



Dr Philip Laird CompIEAust
Chairman, **Govt** Relations Committee

Railway Technical Society of Australasia
The Institution of Engineers, Australia
11 National Circuit
BARTON ACT 2600

23
22 May, 2003

Mr Colin Reid
Director Water and Transport
Independent Pricing and Regulatory Tribunal
Level 2, 44 Market Street
SYDNEY
PO Box Q290
QVB POST OFFICE NSW 1230

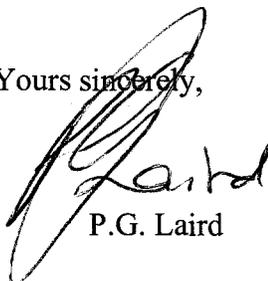
Dear Mr Reid,

re **CITYRAIL FARE REVIEW**

This is to confirm e-mail transmission of the submission of the Society, which we would be pleased to speak at the appropriate public hearing, An executive summary is also enclosed.

The RTSA has also prepared several brochures including 'Fix the rails - NSW' and our most recent one, 'Getting Sydney Back on Track'. Copies are enclosed.

Yours sincerely,



P.G. Laird

Executive Summary of submission to IPART re City Rail Fares
Railway Technical Society of Australasia

Sydney is Australia's largest city and is growing rapidly. The CityRail network carried 276.4 million passenger journeys in 2001-02. The NSW Government currently accounts for most of its running costs, but the network is long overdue for infrastructure upgrades. It is suggested that additional funding could partly be acquired through increased fares, which currently account for only 24% of the \$1.5 billion annual costs of the City Rail network. The NSW government has identified the need to upgrade tracks and signal systems, and to build new rail lines, but the work is continually deferred due to funding problems. Extensive upgrading of the rail system is necessary not only to cater for growth, but also to attract new patronage with a view to reducing high road vehicle external costs. Improved road pricing is another funding option which would also aid rail in becoming a more competitive mode of transport.

Trains have the potential to carry many more passengers and to reduce road congestion, and environmental and accident costs. Rail accident costs are significantly lower than those of roads. It is a good question if rail safety could be further enhanced if funding were available to implement Automatic Train Protection (ATP) systems such as those used in Queensland.

In 2002, State Rail did request, and was granted, a 2 per cent increase in fares. It is submitted that City Rail should be making a stronger case for more revenue, and this case should give full consideration to transport external costs. Fare increases should be aligned with urban planning to encourage inner-city as well as regional development, while reducing the incentive for sprawling suburbs.

The Federal Government does little to support public transport and this leads to distortion in travel choice. Its AusLink proposals are commendable, but glaring omissions, such as the lack of funds for urban public transport and mainline track straightening near Sydney, demonstrate the lack of understanding of the seriousness of transport issues in the Sydney Greater Metropolitan Region. This region is now home to about 25 per cent of Australia's population. It has been estimated that \$20 billion over the next decade will need to be injected into rail to undo decades of neglect to improve Sydney's transport and hence its international competitiveness and quality of life.

Submission to the Independent Pricing and Regulatory Tribunal re CityRail Fares

The Railway Technical Society of Australasia (RTSA) is a technical society of the Institution of Engineers, Australia (IE Aust). The RTSA now has over 800 members and hosted a major Conference on Railway Engineering in November 2002 at Wollongong with over 400 participants. The present submission outlines member concerns and draws on submissions to various Federal and State transport inquiries (including in 2000 to the Legislative Council General Purpose Standing Committee No 4 re Privatisation of Freight Corp and in 2003 to the Federal Government in response to its AusLink Green Paper).

The RTSA has also prepared several brochures including 'Fix the rails - NSW' and our most recent one, 'Getting Sydney Back on Track'.

1 INTRODUCTION

Sydney is Australia's largest city and is experiencing strong growth. To quote from the NSW Department of Planning, in 2002 the Sydney Region housed 4.2 million people (including 300,000 in the Central Coast) with an additional 770,000 in the Lower Hunter and Illawarra (making up a Greater Metropolitan Region of 4.9 million people). *"The Sydney Region population has been growing recently at an average of just over 1% or 48,000 each year. The Sydney Region is likely to reach 4.5 million somewhere between 2006 and 2011 while the Greater Metropolitan Region as a whole will top 5.3 million."*

The Society recognises that most passenger movements within Sydney are by cars, and notes that car using is growing and total vehicles travelled about 31.2 billion kilometres within Sydney in the 12 months ended 31 October 2001 (ABS SMVU cat.no 9208.0).

In the late 1990s, increases in passenger train usage were growing faster than the population, at about 3.0 per cent per annum (from 1998-99 to 1999-00 it grew to a total of 278.7 million journeys). Some lines such as the Illawarra line feel the growth pressure more than others. The 2003 State Rail submission to the current IPART inquiry notes there were 276.4 million journeys in 2001-02 and on page 9 a graph is given that shows fluctuating patronage, with a recent fall off, that is forecast to continue to 2002-03 (to about 272 million journeys) and a note that: *"CityRail patronage has grown by 20 million journeys since 1990 and 42 million journeys since the low experienced during the 1992 recession. ... "Periods of falling patronage in 1975/8, 1991/2 and 2001/2 correspond with periods of national economic downturn, improved road networks and the increased*

affordability of cars after the introduction of GST in 2000."

This raises a number of questions:

- A. Can a more accurate patronage projection be given for 2002-03 ?
- B. Do these estimates take fare evasion into account ?
- C. As patronage is falling off, can City Rail be doing more to reverse the recent trend at a time when Sydney's population continues to experience strong growth?

We also note from the SRA submission that the NSW Government pays for most of the difference between the cost of running the suburban rail network, and the fare box revenue. *"This cost \$1.3 billion in 2001-02 and is forecast to grow to \$1.5 billion in 2002-03. In 1999-00 fares paid for 26.7 per cent of the costs of running the suburban rail system. Last year that had fallen to 24.0% and is forecast to fall further this year to 21.7%. In the past year service quality throughout StateRail has improved."*

The RTSA supports a move towards service quality improvements, and increasing fare box revenue with a view to generating more funding for long overdue infrastructure upgrades. However, CityRail fares are constrained, not only by political factors, but also low road pricing. The balance of this submission gives reasons for these views, and invites State Rail to expedite the completion and release of its report study "Value of CityRail to the Community of NSW".

We also suggest that IPART to seek a reference to examine road pricing.

2 SYDNEY'S URBAN RAIL SYSTEM

On February 25 2002, the Sydney Morning Herald's front page started with an article ***Exposed: fast track to rail chaos***

"Sydney's rail system is perilously close to 'strangulation' because of soaring passenger numbers and recurring track and train faults, confidential reports warn.

"The findings, kept secret for more than a year, say "operational paralysis" can be avoided only by adding new lines and up to 80 stations, buying 770 carriages worth \$2.2 billion and spending at least \$20 billion in the next decade on urgent maintenance.

"The State Government has suppressed the documents, written last year by its former rail supremo Ron Christie, because of their explosive revelations about the deteriorating network, CBD congestion and safety concerns. ..."

As a former senior rail executive and NSW Roads and Traffic Authority (RTA) Chief Executive, Mr Ron Christie is well qualified to comment on Sydney's future transport needs. He was also saying what many people had been thinking for some time.

The NSW Government has recently been reluctant to raise fares, as shown by State Rail's application in 2001 to the NSW Independent Pricing and Regulatory Tribunal (IPART) for a 3.3 per cent increase in fares, and the 2 per cent increase in 2002. Such fare increases will not address the chronic need for upgrading the rail system to cater for growth or attract new patronage with a view to reducing high road vehicle external costs.

As an extension to the Infrastructure Report Card published in July 2001 by the Institution of Engineers, Australia, a RTSA Forward Vision Task Force (at www.rtsa.com.au) gave the Sydney City Rail System a C - rating in its 2002 Report 'Rail in the next decade - where to and how ?' (see Daily Telegraph, 21 May 2002). This rating indicates that major changes are required, and is a long way behind Perth's A- rating.

We attach as Appendix A the covering letter from Mr Christie to the Long-term Strategic Plan for Rail. This was released to the Legislative Council in May 2002.

2.1 Rolling Stock

Delays have occurred with delivery of the new Millennium trains, with problems leading to withdrawal from service of new train sets in March 2003. As noted by the Christie report, some of the present Tulloch rolling stock goes back to the 1960s.

2.2 Greater metropolitan region rail track upgrading and expansion

Along with an Olympic Park overpass, opening of the Airport line in 2000, completion of Dapto - Kiama electrification in 2001, quadruplication of Turrella to Kingsgrove (Airport and East Hills Lines) tracks - and the long awaited Millennium train, the 1998 NSW Government statement *Action for Transport 2010* lists a number of rail projects for completion by 2010. These include:

Parramatta Rail Link by 2006

Newcastle to Sydney - High Speed Rail Link; Stage 1 Hornsby to Warnervale by 2007

High speed rail link; Waterfall - Thirroul tunnel prior to 2010

Completion of Maldon Port Kembla railway (subject to some Federal/private funding)

Epping to Castle Hill rail by 2010 (underground - 7 km - \$350 million)

Priority freight line from Macarthur to Chullora and to Cowan.

Action for Transport 2010 notes studies to be undertaken for a Fassifern - Hexham rail bypass, and a rail tunnel under the Little Liverpool Ranges. The 1998 document has little or nothing about the proposed Inland Route from Melbourne via Parkes to Brisbane, where a pre-feasibility study received a Federal grant of \$300,000 in mid 1998.

Clearly, it is now most unlikely that Stage 1 of a Newcastle to Sydney High Speed Rail Link can be completed by 2007 - which is now only four years away. Detailed planning has yet to advance to land acquisition and environmental impact assessment. At the present rate of progress, the Western Orbital will be built before construction on these rail projects is advanced. One reason for this major road proceeding is that the May 2000 Federal Government budget gave \$10 million for planning on Sydney's Western Orbital, and in January 2001 promised \$350 million towards its construction. The same Federal Government gives little or nothing for rail and public transport within NSW. In contrast, about 20 per cent of United States Federal funding of land transport goes to mass transit.

In addition, *Action for Transport 2010* notes plans for new rail lines between 2010 and 2020 as follows:

Complete Stage 2 Hornsby to Newcastle rail upgrade

Complete the Hurstville to Strathfield line

Northern Beaches line from Chatswood to Dee Why

Southern Beaches line from Bondi Jn to Maroubra

North West line extension from Castle Hill to Rouse Hill

The need to upgrade tracks and signal systems is recognised by the NSW Government in earlier statements. However, much of this track and signal work has been deferred from earlier years.

The replacement of the Parramatta – Chatswood railway by a 15.5km Epping – Chatswood railway at \$800 million for completion by 2008 – two years later than indicated in *Action for Transport 2010* - also indicates a need for more funds to upgrade track.

The need for augmentation of track capacity within and near Sydney would appear to include consideration of; in addition to those items listed above:

- A. Chatswood – Wynyard quadruplication; involving taking over two lanes on the Eastern side of the Sydney Harbour Bridge.
- B. A Sydney rail freight bypass;
- C. Hurstville – Mortdale triplication;
- D. Completion of the Maldon Port Kembla Railway
- E. Hornsby – Gosford track straightening.
- F. Quadruplication of the line to East Hills.

These items are not an 'engineers wish list', but reflect the need to extend the system to cater for future growth as per reports including *Action for Transport 2010*

2.3 Intercity rail track upgrading

New South Wales is very much a cross roads of the nation. With the exception of freight moving between Melbourne - Adelaide and Perth, most freight starting or ending in a mainland capital city will cross NSW at one point.

There are economic imperatives to improve rail freight services between Australia's three largest cities of Melbourne, Sydney and Brisbane. As established by several Federal Government and Parliamentary inquiries (Neville, 1998 and 2001, Prime Ministers Task Force, 1999, and the Productivity Commission, 1999) significant investment in mainline interstate track is needed to remove adverse speed-weight restrictions for intermodal freight trains. As well, an inquiry conducted by the Public Works Committee of the NSW Legislative Assembly during 1998 found a case for mainline track upgrading within NSW prior to the introduction of tilt trains.

In May 2001, the Australian Rail Track Corporation (ARTC) released a detailed National Track Audit. This Track Audit includes a summary and final report with appendices by Booz.Allen & Hamilton, and a report on the Melbourne - Sydney and Sydney - Brisbane corridors by Maunsell McIntyre Pty Ltd (MMPL).

In brief, the Track Audit examined minimum freight market improvements (the S1 scenario) and significant track improvements (the S2 "stretch" target scenario). Following economic analysis, the Track Audit recommended optimised investment of \$507 million with a combined benefit cost ratio of 3.2.

Most of the proposed optimal investment was recommended for works within NSW. This includes \$146 million for Stage 1 of a Sydney Freight Priority Project, \$73 million for Main South rail track deviations, \$63 million for crossing loops, \$30 million for a Southern Control optimisation project, and \$16 million to replace the 1880 bridge over the Murrumbidgee River near Wagga Wagga.

IT IS IN THE INTERESTS OF BOTH FREIGHT AND PASSENGER TRAIN OPERATORS THAT THERE BE IMPROVED SEPARATION OF TRAINS IN THE SYDNEY AREA.

2.4 Campbelltown - Goulburn

There is a need to improve access between Sydney and the Southern Highlands for CityRail and other services. A direct Menangle to Mittagong route to run alongside the Hume Highway, was proposed by Bill Wentworth as far back as 1991. The Wentworth route will shorten point to point rail distance by nearly 20 km and cut time for all trains.

The ARTC Track Audit estimated its cost at \$218 million for single track. Double track is a better option.

The Hume Highway was diverted to its present route as far back as 1980. The railway still winds around hills, instead of cutting through them. The extra distance and slow running forced by steam age alignment encourages people to consider driving cars instead of using a train.

2.5 Short North line

Getting high speed trains between Sydney's Central Station and the Hunter region is a major challenge. Although detailed preliminary work is now underway for Hornsby-Warnervale track upgrading (with a 2001-02 \$1 million and a 2002-03 \$2 million NSW budget allocation for planning), it is now all but impossible to meet the initial completion year of 2007. Failure to complete a Newcastle High Speed Line for passengers will result in increasing pressures to augment the Sydney - Newcastle freeway from 4 to 6 lanes (and, in another decade, from 6 to 8 lanes). Clearly, full Federal funding of the Sydney - Newcastle freeway with the absence of road tolls, and no Federal funding for the Sydney - Newcastle railway, has resulted over time to a major distortion in travel choice.

The nature of track upgrading between Hornsby and Hexham will have implications for improving both Sydney - Gosford - Newcastle CityTrain services and high speed intercity rail services. With increasing traffic density, it is desirable to make provision for future separation of freight and passenger trains between Hornsby and Gosford. In this case, on the Cowan bank, it would be possible to construct a passenger line with steeper ruling gradients at much less cost than a passenger line with easier gradients that is likely to require extensive tunnelling.

The construction of a Fassifern – Hexham bypass would also improve future separation of freight and passenger trains near Newcastle.

2.6 Airport link services

One area of service where appreciably higher Sydney urban fares are now under trial is travel involving the use of any of the two airport stations and two nearby stations (Mascot and Green Square). The higher fares, coupled with other factors, have resulted in patronage being well below expectations, and, an associated private company in receivership.

Other factors worth examination include:

a) The lack of purpose built 'user friendly' rolling stock to operate between the two airport and nearby stations, and, central and city loop stations.

By user friendly rolling stock is meant single decker carriages with luggage platforms near doors.

The use of such trains, together with the option of using regular East Hills/Macarthur trains (albeit packed with people at peak hours) would assist in building patronage. The cost of two or three such four car sets would be small compared with the costs of the new stations.

b) The relatively limited and small signage at both airports which could be changed to indicate that there is a train option, how good it is, and where it is. How good it is would include guaranteed maximum waiting time (eg. trains every ten minutes or in the case of the new Brisbane line, every 15 minutes). Or even give real time information.

c) The limited and small signage at Central and City Loop stations; with lack of active indicator boards at each station.

Re Wynyard station: Although all trains for the airport may leave Platform 6, not all trains leaving Platform 6 at Wynyard go on the Airport Line.

d) Re platform confusion at Central, it is suggested that Platform 23 be a dedicated "air train" platform, with special signage and murals. All other suburban platforms including Platform 22 could have signage indicating a change is needed here for the air train.

e) Re connection with Sutherland Shire and the South Coast, there is NO encouragement for people from the South Coast and Cronulla lines to use the train to the airport, because trains from these lines do not stop at Wolli Creek.

Pending introduction of measures such as above, and boosting of patronage to the new stations, it is recommended that the fares to the special stations be lowered by at least one dollar, and a publicity campaign be launched to induce:

A) people who have not tried the new service to try it; and,

B) people who have already tried the present airport line service and been "turned off" to try it again.

2.7 NSW Government's Freight 2010 strategy

The report *Action for Transport 2010* noted that *"The NSW Government's Freight 2010 strategy which will follow this Plan sees road and rail as complementary as well as competitive."* Despite being prompted by a Legislative Council Committee report in

December 2000 calling for release of this Strategy, the NSW *Freight 2010* strategy is still to be released.

GIVEN THAT FREIGHT TRAINS IMPACT ON PASSENGER TRAIN OPERATIONS, IPART MAY CARE TO RAISE THE NEED FOR A FREIGHT STRATEGY FROM THE NSW GOVERNMENT.

3 FARES AND OTHER REVENUE SOURCES

In 2002, State Rail requested a modest 2 per cent increase in fares. This modest increase was granted by IPART. We suggest that City Rail should be seeking larger increases. IPART MAY CARE TO INVITE STATE RAIL TO SEEK LARGER INCREASES AND TO MAKE A MUCH BETTER CASE FOR SUCH INCREASES.

It is further submitted that the additional revenue should be used to improve the service. It is appreciated that it may be necessary to effect service improvements and increases in road pricing to allow CityRail fares to appreciably rise. However, there should also be access to Federal funds to support improved urban public transport in major cities such as Sydney, and the State Government should be prepared to contribute more as well.

Declining rail service levels have given rise to proposals such as those of the Sydney Morning Herald in its Blueprint Series of 12 March 2003 of adding an additional \$1 to each fare, with less for concession fares. With 276.4 million passengers in 2001-2002 (as per CityRail's 2002 Annual Report), this would give a welcome boost to CityRail's capital works budget.

There is also a case for high CityRail fare subsidies to be better aligned with regional development concepts of higher density living near Sydney and regional nodes as opposed to generous subsidies for all parts of the CityRail network. For example, fares for an inner area (radial say 10-12 km from city) could be held at present levels plus the increase sought by State Rail, and fares could have a further percentage increase the further out they go. Fare levels approaching places like Wollongong, Gosford, Mittagong Bowral etc could be plateaued from closer in (say Austinmer, Woy Woy, Bargo) so that there is more incentive for regional development.

There is also scope for a qualitative aspect in fares - if you get a premium service such as from Campbelltown (with 12 trains per hour on a week day, with at least two routes and many trains running expresses), then there could be a premium fare for the better service quality. Such a premium fare should not apply to lines such as the Richmond line.

3.1 Other revenue sources

While there are many proposals to physically improve the rail system there is a need to develop funding arrangements which will provide resources to enable urban rail development. There is a need to think outside the square of current government funding arrangements. IPART is invited to consider recommending to government that it consider alternate means of funding the expansion and upgrading of the urban rail system, or supplementing the existing funding sources. One example is from Paris where a specific tax is imposed employers to fund the Metro and commuter rail systems.

Another option is a traffic demand charge in central Sydney, where a portion of the revenue would go to urban transport systems. The RTSA would support the investigation of such a proposal. One of the elements, which is likely to appear from any such investigation, is that for such a system to operate effectively, there needs to be an efficient public transport system. This was clearly shown in Singapore. However, as shown by the congestion pricing scheme introduced in London in February 2003, there is latent acceptance of movement to a more rational approach to road pricing.

The 2002 State Rail submission to IPART noted in part comment by IPART (2001), *“the real world experience of road pricing is of continual non implementation”*. *“Given that road use pricing does not reflect the full external cost of road use, it is appropriate that the external benefits of rail be reflected in rail pricing”*.

A further option is that the **Productivity Commission be requested to hold a full inquiry into urban transport**. The Industry Commission released in 1994 a significant report on urban transport and in response, the then Federal Government agreed to hold a further inquiry within three years. However, the new inquiry is yet to take place. A new inquiry could also usefully address the topics of road provision funding and pricing that were favoured by the Productivity Commission in its 1999 report on progress in rail reform.

4 COMMENT ON EXTERNAL COSTS

We note that section 2.6 'External benefits of rail' of the 2003 StateRail submission states, inter alia, "A peak CityRail train can carry 2,400 passengers throughout its journey and over 1,200 passengers at the peak maximum loading point, usually approaching the CBD. Two trains can move as many people as an hour of peak traffic on one lane of freeway or 35 fully laden buses .

"These benefits are particularly significant for large employment centres such as

the Sydney CBD. Without the extensive rail services currently provided by CityRail the city would need to provide an additional 100,000 car parking spaces and 1,700 additional buses. The congestion and environmental cost would also be significant. Air and noise pollution would increase significantly without the extensive rail system servicing Sydney.

We also note that section 2.9 states that a further study "Value of CityRail to the Community of NSW" is under way. Further comment is given in Appendix B.

RTSA is concerned that the 2003 State Rail submission contains very little additional factual information on external costs.

It is recommended that IPART consider clarifying with State Rail whether the new report from State Rail will provide updated estimates on both road and rail passenger external costs, and when will this report will be made available.

RTSA would welcome a commitment from State Rail that the new report study "Value of CityRail to the Community of NSW" will be released publicly and this year. Ideally, it should be available for the present application to IPART for fare increases.

5 SAFETY

Safety is an important question. It is of note that for many years, the book of Rules, Regulations and By-Laws of the NSW Government Railways noted that every railway officer and servant "...shall constantly bear in mind that his **first and most important duty is to provide for the safety of the public.**"

Undoubtedly, the rail accident at Glenbrook on 2 December 1999, with the loss of 7 lives and the subsequent inquiry and recommendations of the Royal Commission demonstrated the need for a renewed emphasis on rail safety in NSW. This need has been further reinforced by the Waterfall train derailment on 31 January 2003 with the loss of a further 7 lives. Both these major fatal accidents have raised questions as to whether it was appropriate in 1995-96, in line with National Competition Policy and financial considerations, to separate State Rail into separate train operational and track authorities.

A list of 12 NSW rail accidents from a CORE 02 paper is given in Appendix C.

At a major rail conference held at Brisbane in June 2001 (AusRail), the Chairman of Japan Rail East, Mr. Matsuda, forcibly argued that an integrated railway was a safer railway. JR East and the five other JR passenger-train companies formed in 1986 as a result of JNR 'break up and privatisation' are each integrated railways. JR Central operates with other trains the Tokaido Shinkansen which has an enviable safety record. Between 1964 and 2002 this Shinkansen high speed rail service carried 3.8 billion passengers with

no loss of life from any train accident involving collision or derailment.

This commendable Shinkansen safety record is for the most part due to a decision in 1961 to adopt and develop a continuous Automatic Train Control or ATC System to assist train drivers. With ATC, the train brakes are automatically applied if the train is moving at excessive speed in a speed restricted zone, or the train passes a signal at danger.

ATC systems require integration between the signalling system and the trains. Queensland Rail (QR), which is also an integrated system, has an older ATC System which works with radio beacons by the track between Rockhampton and Brisbane. QR is now developing a newer Automatic Train Protection (ATP) system, which can also stop a train at excessive speed or passing a signal at danger. However, ATC will not prevent all train accidents, and QR is understood to have had at least three collisions in ATC territory. ATC is also expensive, and following a UK accident at Ladbroke Grove in October 1999, the cost of a full ATC system was found by a subsequent inquiry to exceed the expected benefits.

A BTRE 2003 report 'Rail accident costs in Australia' notes an estimated cost of \$133 million for all rail accidents in Australia, including \$22 million for level crossing rail accidents not involving motor vehicles, and excluding rail related suicide and attempted suicide costs estimated at \$53 million. Most rail fatalities (33 out of 43 in 1999 not involving suicides or level crossing accidents involving motor vehicles) were due to pedestrians hit by trains (14 at level crossings and 19 at other sites). This is in accordance with 'pedestrians hit by trains accounted for 74 per cent of railway accident fatalities in Australia in the period 1979-2000' (calendar year) – p. 2 which also notes that the number of railway accidents has fallen in recent years.

This report gives a table (1.1 on p. 1) of fatality rates per million train kilometres ranging in five mainland states from 0.05 in Queensland to 0.55 in WA with an average of 0.28 with NSW at 0.41.

It is a good question as to how well NSW is performing in rail safety relative to both other States, and world best practice. The data given in this BTRE report does not give a clear answer to this question although it does give two tables (4.3 and 4.4 on p. 44) showing, inter alia, number and cost of collisions, and number and cost of derailments. In addition, the report does not differentiate between freight and passenger trains.

A different study for Queensland Transport notes, after a study of data for five calendar years from 1996 to 2000 that freight trains accounted for about 27 per cent of the cost of all rail accidents in that period; also using BTE (1996) costing for road crashes,

with other assumptions, an average injury cost of 0.024 cents per net tonne km for rail freight operations in Queensland was reasonable. This compares with an Australian average of about 0.5 cents per net tonne km of road freight.

6 AUSTRALIAN LAND TRANSPORT AND SYDNEY

Clearly, a new approach to land transport within Australia is needed. Many inquiries conducted during the 1990s for the Federal Government have shown the way; and it is now quite clear that 'business as usual' with land transport is simply not good enough for Sydney to remain internationally competitive as a major Asia/Pacific City.

The Sydney Morning Herald editorial 'To put Sydney back on the rails' for 27 February 2002 notes, inter alia, a need for higher fares and to 'move positively in the direction of private funding'. After noting a 'dire picture' the editorial suggested that "*...the neglect that has brought the Sydney rail network to this parlous state has been grave. The urgency is to face the problems laid bare by Mr Christie's thorough and detailed reports and to deal with them. First and foremost, the cost - \$20 billion over the next decade - is not optional.*"

It is hard to how see such issues can be overlooked in considering rail pricing.

7 AUSLINK

A potentially new dimension in Australian land transport policy is the initiative of the Federal Government in producing the AusLink Green Paper. The approach adopted by AusLink is consistent with the findings and recommendations of the 1998 report 'Tracking Australia' from the House of Representatives Standing Committee on Transport etc (the Neville Committee), the 1999 'Smorgon' report on revitalising rail, and the final report of the Productivity Commission's inquiry 'Progress in Rail Reform'.

However, RTSA joins State Transport Ministers in their reservations about the absence of funds for urban public transport. To meet these concerns RTSA proposes *AusLink Plus* retain many of the Green Paper proposals, and include congestion pricing plus mass distance pricing for heavy trucks.

As recommended by the Fuel Taxation Inquiry that reported in 2002, the question of fuel excise indexation needs addressing.

RTSA has suggested in response to the AusLink Green paper that use of Public Private Partnerships (PPP) in project delivery has to be done carefully. 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. Lumbering future generations with inappropriate debt – unable to generate returns, should be guarded against.

The RTSA submission to the AusLink Green paper addresses various land transport infrastructure issues including urban public transport, along with regional rail projects including rail haulage of wheat and interstate mainline track straightening to replace current sections with 'steam age' alignment. In regards to urban transport, as clearly shown by the 1999 report of the Institution of Engineers, Australia, "Sustainable Transport: Responding to the challenges," we have major road traffic problems in our major cities. These problems should be adequately addressed by AusLink.

Like other Australian major cities, Sydney needs measures to overcome excessive 'automobile dependence'. The Sydney Greater Metropolitan Region is now home to about 25 per cent of Australia's population. This region needs about \$20 billion of rail "catch up" investment this decade. A National Transport Plan simply cannot ignore this requirement.

In the United States, over 20 per cent of Federal land transport funds are applied to urban public transport. In addition, in New York about \$800 million a year of vehicle tolls are used to assist New York City Transit's \$11.5 billion five year capital works programme.

Appendix D includes some comments on some AusLink related issues

8 NEW ZEALAND LAND TRANSPORT PACKAGE

Recent initiatives of the New Zealand government in urban land transport are also relevant. On 28 February 2002, the New Zealand Government announced a \$227 million Land Transport Package. The innovative package, called Moving Forward, uses funds raised from increasing petrol and diesel tax by 4.7 cents per litre. Along with generating an extra \$94 million for roads over the next 16 months, the package also includes \$66 million for alternatives to roads, such as rail and public transport.

The aim of the package is to try to replace present transport problems, by a transport system that is 'affordable, integrated, safe, responsive and sustainable.' A current National Road Fund will be replaced by a National Land Transport Fund. Further measures were adopted in December 2002. For more information, see

<http://www.transport.govt.nz/html/15news/land-transport-package/index.shtml>

In addition, the New Zealand Ministry of Transport released in 2002 a report showing, inter alia, that the "invisible road toll" exceeded the "visible road toll".

APPENDIX A Letter from Mr Ron Christie – Coordinator General of Rail , Office of the Coordinator General of Rail to the Hon Carl Scully, MP Minister for Transport, Long-term Strategic Plan for Rail: Greater Sydney metropolitan region, Overview report, June 2001

A pragmatic and integrated plan

The Long-Term Strategic Plan for Rail is long overdue.

In contrast to the attention paid to road network development needs in recent years, there had not been a detailed and comprehensive examination of the needs of the greater metropolitan rail system since the former State Rail Authority was split up in 1996. As a result, planning was undertaken on an independent basis by Rail Access Corporation (now part of Rail Infrastructure Corporation) and the State Rail Authority, rather than in unison.

Further, it is generally acknowledged that by its very nature the Government's 1998 transport strategy *Action for Transport 2010* was not able to “drill down” to the level of detail required to fully analyse what was (and is) needed to achieve an efficient and effective metropolitan rail system.

The *Long-Term Strategic Plan for Rail* seeks to redress these deficiencies by **setting out, with expressly acknowledged assumptions and clearly argued justifications, a comprehensive programme of short-term, medium-term and long-term operational, infrastructure and rolling stock changes to the metropolitan rail system.**

In doing so, it should be regarded not as “the final word” but rather as the *starting* point for ongoing strategic planning. For example, the timeframes for individual projects are based on the best advice on likely future patronage growth patterns available at present, but will need to be continually reassessed in the light of (for example) changes in land-use and employment patterns and changes in the economic climate.

The *Long-Term Strategic Plan for Rail* recognises **the importance of State Rail's taking a more proactive role than in the past in indicating its requirements for the future** – both as the sole operator of suburban and intercity passenger services in the metropolitan region and as the organisation now legally responsible for the timetabling and control of all passenger and freight train movements on the metropolitan rail network. With State Rail providing the necessary guidance, initially through this *Long-Term Strategic Plan for Rail*, Rail Infrastructure Corporation will no longer be left to “second guess” what its future requirements are.

Similarly, the development of the *Long-Term Strategic Plan for Rail* provides **an opportunity for the Government to guide the private sector in more productive directions**, by making it clear what the overall requirements for the metropolitan rail system are. In this regard, valuable lessons have been learnt in the late 1990s concerning the importance of ensuring private sector projects deliver what is actually required for an efficient and effective rail system, rather than being developed almost in isolation from these requirements. If a summary of the rail system requirements and responses set out in the *Long-Term Strategic Plan for Rail* were publicly released, private sector organisations

submitting ideas for new rail infrastructure etc would be much better placed to put forward proposals that are likely to prove acceptable and attractive to the Government and the rail agencies.

Some changes in priorities

As already indicated, the starting basis for the *Long-Term Strategic Plan for Rail* is *Action for Transport 2010*. The *Long-Term Strategic Plan for Rail* builds on this foundation by specifically addressing:

- The best ways of achieving the regional and corridor transport objectives established by *Action for Transport*, and
- Issues which were largely beyond the scope of *Action for Transport*, including, in particular, rail safety and reliability issues and the rail system's critical capacity constraints.

In some instances the new analyses, using a range of projections for the most likely growth in rail patronage on different rail corridors, now point to **a reordering of priorities, with a greater emphasis on reliability and capacity improvements before some (but not all) of the more ambitious projects proceed.**

For example, the original objectives of several *Action for Transport* projects will simply not be able to be achieved unless capacity-enhancement projects in other areas already subject to severe congestion, especially the inner city, are completed first.

A longer-term conceptual framework

At the same time, the new analyses have permitted the development of **a more coherent long-term view** of a possible "ultimate" form of a greater metropolitan rail system, serving the multiple social, economic, employment and educational access and other transport needs of a metropolis of (perhaps) six million people.

This provides an essential long-term but non-prescriptive context for all rail development proposals, in much the same way as long-term regional and corridor plans have guided road network development over the last 55 years.

Just as vital road corridors have been reserved in the past, there is now **an urgent need to take action to protect future rail corridors**, and especially the corridors identified in alignment studies for new rail lines required in the next 10-20 years, through planning controls, land acquisitions and other measures.

Choosing the most appropriate mode of public transport

The *Long-Term Strategic Plan for Rail* focuses heavily on the transport tasks most suited to heavy rail – for passenger transport, the movement of large numbers of people at comparatively high speeds.

In doing so, however, the *Long-Term Strategic Plan for Rail* expressly recognises that **in many situations other public transport modes, including road and “transitway”-based buses and light rail, are more suitable**, especially when relatively small numbers of people are involved.

For example, in the case of several of the possible new longer-term rail corridors in suburban Sydney the *Long-Term Strategic Plan for Rail* suggests that other modes should probably be used at the outset, with rail modes being adopted for a corridor only if and when the much higher speeds and capacities of heavy rail become important or when constraint such as road congestion prevent buses from fulfilling their transport tasks.

In sort, transitways and other “feeder” bus services will serve a vital role *in combination with* heavy rail.

The *Long-Term Strategic Plan for Rail* also expressly recognises **the importance of easy inter-modal and rail-rail inter-changing**. As the metropolis develops, the amount of interchanging required will inevitably increase, although rail operation studies suggest that even in the long term rail-rail interchanging should be able to be minimised for the most heavily trafficked routes.

Innovative approaches

A range of “**non-traditional**” options for enhancing the capacity, performance and safety of the metropolitan rail system have also been examined.

With the *Long-Term Strategic Plan for Rail* makes it clear that there are no “magic-bullet” solutions, as has sometimes been claimed, a series of investigations and pilot installations are recommended, and several of the options, including communications-based signalling and new “metro”-style railway lines operating independently of the existing rail network, are identified as having potentially important benefits, especially in the medium to longer term.

The critical issue of capacity constraints

Probably the most important single aspect of the *Long-Term Strategic Plan for Rail*, however, is its clear identification of the seriousness of the looming problem of severe capacity constraints on the metropolitan rail network.

This problem reflects the fact that in the last 50 years there have been almost no track amplifications – the equivalent of road widenings to provide extra traffic lanes – on the metropolitan rail network.

This means all types of services – fast and slow, and to and from a wide variety of locations via a wide variety of routes – are forced to share the same overcrowded tracks, with few if any overtaking opportunities and with major congestion at the routes’ numerous junctions.

The system is rapidly approaching gridlock. This is already manifest in the extreme day-to-day sensitivity of CityRail services to even the most minor of disruptive incidents.

The *Long-Term Strategic Plan for Rail* sets out a detailed program of changes in rail operating patterns and essential capacity – enhancing works for the next decade, with another prime objective being to restore the physical separation of different types of CityRail services in order to improve on-time running.

This program of works is essential *regardless* of whether a communications-based signalling system – sometimes presented as an “alternative” – is adopted.

But the *Long-Term Strategic Plan for Rail* also makes it clear that **by between about 2011 and about 2015 the relief provided by these corridor-based enhancements will be effectively exhausted and a new rail route** through the inner city and the CBD, between Eveleigh and St Leonards, will be essential. Again, this conclusion applies *regardless* of whether a communications-based signalling system is adopted.

In essence the situation now is analogous to that before the Eastern Suburbs Railway was built in the 1970s. By providing a new route through the inner city and CBD, the Eastern Suburbs Railway provided vial relief for the City Circle and the North Shore lines through the CBD, but this capacity relief will shortly be completely used up, even with all the capacity augmentations proposed for the next ten years, and another additional route through the CBD will once again be required.

Initial investigations into the new route are now underway. Once the route and staging options and their operational implications have been identified, a relatively early decision will need to be made by the Government, as a lead time of at least ten years is likely to be required before construction of even the first stage or stages could be completed.

Because of the complexity of almost all aspects of this project, it will be essential to start serious planning for this new line immediately.

APPENDIX B Further comment on State Rail's estimates of external costs

The 2002 State Rail submission to IPART noted in part " Rail travel in Sydney provides the following external benefits:

- *Road congestion* – The Centre for International Economics (2000, The Economic Benefits and Costs of CityRail to the Community p30) estimates that CityRail operations reduce congestion costs to existing car and bus users in Sydney by at least \$188 million per annum. This cost relates to the time spent in traffic delays.
- *Road accidents* – With greater car usage there are more accidents with associated loss of life, serious and slight injuries and property damage. The Centre for International Economics estimates that if CityRail services were removed, the economic cost of accidents would increase by around \$37 million per year.
- *Air pollution* – Increased car usage would result in higher air pollution from car emissions, which in turn would impact on health, damage property and have a negative visual impact (smog). It would also damage crops and forests, and contribute to global warming. It is estimated that this impact would be nine times greater than the effect of emissions from coal generated electricity used to run CityRail trains.
- *Noise pollution* –It is estimated that without a rail system, the additional noise pollution from increased car dependence would outweigh the current noise impact of rail transport. This has been valued as delivering a net economic benefit of \$3 million pa. (Milthorpe, Hensher and Zhu (1994), "Valuing the benefits the community derives from CityRail services")

"As rail transport produces less pollutants and fewer accidents per person journey than road travel and because it reduces congestion costs to road users, it reduces externalities that road transport imposes on the community which are not at present priced into road travel. One solution to addressing this price distortion is to price road use directly, thereby internalising the social costs of vehicle use into road use decisions. However, as noted by IPART (2001), ***"the real world experience of road pricing is of continual non implementation"***.

As per a submission to IPART in 2002 by Dr Philip Laird, estimates given by State Rail of external costs to IPART in 2002 appear low, and certainly the 1994 noise estimate is in need of updating. In 1999, the Federal Bureau of Transport Economics in Canberra published - (1999b) *Urban transport - looking ahead* which notes a 1995 congestion cost estimate of \$6 billion. The estimate of at least \$188 million per annum is about 3 per cent of all Sydney's congestion cost. It would appear that 3 per cent is unduly low for sustained withdrawal of all city rail services.

The estimate of the economic cost of road accidents increasing by around \$37 million per year if city rail services were withdrawn also seems low. In May 2000, the Bureau of Transport Economics published *Road crash costs in Australia*. As seen by Laird, Newman et al (2001, Back on Track, Rethinking transport policy in Australia and New Zealand, UNSW Press).

"The numbers of persons killed on Australian roads, coupled with serious injuries and other injuries, plus loss of earnings, pain and suffering, and vehicle damage was estimated by the Bureau of Transport Economics (BTE - 1995b) to be costing Australia

some \$6135 million in 1993. This estimate for road accidents far outweighed BTE (1995b) estimates for aviation accidents at \$75 million, rail accidents at \$69 million and maritime accidents at \$316 million. However, this very conservative estimate for the cost of road crashes was later revised by the BTE (2000) to be \$14 980 million in 1996. The marked increase from \$6 billion reflects inclusion of an estimated cost of \$2 billion for long term care, and, a more realistic estimate of nearly \$1.5 billion of the costs of traffic delays resulting from road crashes. This is an almost daily phenomenon on freeways in any major city. ...Even so, the new BTE estimate of the cost of road crashes of some \$15 billion is considered to be conservative by the Australian Transport Council (2000). ..."

The book Back on Track also discusses estimates of noise and air pollution, as does the Bus Industry Confederation (BIC) in a 2001 submission to the Fuel Taxation Inquiry. This BIC submission notes that *"...the main transport external costs are those of road damage, congestion, accidents and environmental damage, especially air pollution, noise and climate change (greenhouse gas emissions) and the major origin of these costs is road use."* The submission also notes that there are external costs associated with the emissions from the refining of the fuels used in transport, and external benefits (positive externalities) from road use which are best dealt with by market forces.

The BIC did not recommend congestion charges. Instead, it recommended more attention be given to congestion in road pricing, and an annual program of \$100 million nationally over a five year period, funded by a charge of about 1c/L on fuel consumed in capital cities for measures to try to reduce road congestion.

BIC proposed that a fuel charge of 4c/L on diesel and 8c/L on petrol be imposed to recover part of the external costs of road accidents, and that the Australian Transport Council initiate measures to increase the liability of those causing accidents for associated accident costs and to more closely align transport accident insurances with relevant risk factors. BIC further proposed that BTE extend its recent accident cost research to produce external cost estimates by vehicle type, as a precursor to specific user charges.

In regards to air pollution from motor vehicles in Australia, BIC estimated an annual cost of about \$4.3 billion. This comprises \$3.7 billion of costs imposed in capital cities, with about \$0.6 billion in other urban areas. The cost of air pollution in all urban areas due to articulated truck movements was estimated at \$342 million, and the BIC proposed that the base air pollution charge for 50 ppm sulfur diesel should be set at about 7 cents per litre, with higher charges for diesel containing a higher sulfur content, whilst rural fuel use should be rebated this charge.

For greenhouse gas emissions, after consideration, the BIC considered the value of \$A40 per tonne of carbon dioxide (CO₂) *"...to be the current optimal level for carbon taxation. It is stressed this value is only relevant for the short-term; costs will increase dramatically in future years."* The use of the value of A\$40/tCO₂ gives a relevant charge level (carbon tax) of 10.7 cents per litre of diesel.

Estimates of the cost of noise from all motor vehicles in urban areas was given in a range of \$0.7 to \$1.9 billion per annum, with the cost of articulated truck movements in a range of \$82 to \$126 million per annum. BIC considered that the average noise costs from urban road traffic are about 7c/L of fuel consumed in urban road use.

Other recent Australian work on transport externalities includes that of a 2001 National Interstate Track Audit commissioned by the Australian Rail Track Corporation.

APPENDIX C Excerpts from a paper PROCURING FINANCE AND APPROVAL FOR NEW INVESTMENT IN DISAGGREGATED RAILWAYS by Adam Bisits presented at the Conference on Railway Engineering, November 2002, Wollongong.

The spate of reported rail accidents in NSW are worth reviewing for the engineering, better management and operator-owner co-operation that could have prevented accidents. Thus:

- *Kerrabee*, 18 August 1998. A coal train struck a work vehicle on the track. The employees concerned, both killed, were not able to use the lineside telephone and had to use a riskier three way communications method...
- *Bell*, 15 October 1998. Track worker on up line killed by a passing train on the down line; no lookout was stationed on the down line and the Safeworking Unit was described as "lengthy, complicated, ambiguous and difficult to interpret". The aftermath of this and the next two accidents makes clear the management changes the track owner must make and which the train operator should insist upon.
- *Hornsby*, 9 July 1999. A derailment caused by: the train radio not working; safety directions of a superior being ignored; and signals not being fully visible
- *Waverton*, 20 December 1999. A derailment caused primarily by inadequate driver training.
- *Hornsby* derailment, 11 January 2000. In this case speed signs applied to a train that had no speedometer, with the driver being required to make an estimate of the train's speed. ...
- *Glenbrook*, collision, 2 December 1999. The Indian Pacific ran into an interurban passenger train. The causes of this collision included: the absence of an electronic backup when the automatic signalling failed; the absence of a train indicator board at the relevant signal box; the use of a lineside telephone because the Indian Pacific was not permitted to use the radio system that the interurban train used; colloquial and misleading speech; undermanning of the signal box; and inadequate safety training and awareness...
- *Olympic Park*, 2 September 1999. A derailment caused by worn wheels on a shuttle train used on curved track without a specified lubricator. It seems that the need for the lubricator was known.
- *Olympic Park Loop*, 14 November 1999. A derailment caused by catch points that were so placed that a train passing a stop signal at low speed could hit a stanchion and plunge down an embankment. This is an example of an accident leading to investment: after this incident 13 of the 85 catch points in the metropolitan area were rectified in this regard.
- *Redfern* derailment, 6 April 2000. The track owner, RAC, changed certain points to bi-directional movement. The contractor, RSA, did not replace a switch blade which had a cracked tip. The train operator, SRA, did not state the permitted speeds following on bi-directional movement. The commissioner conducting the inquiry into the incident said:

Added to all of this is the fact that there does not appear to have been any

attempt to bring the three rail entities concerned together to identify the combination of design, construction, inspection and train operation which needed to be done to ensure when this new work was commissioned the trains could be safely operated over it.

- *Kingsgrove* derailment, 6 October 2000. The causes included deteriorated timber sleepers, loose rail fastenings, lack of shoulder ballast on curves, and incorrect inserts in continuously welded rail.
- *Hexham*, 12 July 2002. A coal train was derailed by a defective swing nose point – possibly excusable – but a passenger train ran into the derailed train because, it seems, the *three* communications systems of the coal train and the *two* systems of the passenger train could not be used for direct communications between the trains and the link these provided to Broadmeadow Train Control was incomplete and slow. It may be doubted that the train operator would regard this system of communication as acceptable.
- *Bargo*, 1 August 2002. Ballast wagons of a reversing ballast train derailed into the path of a train on the other track, which collided with the wagons. The ballast train crew were not aware that the wagons had derailed.

APPENDIX D AusLink related issues

1. The AusLink Green Paper recognises the value of information and notes that improved data is needed. The White Paper should outline the steps that will be taken to improve land transport data.

2. RTSA encourages the NSW Government to develop measures that will reduce vehicle kilometres travelled, improving energy efficiency and road pricing as per the BTRE's 2002 report "Greenhouse Policy options for transport", and the National Strategy for Lowering Emissions from Urban Traffic approved by the Australian Transport Council in Aug 2002.

3. The education and training of rail staff is important. Running a large railway is a complex business and requires a diversity of skills, trades and professions (including accountants, engineers, and now lawyers). This requires a significant number of both skilled rail engineers and technically competent managers. The present indications show that in some areas there will be a serious shortage of qualified railway engineers.

The issue of education, training and research was examined in a 1999 IE Aust report, 'Engineering for rail sector growth' and revisited by a RTSA Rail Forward Vision Task Force, in a November 2002 report 'Rail in the next decade; where to and how'.

The rail industry has initiated the establishment of a Rail Cooperative Research Centre (CRC) which officially commenced on 1 July 2001 with six research themes including Industry Skills Development (Industry and Training).

4. The challenge of attracting younger people with talent who can make a contribution is not unique to the rail industry, and indeed is faced by the road freight industry as well. The White Paper needs to recognise the increase in skills, understanding, knowledge and innovation necessary for the transport sector. AusLink must take a lead in motivating and co-ordinating the provision of training, education and R & D within transport and storage. **Clearly there is a market failure (and Government failure to date) in both up skilling and education attainment within transport that is constraining Australia's future productivity and international competitiveness.**

6. There is a need to ensure that rail has sufficient funding for advanced planning to allow rail to catch up with the forward planning of major National Highway System projects. This includes an allocation in the 2000-01 Federal Budget of \$10 million for planning of the Western Sydney Orbital.

7. Will Sydney ever get a Western Rail Orbital? In planning for the Western Sydney Orbital, it was a lost opportunity to make provision for future rail links between Castle Hill, the Richmond Line, the Great Western Line and a link from near St Mary's to the Main South Line.