domestic energy use per capita - including in transport - the RTSA suggests that with the relevant policy levers this would give real incentives to cut waste and improve energy efficiency in moving people and freight.

Questions relating to 'cost-effective energy efficiency improvement in the transport sector' lead not only to questions of (efficient) conversion of energy into effort but also efficient use of energy for a given transport task. Ultimately the conversion of energy and the levels of energy use (as an input for a given transport task) revolve around the pricing inequities between rail infrastructure and road use. For although rail is clearly energy-efficient in the line haul freight task compared with road (about 3 tkm/MJ rail and about 1.2 tkm/MJ for road (where MJ = Megajoule and 1 litre of diesel = 41.77 MJ Full fuel cycle)), pricing mechanisms conspire against rail to perpetuate and encourage overuse of road transport.

Line haul pricing frameworks that ignore the social costs of trauma accidents and costs of pollution end up promoting 'technical efficiency' improvements in the production process (such as higher road mass limits, use of longer road vehicles and support for infrastructure capacity upgrades) rather than addressing the most appropriate mode of transport.

### **External costs**

External costs of road and rail freight transport have received attention in Australia by agencies including the former Inter-State Commission (1990 *Road use charges and vehicle registration; a national scheme*), and, the National Transport Planning Taskforce (NTPT - 1994 *Building for the Job*, p53) that noted, inter alia "...A pricing mechanism for road use, which relates use to cost of provision and external costs, such as congestion and environmental factors, needs to be developed

Further consideration was given by the Bureau of Transport Economics (1999) *Competitive Neutrality between road and rail* Working Paper No 40 and Austroads, (2003) *Valuing Environmental and Other Externalities*. Estimates for six external costs (comprising accidents, air pollution, noise, congestion, greenhouse gases and unrecovered road system costs) in urban and non-urban areas were given by the ARTC Track Audit in 2001 and for Queensland Transport in 2003. They are as follows in cents per net tonne kilometre.

	<b>Road Cost</b> (Qld Transport (2003) Rail Studies)	<b>Road Cost</b> (ARTC Track Audit)	<b>Rail Cost</b> (Qld Transport (2003) Rail Studies)	<b>Rail Cost</b> (ARTC Track Audit)
<b>Rural</b>	1.673¢	1.123¢	0.094¢	0.04¢
<b>Metro</b>	1.906¢	1.326¢	0.128¢	0.074¢

**References:**

1. Queensland Transport (2003) Rail Studies, "Land Freight External Costs in Queensland"
2. ARTC Track Audit Appendix A, page 24 data
3. As cited in the RTSA primary submission to the Productivity Commission in its inquiry into National Competition Policy (May 2004, page 8)

The Bureau of Transport and Regional Economics (BTRE) in a 2003 paper *The economic consequences of the health effects of transport emissions in Australian capital cities* gave a mid-range estimate of the annual (2000) health related costs (mortality and morbidity) of air pollution from motor vehicles in Australia's capital cities as \$3.3 billion. This used a European approach that effectively uses PM10 levels. In a further 2003 BTRE paper (*Urban pollutant emissions from motor vehicles: Australian trends to 2020*) estimates are given of both PM10 emissions in Australia's capital cities and the kilometres driven for various types of motor vehicles. Analysis of this data shows, in part, that the average health cost of air pollution from cars (and other small passenger vehicles) in Australia's capital cities is 1.8 cents per vehicle kilometre.

Assuming an average fuel use of 11.4 litres per 100 km (ABS SMVU 2001 estimate), gives an external cost of about 16 cents per litre. Other external costs from motor vehicle use include noise, and part of the cost of road crashes. A greenhouse charge levy to cover a modest \$25 per tonne for carbon dioxide emissions would translate to about 6 cents per litre.

In regards to road safety, NSW Roads and Traffic Data shows that in the 12 years from 1 Jan 1992 to 31 Dec 2003, articulated trucks were involved in 44 per cent of all fatalities in road crashes in non-metro areas of the Newell Highway (with about 38 per cent in the Hume and New England Highways, and 36 per cent in the Pacific and Sturt Highways).