



Summary of submission re Grain Infrastructure Advisory Committee Report

The Railway Technical Society of Australasia (RTSA) agrees with recent expressions of concern re rural grain lines, and requests keeping open all lines pending:

- A. Obtaining the full costs of upgrading and maintaining rural roads to accommodate heavier trucks (the GIAC estimates are considered to be too low);
- B. Consideration of all external costs, including the present under-recovery of road system costs from heavy truck operations;
- C. Identification of all potential traffic and not just grain (eg the Inland Route for Camurra to North Star and cotton with Warren) and track upgrading options (including use of the Short Line concept);
- D. The third determination of heavy truck road user charges by the National Transport Commission;
- E. The release of the AusLink White Paper now scheduled for May 2004; and,
- F. Finalisation of the ARTC lease of New South Wales track.

The main reason given for the closure of rural branch lines servicing the grain industry is that their cost to Government and the tax payer outweighs the benefit to the community of keeping the lines open. Grain transportation via heavy vehicles including B-Double trucks and the road network is thought to be appreciably cheaper and more efficient. However, estimates of cost reduction when the need for rail infrastructure maintenance is removed often fail to take into account excessive costs that are simply transferred onto those responsible for maintaining the local road network, and, the wider community.

As noted by the NSW Farmer's Association and others, the regional rail network has for many years through underinvestment been allowed to deteriorate to the point where track has become substandard, road-rail competition has become ineffective, the transportation of produce has become unreliable, and the urban/rural divide has widened. When rural grain lines are removed altogether, the use of more heavy vehicles is necessitated which in turn results in a significant increase in pavement damage. Here, B-Double trucks cause over 20,000 times the road wear and tear caused by an average car.

Unless all costs and factors are fully considered, the closure of rural branch lines can only be a step backwards in the current necessary search for sustainable transport options.



Submission re Grain Infrastructure Advisory Committee (GIAC) Report

GIAC Submissions (NSW Ministry of Transport, GPO Box 1620, SYDNEY NSW 2001)

March 2004

A. INTRODUCTION

The Railway Technical Society of Australasia (RTSA) has over 800 members and is a society of Engineers Australia. The RTSA has active programs based in mainland State Capital cities including technical presentations and study tours. It held a major Conference on Railway Engineering at Wollongong in November 2002 with over 400 participants. The present submission, prepared with the assistance of the University of Wollongong, outlines member concerns. It also draws on RTSA submissions to various Federal and State transport inquiries (including to the Federal Government in response to its AusLink Green Paper and the NSW Ministerial Inquiry into Public Transport).

The RTSA is concerned about efficient rail operations and ensuring that rail track is 'fit for purpose'. It is also concerned at the effects of closing rural branch lines by shifting the extra road system costs to Local Government and imposing external costs.

1. Closing branch lines, and the resulting road cost shifting to Local Government, occurred during the 1980s. One example was noted by the Industry Commission in its 1991 report into rail. To quote from the *Industry Commission, Rail Transport, Report No 13, 21 August 1991 p 115*

“5.4.3 Local government road expenditure and road externalities

Branch line closures (or service reductions) can result in more heavy vehicles on local roads; the consequent pavement damage can add significantly to local government road expenditure. Heavy vehicles travelling through country towns can also impose large noise and pollution costs on the local residents. The ALGA, taking a national perspective, commented as follows:

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 need to be taken into account. From the perspective of developing a rational transport system, the economies of saving public expenditure by closing a branch line might be illusionary if the net result is a requirement to increase public expenditure on roads. (Submission 81)

"The issue is well illustrated by AN's closure of the Gladstone to Wilmington line in South Australia. AN operates as a commercial business and is unable to take into account increased damage to local roads when deciding upon rationalisation of its network. When AN lost the contract to transport grain there was a large increase in the number of trucks travelling on local roads such that the District Council of Mount Remarkable estimated a doubling of the maintenance cost of a 21 km length of local road. The estimated additional costs were \$140,000 (in 1990 prices) every four to five years (ALGA, Submission 81). If the cost of such road damage had been included in the cost of road transport, sufficient traffic may have been retained on the rail line to warrant keeping it open...."

" Costs borne initially by AN were effectively transferred to a local government body, and then transferred to the State government."

2. The RTSA notes that a current inquiry into the Economic and Social Impacts of the Privatisation of Regional Infrastructure and Government Business Enterprises in Regional and Rural Australia is being held by the House of Representatives Standing Committee on Transport and Regional Services. Regional railways are noted in a Background Briefing Paper for this Federal inquiry with the comment: *"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."*

We note the comment 'Making sense of rail freight' on page 7 of 'The Land' for 19 June, 2003 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.**"*

3. The Australian rail network reached its peak length in the mid 20th Century. The Australian Bureau of Statistics 2000 Year Book notes that on 30 June 1998 there were 31,043 route kilometres of Government track which is down from preceeding years.

A publication 'Route - kilometre statistics tracing the evolution of Australian public railways to 30 June 1997' by H G Quinlan, 2001, ARHS (ACT) notes, inter alia, that (Table 43, p 84/5) the route - kilometres of standard gauge open within New South Wales

at the end of each year peaked in 1942/43 at 10,017 km. The route - kilometres, of standard gauge in NSW, from this Table, open at the end of each subsequent decade is as follows.

1950	9991
1960	9913
1970	9888
1980	9524
1990	7972
1997	7469

Although new rail lines such as Alice Springs to Darwin have been built, it is of note that the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform in its 1998 report *Tracking Australia* warned that a continuation of then current policies (many of which still persist) could lead to a further loss of traffic that could be 'irretrievable' and hence lead to other line closures.

The Productivity Commission's 1999 report on progress on rail reform noted past underinvestment in rail track.

4. Keeping branch lines open, or conversion of gauge to increase their usefulness, is relevant. When converting broad to standard gauge from Adelaide to Melbourne in 1995, there was a question as to the Victorian broad gauge grain lines that serve Portland. After detailed analysis, it was decided to convert these tracks to standard gauge at a cost of some \$25 million. This cost was appreciably less than line closure and diversion of bulk freight to road at a cost of \$30 million up front and maintenance costs of \$2.5 million a year.

5. New South Wales support for the 'super site' activities of the grain handling authorities has resulted in over investment in country storage and threatens to put much of the rail borne grain traffic onto road in the areas that can least sustain degradation of roads.

However, the costs cited on page 23 of the GIAC report of upgrading roads to withstand B-Doubles at \$200,000 to \$235,000 per kilometre seem to be very low. There are also increased costs for maintaining roads used by heavy semitrailers and B-Doubles.

In this regard, when a good harvest occurs then a reasonably good rainfall has also occurred. This can result in more rapid breakup of rural roads with the additional tonnes and soft sub grade condition.

6. Attention is drawn to an article by Frank Lander and Geoff Smith in the January 2004 issue of *Railway Digest*. This article notes that the July 2003 *Railway Digest* reviewed an earlier NSW Grain Advisory Committee report. "*Grain farmers and local government bodies expressed concern over its recommendations for the closure of a*

number of NSW grain branch lines, and a review of the viability of other grain branch lines. The report's recommendations were based upon the assumption that there was insufficient tonnage on these lines to justify their rehabilitation costs. These rail capital costs were said to be greater than the corresponding costs to upgrade the roads for B Double grain trucks."

The authors of this January 2004 article however maintain that the earlier report did not canvass all the options. The report and its recommendations were based on current practice and conventional wisdom.

There are now proven alternatives and that "*...many of these so called 'uneconomic' branch lines are now a golden opportunity for NSW (and Australia) to introduce the 'short line' concept*" with :

- A more hands-on approach by management and lower overhead costs;
- An aggressive marketing strategy involving employees at all levels;
- Introduction of multi-skilling and other productivity enhancing measures;
- A focus on wagonload traffic rather than just intermodal traffic.

The January 2004 article notes, inter alia, that the Australian Rail Track Corporation (ARTC) "*... has a track record of getting things done well and typically for less than half the 'usual' cost. A possible solution for the NSW branch lines problem would see these lines retained under the ARTC umbrella but sublet to short line operators. These operators would then assume the responsibility for ongoing track maintenance and raising funds for rehabilitation. ARTC's role, as the primary custodian of NSW rail infrastructure, would be to ensure that the infrastructure was being maintained to an agreed fit-for-purpose standard.*"

Short lines are common in USA (the home of single bottom line railroading) and Canada. This suggests that there may be a place for them New South Wales in specific situations. However there would need to be some structural and regulatory changes to allow such lines to exist and survive.

7. There is scope for restricted upgrading of branch lines that make use of existing rail, formation and underline structures to the extent that they can be with some degree of safety (even at low speed). This is with a view to reducing operating costs and provide time for upgrading in the nature of 'maintenance plus' that is needed to improve some of the lines. The grain branch issue is one that requires a real 'sweating the asset' approach as well as some deferred maintenance.

New South Wales should concentrate on minimal rail improvements to allow the best possible but low cost ongoing operation. Examples are the Robinvale line in Victoria which has 23 tonne axles load (TAL) locos at 50 km/h on 60 lb AS rail, and similar

operations by ARG on the Loxton (and Pinnaroo?) lines in the SA Mallee. Many of the NSW branch line were late on the scene and should have a fair component of 60 lb AS rail at the very least. Very few grain branches have significant underline structures which is an aspect that may need to be improved for heavier locos (note that 19 TAL wagons are already OK which indicates that 76 tonnes gross loading in a space of less than half a wagon length (between adjacent wagons) is quite acceptable).

A good question for each branch line under examination is whether "*if the line had been maintained at a proper condition up to the present time would it then be viable?*"

Deferred maintenance should **not** be built in to the cost equation as part of the viability estimation.

8. There is an issue of funding which also may need alternative approaches. Local government and state road authorities for instance stand to gain from retention of rail. Thus they may need to be brought into the funding equation.

Here, there is scope for the State Grants Commissions' terms of reference to be changed to enable the Commissions to evaluate the effect of branch line closures on local government transport costs and if appropriate provide funds for maintenance of branch line services.

We also need to progress from the generally accepted view that Government has almost limitless resources for road funding (which is in part due to current funding arrangements including the Federal 'Roads to Recovery' program). When additional funds are required to upgrade roads for heavier trucks, the debt must be serviced nevertheless and local taxpayers are the ultimate losers when funds are pulled from other community works.

9. As well as an understanding of the economic dynamics between the modes of transport (road-rail competitive neutrality) there needs wider and better 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 necessarily 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).

The UK Institute of Public Policy Research (IPPR) has case-studied a number of privatisation 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 that a 'back to the future' approach (which was once a strong feature of Australia's regional development) is a valid model for some privatisation programs.

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 bad reform decisions.

10. Regional concerns were identified in a 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."*

11. With regard to the three lines listed for closure by the GIAC report (Willbriggie, Burcher and Gwabegar) there is a need for the future potential for traffic other than grain to be exhaustively explored. This is necessary to ensure that 'tunnel vision' on grain is not obscuring broader opportunities. As well, some lines (notably Warren with cotton) have other traffic than grain - and this should be clearly brought into the equation.

There are strategic national issues related to some lines. Camurra to North Star is an integral part of the proposed Inland Route and if for no other reason should be considered in that light. Hillston is entirely grain but once went a further 50 km over easy country to join the Broken Hill line at Roto. This link could well be revived if the full Inland Route through Narranderra goes ahead, or even if double stacking between Melbourne and WA is to be achieved at lowest cost.

There is far less work to be done to get double stack clearances for Seymour - Narranderra- Roto than will be required for Seymour - Cootamundra - Parkes - Roto.

12. The existing principal grain operator (Pacific National) has an inappropriate fleet to operate half way good branch lines. Pacific National have many 1000 hp lightweight locomotives that are between 40 and 50 years old, and a relatively new fleet of 3000 hp main line diesels with little or nothing in between. The immediate future may be best served by mid weight 2000 hp units (or lightweight 3000 hp locomotive units such as the EL type available on hire from CFCLA) which are operated in quite significant numbers by FA, ARG, Silverton and a number of niche operators. Opening up grain lines to these operators (presumably through haulage contracts from the grain authorities since the track itself is already covered by an access regime) may allow reduced cost operations. In turn, this will provide some financial room to allow for longer term upgrade plan.

B. ROAD PRICING

13. A series of Government reports in the 1970s and 1980s, and a 1999 report of the Bureau of Transport Economics 1999 *'Competitive Neutrality between Road and Rail'*, acknowledged under-recovery of road system costs from heavy truck operations.

14. Over the last twenty-five years, road pavements have had to withstand appreciably increased loads.

In brief, a six axle articulated truck during the mid 1970s had a legal Gross Vehicle Mass (GVM) of 36 tonnes. Despite the use of road trains, and the increasing use of B-Doubles that were introduced in Australia during the 1980s, the six axle articulated truck remains the 'workhorse' of the Australian road freight industry.

As a result of the April 1979 truck blockades, most State Governments lifted the GVM of six axle articulated trucks to 38 tonnes.

Further relaxation of legal GVM limits occurred during the 1980s and 1990s, at different times in different states. Following a NAASRA (now Austroads) Review of Road Vehicle Limits series of reports, the legal GVM of a six axle articulated truck was raised from 38 tonnes to 41 tonnes and later to 42.5 tonnes in the 1980s.

15. By 1990, most States allowed a GVM of 42.5 tonnes for a 6AAT. However NSW, Victoria and the then current Federal Interstate Registration Scheme (FIRS) required additional payments of a permit fee in order for a truck to legally operate at the higher GVM. However, this form of load restraint was set aside when the States, one by one, in the early to mid 1990s, adopted uniform National Road Transport Commission (NRTC) charges which gave all 6AATs road access at 42.5 tonnes. Moreover, heavier loads were encouraged by the NRTC charge for a six axle articulated truck being a fixed one (of

\$4000 during the 1990s, only recently indexed for inflation), irrespective of GVM up to 42.5 tonnes.

16. The cost of maintaining an arterial road constructed and paved to reasonable standards depends mainly on road pavement wear and tear. This factor is quantified by using the concept of an Equivalent Standard Axle Loading or ESAL. Here road pavement usage is related to the fourth power of the axle loading. A six axle articulated truck with 38 tonnes Gross Vehicle Mass (GVM) has an ESAL of 3.38, and an average sized family car has an ESAL of about 0.0003 (Inter-State Commission, 1986, p476). These figures give rise to an oft quoted rule that the pavement damage done by the passage of a loaded semitrailer is about 10,000 times the damage of an average car.

As noted above, there has been relaxation of gross vehicle mass (GVM) limits for six axle articulated trucks from 38 tonnes to 42.5 tonnes. Whilst this increase in GVM appears slight, the number of ESALs increases sharply from 3.38 to 5.06 ESALs or by 50%. This is about 15,000 times the pavement wear and tear of an average car. A fully laden B – Double causes 20,000 or more times the road wear and tear caused by an average sized car.

As trucks moved to higher mass limits under changes in State Government legislation and/or regulation, additional wear and tear was being imposed on all roads maintained by Local Government

However, in the absence of increased payments from State to Local Government for funds to accommodate heavier loads on local roads, there was cost shifting to Local Government.

17. The State of New South Wales was required under a COAG agreement re National Competition Policy Trench payments to adopt NRTC charges for heavy trucks. This was done in 1996. The cost to the NSW Government, along with reduced load management restraint, has been high, and now exceeds \$60 million per annum. In discussing the Road Transport Legislation (Heavy Vehicle Registration Charges and Motor Vehicle Tax) Amendment Bill (NSW Legislative Council Hansard for 6 December 2001) - it was noted "*productivity savings to industry' of \$59 million in 1996-97. Further savings from flow-on effects are estimated to be \$62 million in 1997-98 and up to \$71 million in 1998-99.*"

18. It is a matter for debate whether the present National Transport Commission (NTC, ex NRTC) road user charges adequately recover all road system cost from articulated truck operations. The road freight industry argue that they pay enough. However, a "Review of Road Cost Recovery" of the Bureau of Transport (and Regional) Economics (BTRE) found during 1985-1986, under-recovery of road system costs from articulated trucks were \$1283 million.

As well, analysis for a book *'Back on Track: Rethinking Transport Policy in Australia and New Zealand'*, using methodology developed by an earlier NSW Government inquiry found aggregate under-recovery of road system costs from articulated truck operations at about \$1.2 billion in 1997-98 (page 82, and Appendix D). This averages at 1.25 cents per net tonne-kilometre.

However, two points are beyond question.

Firstly, the charges recover costs imposed on the ARTERIAL ROAD system only, and effectively exclude the costs of maintaining and improving local roads.

Secondly, both the NTC and BTRE agree that the current charges for B-Doubles do not cover the imposed road system costs.

19. The Industry Commission in its 1991-92 Annual Report (p197-198) noted, inter alia: *"Annual fixed charges are not efficient because costs vary with the distance travelled and the mass of the vehicle. The result is that some vehicles - the heaviest travelling long annual distances - will meet less than 20 per cent of their attributed costs. Charges for heavy vehicles that reflect costs they impose are essential to ensure best use is made of the nation's road and rail infrastructure, and that industry location decisions are appropriate in terms of minimising the overall cost of economic activity. Differences between the recommended charges and road-related costs are greatest for vehicles competing with rail. The charges, as recommended, will therefore potentially distort the long-haul freight market as rail reforms take effect."*

21. The need for the NTC charges to be restructured is clear, and a 'second generation' of charges was introduced on 1 July 2000. The new charges resulted in modest increases for articulated trucks registration fees and came into effect on and after road diesel excise fell from about 43 cents a litre to just 20 cents a litre as part of the New Tax System. However, the 'second generation' charges retain many of the deficiencies of the first generation charges.

Pending a third determination by the National Transport Commission of road user charges during 2004 for implementation in 2005, there is a good case for both putting on hold approvals for the areas of operation of longer and heavier trucks, and maintaining CSO's for rural grain lines.

22. Road maintenance costs are exacerbated by overloading by some truck operators. Roads of light construction are most easily damaged by overloading.

The Annual Report of the NSW Department of Main Roads for 1984-85 estimated truck overloading to cost some \$24 million which was then some 13 per cent of the NSW road maintenance budget. Current estimates would be helpful.

It is understood that Local Government in NSW does have, in some situations, the ability to enforce weight of vehicle regulations. However, when States for reasons of cost cutting, reduce resources to enforcing weight of vehicle regulations, inevitably illegal overloading increases, with more road wear and tear. This in turn increases costs to Local Government.

In a 2001 submission to the Fuel Taxation Inquiry, the Australian Local Government Association (ALGA) noted that a comprehensive study in South Australia *“found on average the annual rate of deterioration of the local road network in SA is three times more than the level of expenditure on replacement/rehabilitation.”*

This suggest that funds available for maintenance of SA regional roads have been found to be about one third of what is required to maintain the asset.

The ALGA submission noted that a similar situation holds in Victoria, and goes on to note *“Local road users (who are often not local ratepayers) are not paying for the consumption of the assets they are using.*

C. EXTERNAL COSTS

23. For roads of light construction, as previously recommended by the NSW Roads and Traffic Authority in 1990 (see Industry Commission 1991 report on rail, p116) **an amount of 3 cents per net tonne km would be appropriate for projects when significant damage is done to local roads.**

However, the GIAC report does not refer to this level of under-recovery. A further glaring omission is Table 6 on page 25 which quotes Queensland Transport externalities. The particular report "Land freight external costw in Queensland" released by Queensland Transport in 2003 notes rough estimates of unrecovered rural road system infrastructure costs as 2.00 cents per net tonne km.

Table 6 of the GIAC report does not include any under-recovery of road system costs. This is a serious omission.

24. It should be noted that the estimates in Table 6 on page 25 which quote Queensland Transport externalities are for non-urban roads. When haulage of grain occurs through towns, it would be more appropriate to use the urban (metro) estimates of externalities which for road are 1.106 cents per net tonne km for road, and 0.122 cents for rail. The difference is then 0.984 cents per net tonne km.

D. CONCLUDING REMARKS

Given the recent expressions of concern re rural grain lines, the Society would request that further consideration will be given by this inquiry to the value of maintaining rural branch lines. The RTSA supports keeping open all lines under review, pending:

- A. Obtaining the full costs of upgrading and maintaining rural roads to accommodate heavier trucks;
- B. Consideration of all external costs, including the present under-recovery of road system costs from heavy truck operations;
- C. Identification of all potential traffic (not just grain) and upgrading options;
- D. The third determination of heavy truck road user charges by the National Transport Commission;
- E. The release of the AusLink White Paper now scheduled for May 2004 (the Green Paper was released in November 2002); and,
- F. Finalisation of the ARTC lease of New South Wales track.

Unless all costs and factors are fully considered, the closure of rural branch lines can only be a step backwards in the current necessary search for sustainable transport options.