

Rail Horizons

March 2005



From the Chair

Business Parenting

The Railway Technical Society (RTSA) has recognised for some time now that the Technical Professions (Engineers/Technical Officers, etc) were in short supply, not just in Australia but also in countries like the UK. A study done several years ago by the Senior Policy Analyst, Engineers Australia, on behalf of the RTSA clearly established a link between investment and engineering resource requirements. That study established significant shortfalls in the professions of Track, Rollingstock and Signalling. Time has moved on since that study and my observations would suggest that things have not improved.

On the 28 January 2005, I attended a "Rail Skills and Career Council" orchestrated by the Australasian Railways Association (ARA). I must say, it's comforting to know that the ARA Executive are also clearly focused on critical employee shortages now facing the rail industry, clearly, their focus is broader than just the Technical Professions.

While en route to the ARA workshop, I visited the National Headquarters of Engineers Australia and was having a heart-to-heart with one of the Administrative Support Officers about a concept of "Sustainable *Human Resource* Development", particularly as it relates to the rail industry, and what I believe is a clear failure in "*meeting the needs of future generations*". As we discussed the issue, it was quite clear that the rail industry is not alone in this dilemma and it was suggested that I develop the concept further. Following on from that discussion and some of the issues to come out of the ARA workshop, I thought it appropriate to put my thoughts down on paper, for as commendable as I believe the ARA workshop to be, the one issue that requires heightened industry recognition is the coined concept of "Business Parenting".

As we all know, parenting is about "*meeting the needs of future generations*".

I'm sure everyone, particularly those of us who are parents will readily understand the concept of "Business Parenting". To be a parent, particularly a good parent, is demanding and sometimes daunting. It's about treading into the unknown, it's high-risk stuff, it's about the future and for most parents is highly rewarding. As a parent there are significant responsibilities, firstly bringing into existence your offspring, but it's only then the real work begins. As a parent we make significant investments; money, emotional, and time, "economic rationalism" generally does not enter the equation. We mentor, we coach, we encourage, knowing we cannot pass on life's experiences through the written word alone. In creating this future we not only pass on our life's experiences, we engender our moral and cultural values.

We do this with open generosity, recognising that there are significant risks but in the knowledge that if we do not invest, there is no future.

It is interesting to read many of the recent rail accident inquiries. They frequently talk about a lack of "Corporate Knowledge", "Organisational Culture" and in particular "Safety Culture".

I must say that when I started within the industry there was significant investment in me as an individual. I was mentored, coached and encouraged. The organisation passed on its life's experiences. I was educated in the rules and regulations, of the organisation what they meant, why they had evolved their cultural significance and values such as "Safety" were considered sacrosanct. I believe I was effectively "parented" in the values of the organisation.

Over the last 25 years or so, the rail industry has been through a period of continual upheaval, which has included privatisation, and significant restructuring, mostly brought on by the need to improve financial performance. As a result of these pressures there has been a continuous outflow of core organisational expertise. The employees

that are left often find themselves overloaded and time challenged. On occasions when new blood has been brought into the organisation, the opportunity to “parent”, has vanished and along with it the capacity to effectively engender cultural values such as “Safety”.

“Organisational Culture” and in particular, “Safety Culture” is created by our business leaders in much the same way as parents pass on cultural values to their children. Of note, Justice Peter McInerney, Glenbrook Inquiry (2001:49) stated;

“Management actions and actual day to day behaviour are generally much more important than simply changing written policies and procedures for effecting lasting cultural change. For senior managers, actions speak louder than words. If senior management only changes what it says, rather than what it does, then little progress will be made”

In my opinion, like parents, our business leaders must move beyond pure “economic rationalism”, they must take on a “parental role”, take a risk and invest by bringing in the youth of today in “meeting the needs of future generations”. This will help bridge the current “Cultural” voids that now exists.

It is only by this type of investment that we can guarantee the future of our industry.

George Erdos
RTSA National Chair

South American Study Tour

The Victorian Chapter is finalising arrangements for the Study Tour on Railway Engineering for 2005.

The tour will take in the International Heavy Haul Association Conference being held in Rio Brazil from June 14-16 2005.

After the conference the tour will continue with visits to other railways in Brazil and Chile.

If you also would like to share in this unique opportunity please register your interest with

David Griffiths on mobile: 0438 526 657
or
email: david.griffiths@rti-group.com.

Rail Horizons **CONTENTS**

From the Chair	1
Point of View	2
Government Relations Committee	4
Postcards from China	5
Newcastle Rail Closure	7
Engineering Education	8
Lessons from History	9
Chapter Reports	10
Notice Board	15

Rail Horizons is the journal of the Railway Technical Society of Australasia and is published quarterly. The opinions expressed within are not necessarily those of the Society or of the Editor.

Copyright for material included in this Newsletter remains with the RTSA and authors unless otherwise indicated.

POINT OF VIEW **Max Michell**

In recent days a proposal has surfaced in Sydney to build a ‘high speed’ rail link between Parramatta and Sydney, apparently to be a private rather than public enterprise. The link would provide for 11 minute journey times (as compared to 24 minutes by express trains now) and would attract a premium fare. The Lord Mayor of Sydney (Clover Moore) is reported as challenging how this proposal will fit into a total transport plan for Sydney, a not unreasonable attitude in a city that still has almost total compartmentalisation of rail, bus and ferry.

The issue of overarching planning in order to develop localised plans is one that transport (and rail) is not good at. A case in point is the so called Cumberland line in Sydney’s middle west – in reality a very costly wye link between Parramatta and Liverpool. This line, which

notionally replaced cross platform transfers at Granville, has a half hour frequency on weekdays and does not operate at all on weekends; either cross platform transfers between more frequent services are just as (or more) attractive than infrequent direct services, or the demand was never there in the first place. Now, just to reinforce the view that global planning is not a strong point, a dedicated busway is being proposed between Parramatta and Liverpool. History may show that the Cumberland line may be useful as a future freight link if some current proposals come to fruition but I doubt if that ever came into the original planning for the line.

However this is not really about the Cumberland line, or even metropolitan lines – which are notorious for knee jerk decision making and poorly thought through logical processes. It is about the current influx of funding for the national network and the planning employed to ensure that the funds are spent wisely. At present there are two major corridors under review; North – South between Brisbane , Sydney and Melbourne and the Hunter Valley coal network stretching from the Newcastle Ports to Ulan and Boggabri. Current discussion documents on both these corridors are on the ARTC web site (www.artc.com.au) and are commended to readers.

The North – South corridor is principally about transit time and reliability, which given the 100 year old rail alignment and rapidly improving (at vast expense) parallel highway network is all about holding and improving rail's rather fragile presence in the east coast general freight market. The strategies proposed range from safeworking improvements (replacing electric staff and double line block telegraph), increased numbers of long (1500 m) loops, review of superelevation, cant deficiencies and speed boards and realignments. The Hunter Valley on the other hand is all about capacity – the existing task of 85 million tonnes per annum could grow to over 120 million tonnes in five years time under production plans that are quite conservative. The existing task requires coal trains on average every 32 minutes every day of the year so the coming capacity problem can be seen to be quite significant. There are two basic elements to capacity – numbers of trains and the capacity (load) of those trains. The first thrust of Hunter Valley planning is to create a system of even headways on the double track section of the coal network, while at the same time attending to key capacity issues on the single track sections (CTC replacing electric staff, longer/more crossing loops, duplication etc.). The parallel outcome will be the ability to run longer trains on the 'short train' parts of the network, and in the long term to improve the load per wagon over the majority of the network (the 'train loading' factors).

One interesting issue has been the signalling north of Maitland. This line has generally good alignment and

consequently there are long sections of 100 – 115 km/h track. The existing signalling was installed in recognition of these speeds with relatively even spacing regardless of the vertical profile. Coal trains on the other hand are very sensitive to the terrain, and while they can rumble along at their permitted maximum (60 or 80 km/h now, but 80 km/h as part of the plan) on level or downgrade track they drop back to 20 km/h or less on the two significant 1 in 80 grades at Nundah and Minimbah. With evenly spaced signals this automatically determines that longer headways will exist on the upgrades than at other locations for the majority of trains (coal trains outnumber all other trains on the line by around 3 to 1). The intention is to re-configure the signals to provide even headways for coal trains, a move which in itself will lift capacity well toward the target capacity numbers in a relatively short time, while still allowing passenger trains to maintain their current speeds.

One of the principles adopted in the Hunter Valley is to try and 'harmonise' capacity with demand as well as lifting capacity above the immediate demand to allow for future capacity expansion in an orderly and timely way. In the existing circumstances of very rapid growth plans by the coal producers long lead time projects are at a significant disadvantage. The initial capacity increase in the Hunter Valley plans are intended to meet immediate demand increases as well as allowing increased time for the next round of capacity enhancement projects.

Many of the issues being dealt with in both the North – South and Hunter Valley corridor projects have previously been the subject of sometimes quite extensive reports, but there does not appear to have been any previous compilation of whole of corridor plans. On another plane some of the earlier reports seem to have adopted 'solutions' without really enunciating the problem, and as such seem to have wandered off into high cost and largely irrelevant alternatives. By focussing on outcomes it has been possible to develop a series of projects that will be able to be implemented quickly, will progressively enhance capacity of the whole corridor and will be able to be done at a lower cost than that initially anticipated.

Another interesting aspect of these planning exercises is the appearance of benefits that were not initially being looked for. A case in point is the Sandgate flyover (where the main line will fly over the top of the Kooragang coal line, replacing the flat junction at that location) where separation of the two pairs of tracks will provide a very significant gain in coal capacity, while at the same time freeing up a quite significant capacity on the main line. The latter was not the main objective of the project but is likely to become a useful adjunct for through freight trains as well as those from either the North Coast or Main North wanting to access Port Waratah.

There are a number of hurdles that these plans need to pass before actual work will be seen on the ground. However I would suggest that it will not be too long before there will be a large portfolio of projects being bundled up for contract. If 2004 was the year of structural change (AusLink, and ARTC in NSW) then 2005 could well be the year of doing with a significant number long overdue of projects launched on the East Coast and Hunter Valley corridors. It is indeed a pleasure to be able to share with you, the reader, something that I regard as 'good news in progress'.

Government Relations Committee

RTSA has made a **2005 Pre – Budget submission to the Federal Treasury**. A summary follows on page 8 and the full submission is at rtsa.com.au (go to publications etc). A copy has been sent to the Department of Transport and Regional Affairs, and the Senate Rural and Regional Affairs Committee and Transport Legislation Committee examining the AusLink related legislation..

The House of Representatives Standing Committee on Environment and Heritage has resumed its earlier **Inquiry into Sustainable Cities 2025**. RTSA submissions to this committee are available on our own website and the Committee's website via aph.gov.au. Other inquiries under way in which the RTSA has made submissions during 2004 include those of the Productivity Commission into Energy Efficiency, and National Competition Policy.

With others, RTSA is awaiting the final South Australian Integrated Transport Policy. The draft was on exhibition during 2003.

On 23 December 2004, the Australian Transport Council (ATC) released a three volume report **National Guidelines For Transport System Management In Australia**. Volume 3 includes references to RTSA (plus ARTC and Pacific National) proposals for upgrading the NSW Main South Line with extensive track straightening. A concurrent report was also released by ATC on the need for improved transport data.

February 2005 was an interesting month for rail. It started with news from the Reserve Bank that Australia is facing serious economic problems due **bottlenecks caused by the inadequate provision of infrastructure**. There was also an OECD report citing, inter alia, the need for rail reform and road reform; plus "*Recently announced national land transport reforms planned under the AusLink framework need to be effectively implemented, to ensure efficient long-term investment and better integration of the network. ... More broadly, Australian*

governments should seek to establish an integrated reform agenda within a co-operative assessable framework covering all elements of land transport and shipping transport."

On 9 February, the House of Representatives debated at length the **Auslink** (National Land Transport) Bill 2004 and a cognate bill. There was an ALP amendment calling upon the Government to establish a National Infrastructure Advisory Council; and, extend the criteria for Roads to Recovery projects to include public transport, cycling, walking infrastructure and regional airport runways.

On the same day, the Senate referred the bills to its Rural and Regional Affairs and Transport Legislation Committee for inquiry. About the same time, the ARTC released two important documents (artc.com.au - latest news)- a Draft Hunter Valley Corridor Strategic Plan and a Draft North-South Corridor Strategic Plan.

One week later, on 16 February at the National Press Club, Mr. O'Donnell as ARA Chairman released a comprehensive new report **The Future of Freight**. This report provides a detailed economic analysis of the cost of moving freight on the inter - capital city corridors. After consideration of operator costs and external costs of road and rail freight (that have also been raised in recent RTSA submissions), the report shows a real cost advantage in using rail for line haul on not just the East-West corridor but also the North-South corridor. It also calls for a CoAG sponsored microeconomic reform program to focus on freight and passenger transport. This includes more attention to road pricing.

On 24 February, the NTC's (National Transport Commission) Road Pricing Reference Group met in Melbourne to discuss the '**third determination**' of **annual registration fees for heavy vehicles**. There are many questions arising from the first two determinations. These include the absence of any Equivalent Standard Axle kilometers in the allocation of road construction costs (one of many separable costs), and, the use of Vehicle Kilometres as opposed to the more traditional Passenger Car Equivalent Unit kilometers (eg multiplying the distances traveled by a car by a factor of 1, with factors of 3 for a semitrailer and 4 for a B-Double etc) for the so - called non separable costs. The level of road pricing of heavy long distance trucks is important for the rail industry, and affects both above rail operators and track owners.

Philip Laird
plaird@uow.edu.au

Postcards from China

by Mark Carter

I have been fortunate in being able to visit China on two occasions. The first time was in 1988, before the Tianamen student protests and well before Deng Xiao Ping's famous 'one country, two systems' statement of the early 1990's. During February and March I returned for a quick two-week trip that took in Inner Mongolia, Beijing and Shanghai. The pace of change and economic development in that 17-year period has been staggering.

China has always been a land of extreme contrasts, from the frozen winters of the north and deserts of the west, to the lush, sub tropical, karst mountain landscapes of the south. China's railways are much the same.

Some 600 kilometres north-west of Beijing in the autonomous region of Inner Mongolia, a handful of steam locomotives are bringing to a close a chapter in world history that has spanned two centuries. As this chapter closes, in Shanghai, travellers to the new Pudong airport are whisked along at 430km/h on the world's only commercially operating Maglev.

Despite the Chinese Government admitting recently that they have under-invested in the country's rail network, building of new railways and upgrading of services continues apace, the volume of traffic carried is phenomenal and cities such as Beijing and Shanghai are expanding their metro services at breakneck speed.

My journey started with a visit to the Jitong Tielu north-west of Beijing, which runs for approximately 1000 kilometres East West through Inner Mongolia. It derives its name from the towns of Jiningnan and Tongliao, which are the respective western and eastern interfaces with the China Rail network. The line was built in the early 1990s and funded by the regional government and is therefore classed as a local railway ('tielu') as opposed to being part



of the China Rail network. That having been said, to the untrained observer, it is identical in every respect to a China Rail operation.

Trains commenced running in 1995 and from day one, this was a 100% steam railway using second hand China Rail QJ class 2-10-2s as motive power. Several of the locomotives seen on the Jitong line during this visit, I had seen 17 years ago on the China Rail network when they were virtually brand new.

This is the last main line steam operation remaining in the world. While China perhaps has a thousand or so steam locomotives at work in steelworks and coal mines around the country, the Jitong line is the only place where a timetabled parade of freights and passenger trains can be seen passing by. Over the last ten years, traffic has increased to levels that even using two QJs, it is now insufficient to keep time and handle the loads on a single line now operating at near capacity.

In recent years, second hand diesels have been purchased and today only one 160 km stretch is still 100% steam operated. The most spectacular section of the line over the Jinpeng Pass sees perhaps only two return steam movements per day. While there will be residual steam activity in China for some years yet, forecasts are that by the end of the 2005, the entire Jitong route will be dieselised bringing to an end to two centuries of steam traction around the globe.

My time was limited in Beijing, but I managed to sample travel on two of its metro subway lines. Construction of Line 1 started in 1965 and this was progressively extended eastward until 2000 when the entire 38 km route line from Pinguoyuan to Sihuidong was opened. There are two transfer stations with the Line 2 (16 kms), the 'circle line'. Most stations have central platforms and are 118m long, but only 10 have escalators. 6-car-trains of local manufacture are used, which are all equipped with on board station announcements.

There is a flat fare of 3 Yuan (approx \$A0.50) which allows for transfers between the two lines. Ticketing is a little archaic with tickets bought from a ticket office and manually collected upon accessing the platform. Trains are spartan but clean and comfortable with very smooth ride, especially compared to parts of the London Underground system

Construction of "CityRail" (Line 13 in the overall "rapid transit" planning) started in December 1999. The semicircular line with 16 stations runs from Xizhimen to Dongzhimen (both are stations on the circle Line 2). The 40.8 km line is mainly above ground, either elevated (7.7 km) or at grade (30.3km). In the lead up to the 2008 Olympics there is an ambitious metro expansion programme including further subway and light rail

construction including links to the airport and Olympic Park.

I took Line 1 out to the terminus at Pinguoyuan, and from there hopped on a local bus for an hour's ride into the mountains west of Beijing to Luopoling, approximately 90 kms west of Beijing. Luopoling is located on the FengSha (Fengtai - Shacheng) electrified line, which is the main route to the north-west through Zhangjiakou and on to Datong. The FengSha line was completed in 1955 and electrified in 1984. Freight is exclusively in the hands of a fleet of articulated Bo-Bo+Bo-Bo originally built by Alstom and introduced in 1987. Getting background information on these units is not easy, but they put up an impressive display hauling the procession of 3000 tonne freight trains through mountainous terrain at roughly fifteen minute intervals in each direction.



Back in 1988, train travel in China in soft-class was quite adequate, but track speeds were slow, the rolling stock look tired and on train catering was very ho-hum. In the intervening years, the speed limits have been progressively raised and on the Beijing to Shanghai main line the maximum permitted speed is now 160 km/h.

Every evening a procession of nine trains leaves Beijing's main station at seven-minute intervals, bound for Shanghai, Hangzhou and Suzhou. (And of course there is a similar procession towards Beijing.) The five premium Shanghai expresses complete the 1463 km journey in 11hrs 58 mins, at a start to stop average speed of just over 122 km/h. These 18-car trains (eighteen is about the standard length for most passenger trains in China these days) are hauled by two permanently coupled, single ended, Chinese-built DF₁₁ 'Kuayue' diesel electrics, each generating 2700kW. Accommodation in the five non-stop Beijing Shanghai trains is all in four-berth soft-class (the Chinese equivalent of first class) compartments although it appears that only the bottom two berths are occupied on these premium services. The per way appears to be in

excellent condition, even when travelling over jointed rail, and the ride was very smooth throughout the journey.



A 36-seat restaurant car is available and very popular with the locals immediately upon leaving Beijing. The food is good and while more expensive than normal restaurant prices, a reasonable two-course meal will cost around A\$7, though adding a couple of beers will double that price. A trolley service also provides snacks and drinks throughout the journey. The standard of service is being continually upgraded and on some routes personal TV screens with headphones are being provided in each berth. And the fare for the journey? A bargain at \$A80.

As mentioned previously, Shanghai is home to the world's only commercial Maglev operating to the recently developed Pudong International airport. While the train itself is an incredible experience – travelling at 430km/h on a land based transport mode really is something else - poor location and marketing appears to be hampering its success.



The Maglev station is at Long Yang Road, some 20 minutes out from downtown Shanghai on metro Line 2. The Shanghai metro system is an excellent system. It has first class ticketing; clean, fast and frequent trains; but as to be expected in a city of 16 million people, it is very crowded. The last thing you want to be doing is lugging bags off and on trains during rush hour. Amazingly, even

when you have got to Long Yang Road there is nothing in the immediate platform or station area to let you know that you are in the right place, and that the Maglev station is in fact just a short walk away.

The Maglev runs every twenty minutes from 0820hrs to approximately 1700hrs each day and costs 80Y (A\$12.70) for a return 'sightseeing' trip or 40Y (A\$6.35) one way for air travellers. The 30 kilometre journey takes a mere 7 minutes.

The Shanghai metro system, like Beijing is rapidly expanding and there are currently four lines operating. Short distance fares are 2Y, while longer distance and transfer fares are 3Y. Ticketing is much more advanced than Beijing with ticket machines as well as ticket windows and all entry and exit is controlled by automated turnstiles.



The final irony though was that my last land based trip in China was by road from the hotel close to the Shanghai railway station to Pudong airport. The taxi cost almost three times as much as the Metro-Maglev combination would have done; the taxi took about 5 minutes longer (we were overtaken by the first Maglev of the day); but I just couldn't face the thought of struggling through the metro rush hour crush and two transfers with my luggage.

I saw a post on the Internet a few days later that said that there are around 200 fatalities daily on China's roads. After my taxi ride to the airport, I am surprised that figure is so low.

More images can be seen at:

www.users.bigpond.com/grms/china.htm

Web References:

Robbin Gibbons - Railways of China

www.railwaysofchina.com

UrbanRail.Net

www.urbanrail.net

Call for Retention of Newcastle Rail Link

While major cities around China are looking for urban transport solutions, Australia as usual remains in the dark ages. In December the RTSA wrote the New South Wales Government calling for the retention of the rail link from Broadmeadow via Wickham and Civic stations to the Newcastle Heritage station.

RTSA spokesman, Dr. Philip Laird said "We need to realise that Newcastle is home to the nations sixth largest population centre. If this short-sighted decision is taken to facilitate a quick land grab, future generations are likely to take a dim view of this action.

Such a decision would also be working against the Sydney's Future Strategy headed by the Minister for Infrastructure, Planning and Natural Resources the Hon Craig Knowles. This strategy is working hard to get a sustainable future for Sydney's Greater Metropolitan Region which includes the Lower Hunter Valley."

Closing off the rail link is also contrary to the building of 7 new two car diesel multiple unit train sets that is now underway at the Goninan workshops at Broadmeadow.

The Hunter Region is seen as a major area to alleviate Sydney's growth problems. The Newcastle Statistical Region has a population of about 500,000 people, which far exceeds that of either Canberra (about 321,000 in 2002) or Greater Hobart (about 200,000).

There is a need to ensure that rail access is maintained to the Newcastle CBD, an important regional centre. This will ensure that future generations have access to environmentally friendly and sustainable transport. The increasing likelihood of higher world oil prices is a further factor in retaining this electrified line.

The RTSA shares the concern of the both the Newcastle Division of Engineers Australia and the Newcastle Section of the Chartered Institute of Logistics and Transport in Australia about the process followed to date by the New South Wales Government in assessing future options.

The RTSA has requested the New South Wales Government that no decision on the short line should be made until a proper benefit cost assessment has been made within the context of a comprehensive regional transport plan.

While there has been some concerted opposition to this retrograde plan, to date there has been no back down from the NSW Government despite former Transport Ministers Costa's removal from the portfolio shortly after the announcement. Any civilised city elsewhere in the world would investigate ways of incorporating the existing urban transport infrastructure into any new development of the CBD.

Railway Engineering Education Activities

The RTSA and its predecessor, the National Committee on Railway Engineering, have been concerned for several years at the need for continued training of specialised railway engineers.

Huge changes have taken place in the operation and management of railways in Australia and in other parts of the world. One of the consequences has been that many of the traditional managers and staff have been lost to the industry.

Whereas in the past government-owned railway organisations provided in-house training and were the main source of large numbers of experienced railway engineers, in recent years there is very little opportunity for on-the-job training. Even private industry ran informal mentoring systems in the past.

The RTSA has been working on this problem, and has identified a definite need by the industry for properly trained railway engineers.

Positive progress is now being made in this area, thanks to the efforts of a small group of dedicated people both in the industry and at a number of universities.

The Queensland University of Technology (QUT), in conjunction with the Australian Railway Research Institute has run a nine-module course entitled "New Railway Environment – A multi-disciplinary concept" on three occasions. The course notes are now available in book form.

The Rail CRC is currently in the process of developing a more detailed series of courses.

The railway signalling engineering course has already been run in 2004, and will be run again in 2005.

The rolling stock engineering course has now received formal approval of its project from the CRC Board, and also seems likely to finalise an agreement with the University of Wollongong to present the course (in distance learning mode). Good progress is being made in the design of the course curriculum and it is hoped to run the course for the first time in 2006.

The steering committee for the railway infrastructure engineering course is currently looking to have QUT manage this course on the basis that it is run 'in house' by large railway organisations. These courses, while being 'in house', will be open to any qualified student, and will not be restricted to those of the sponsoring organisation(s). The course material for this stream is now 70% complete.

Each of these three courses will lead to a Graduate Certificate after one year of study, or a Graduate Diploma after two years of study.

Lastly, there are ongoing discussions within the CRC itself regarding the establishment of a separate course focussing on rail operations and management.

Chris Venn-Brown, Chair Railway Education Sub-Committee.

Summary of RTSA 2005 Pre – Budget Submission to the Federal Treasury

The Society placed on record its appreciation of the 2004 Budget provision of \$450 million towards a Sydney - Brisbane track upgrade which includes track straightening and suggests the following areas to be addressed in the 2005 Budget:

- Progress in implementing the AusLink White Paper;
- Support for improved road pricing, including from heavy trucks; and,
- A change in current aspects of the Tax System to encourage the use of urban public transport, and to give less incentive for motor vehicle usage.

Major points from the submission are as follows:

- Rail freight is significantly safer than road freight (by a cost factor of at least 17 to 1) and on average, rail freight is three times more energy efficient than road transport. There is a need for the transport sector to reduce greenhouse gas emissions. This will require infrastructure investment and improved road pricing.
- Truly efficient and competitive rail freight operations between Melbourne, Sydney and Brisbane will require some track straightening and/or advancing a Melbourne - Parkes - Brisbane route.
- Further upgrading of the Brisbane Townsville line is required and grain lines in many states are in need of rehabilitation.
- Investment in urban rail would reduce dependence on imported oil, reduce greenhouse gases, and improve road safety, and air quality in major cities.
- The Society submits that the Government should tackle 'head on' a need to bring road user charges nearer to the total costs imposed on the community. The social and environmental costs from road and rail freight need to be recovered.
- Our budget submission includes a ten point road pricing plan. This includes a phased introduction

of road congestion pricing in Australia's larger cities and mass distance charges for the heavier long distance trucks.

- The Sydney Greater Metropolitan Region has major road traffic problems. To encourage more use of rail needs large “catch up” investment is needed over the next decade. This could partly be funded through road pricing.
- Education and training are increasingly important, and there is a role for the public sector in rail.
- The proposals of the Productivity Commission in its Draft Discussion report on National Competition Policy that CoAG should drive reform in both freight and passenger transport are supported.

Philip Laird

plaird@uow.edu.au

Lessons from History

During the great railway building era in the second half of the 19th century many of the main lines in NSW were laid out under the control of that great engineer John Whitton.

The cost was huge and the investment in the infrastructure accounted for almost all of the public debt. Railways were vote winners and nearly every small town wanted a line to be built to connect them with Sydney. With horse teams costing five times as much and taking days not hours, public support was not surprising.

But governments did not build lines just to satisfy the people. New lines opened up the country and provided revenue from the sale of crown land. So much was raised in this way that NSW avoided collecting any form of income tax until the last decade of the 19th century.

Despite public and government enthusiasm for railways there was always pressure to cut costs. Whitton had to build lines through the most difficult country and there was no chance that the lines could be straight or could have easy gradients. As far as possible the tracks had to be laid at ground level and had to follow contours along the sides of hills. Tunnels were few and far between and only the risk of frequent flooding justified substantial bridges or viaducts.

These low speed lines could not be favorably compared to main lines being built in Europe but they did the pioneering job that was required at the time. Later deviations to reduce the gradients often increased the number of curves and made them smaller than the 400m radius of the Whitton era.

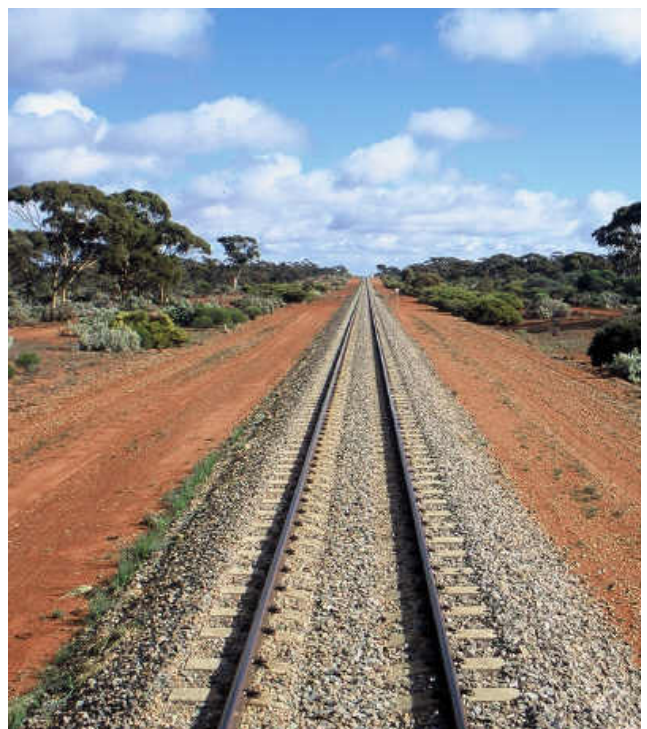
Much of the original alignment is still in use today and the many small radius curves place a severe limit on train performance. Deviations and upgrades of the infrastructure along the lines that carry the interstate freight traffic will remove some of the slowest sections but a lot will remain. Sustained operation at a modest 100km/hr will not be possible on large parts of the revised system. Passenger trains will only be able to reach their dizzy maximum occasionally.

A modified 19th century pioneer alignment is better than nothing but it is far behind the standard set in Europe more than a century ago. It will give rail the opportunity to carry more freight but will not turn back the clock to those days when competition from road was practically non-existent. Road may not retain market share but the projected doubling of traffic over the next two decades will still see more trucks on the road despite the increased freight traffic on rail. We will continue to rely on the most energy intensive means of freight and passenger transport along the interstate corridors.

A revolution in transport requires a similar era of railway construction to the Whitton era. Only then will we have a truly 21st century railway that will capture a major share of the interstate freight and passenger traffic.

The benefits in terms of reduced energy consumption and road trauma get very little recognition and without them the public perception of rail is nothing like 19th century attitudes. Holding on to the assets created in that era only reinforces the idea that railways are living history rather than creating it.

Colin F G Butcher



Chapter Reports

Victoria & Tasmania

The Victoria and Tasmania Chapter has been quiet since the New Year, but that is about to change with a busy programme commencing this month. Details are listed below.

Unfortunately, our proposed site visit to the Spotswood locomotive maintenance facility was not approved, and had to be cancelled at late notice. Our apologies for that!

On Wednesday, 16 March, a site visit to the modern Yarra Tram Depot at Southbank is to take place, and our thanks to Rod Beet and the Management of Yarra Trams for those arrangements. The proposed program (subject to confirmation) for 2005 is as follows:

Wednesday 16 March, 2005	Site Visit to Yarra Trams Southbank Depot (See details in Flyer)
Wednesday 13 April, 2005	Presentation and update on Victorian Infrastructure projects (Details to be circulated).
Friday 6 May, 2005	Annual Dinner Meeting (firm date) at Savoy Plaza Hotel. Guest Speaker was to have been the Hon. Tim Holding, Victorian Minister for Minister for Manufacturing and Export, Minister for Financial Services Industry, but with the recent Cabinet re-shuffle, this is expected to change. Stay tuned for more details.
Wednesday 20 July, 2005	Technical Presentation (Details to be circulated).
Wednesday 17 August, 2005	Annual General Meeting
Wednesday 14 September, 2005	Presentation on Safeworking developments in Victoria
Wednesday 19 October, 2005	Presentation on R&D developments and progress (Rail CRC update)
Wednesday 16 November, 2005	Site visit to the Spencer Street Station construction site (approaching completion)
Wednesday 8 December, 2005	Christmas function

More details of all of the above events will be circulated in advance, and will be available on the RTSA website.

Arrangements for CORE 2006 (to be held in Melbourne) continue to make good progress. We have held frequent meetings, and a website has been established. Visit the CORE 2006 Website (www.core2006.org/) for more details. Sponsorship is coming in, and paper abstracts are being requested. A full programme is being arranged, including post-conference technical tours.

David Ferris, Chapter Chair

Western Australia

The 2005 technical program will commence on 24 March after there were some difficulties in arranging a speaker for the traditional start in February.

A program for the year has been developed and has been displayed on the WA Chapter website. In essence the year will contain at least six technical meetings and one site visit. The topics for the presentations will cover low stiffness fastenings for slab track construction, WestNet Rail hot box detection, contract infrastructure maintenance, heavy haul rail research project development and advanced ultrasonic rail flaw detection.

The new Metro Rail project involving the Southern Suburbs Railway to Mandurah will be well advanced during the year and the opportunity will be taken to arrange site visits to key activity areas both within the City area where tunnelling will be progressing and to points of interest along the railway route south of the Narrows bridge.

The Annual General Meeting has been scheduled for 24 March and support for positions on the committee will be sought.

Planning for CORE2008 in Perth has commenced and John Goodall has accepted the role of Chairman of the organising committee which has yet to be formed. John completed his Civil Engineering training at Warrnambool, Victoria in 1969 before moving to join Westrail. His career spans 32 years with 17 in railway Civil Engineering and six in senior management positions including General Manager Business Development and General Manager Freight Services with Westrail before moving to General Manager Australian Western Railroad (above rail). He is currently consulting in transport logistic matters. His background and enthusiasm will be invaluable for the role he has accepted for the CORE 2008 and already a team of support committee personnel has been considered to bring the event to a successful conclusion.

*John Syers
WA Chapter Chair*

Queensland

Chairman's Comments



I couldn't resist the opportunity to take this photo recently in front of EDI Rail's Maryborough Qld factory, as a symbolic way of showing that the race for Queensland's rail transport business was now close to beginning.

The media has carried a number of articles in recent times from one of the competitors, while the other has chosen to remain quiet. Can you draw any conclusions from this? Is one trying to spin up a reputation using the media, while the other relies on its existing reputation? Who can tell?

As I said in a previous article last year, 2005 is going to be the start of an interesting period ahead!

The following URL has more http://www.corporate.qr.com.au/Corporate/News_Room/Current/News_Articles/stateline_interview.asp

On your marks! Get set!.....

SEQ Draft Regional Plan

RTSA Qld Chapter was recently given the opportunity to provide input into a collated response by the Qld Division of Engineers Australia, concerning public comment on the draft South East Queensland Regional Plan, prepared by the Qld Government's new Office of Urban Management.

Please have a look at <http://qld.ieaust.org.au/jetspeed/static/items/2/2920/SEQPlanComment.pdf> or see the link at the top right corner of the Qld division website for more information.

Recognising Service Beyond the Call of Duty



At our February meeting, it was my great pleasure to be able to present, on behalf of the Qld Division of Engineers Australia, a certificate of appreciation to Ian MacFarlane, for his tremendous service over many years, through the promotion of the railway engineering profession as an active member of both the RTSA and its predecessor, NCRE, and engineering as a profession.

I am sure that I represent all RTSA members in offering a heart felt thanks to Ian.

Recent Meetings

Only one recent meeting to report on so far this year:-

23 February 2005

A tremendous role-up to this first event of the year, when we heard from Larry Matters, Senior Rail Investigator from the Australian Transport Safety Bureau. He related to us about his experiences and the findings of his investigations into the causes of a runaway suburban train from Broadmeadows to Spencer Street station in Melbourne in 2003. Drawing on his past careers as a train driver, state union official and an operations manager, Larry was able to provide a sometimes comical; sometimes serious view of the string of events leading up to this collision of two trains. What a job to be given on your first day on the job as an ATSB investigator!

Attendance:60

Upcoming Events

The Queensland Chapter organising committee trusts that you will enjoy the 2005 event calendar that they have prepared for the members. Whilst every attempt has been made to bring members a widely varied range of topics, we would welcome any other suggestions from members for interesting topics or ways to present it.

23 March 2005

Mike Walsh, General Manager iQR, talking about Strategic Asset Management Using Modern Technologies.

27 April 2005

Dave Schonfeld, Research Director of the Rail CRC will talk to us about the achievements of the Rail CRC, particularly as the next bidding round for the next CRC's approaches. As a part of the night, we will also hear from Les Brearley, about the successes so far of the CQU Signalling Engineering Course.

25 May 2005

An Introduction to Railway Vehicle Gauging (including a brief overview of some of the difficulties of establishing workable kinematic envelopes for tilting trains on Britain's existing rail infrastructure), Ian Goldney, Interfleet Technology

22 June 2005

Andy Taylor, Group General Manager Rollingstock and Component Services, QR. A new name or a new direction for QR's previously known Workshops Group.

Annual General Meeting/Dinner

Yes, something new and Yes, I am getting in a bit early to plug this event on 20 July, when we plan to hold our Chapter Annual General Meeting in combination with a dinner at the Irish Club in Elizabeth Street, Brisbane. We will have George Erdos, the RTSA National Chairman, as our after dinner speaker. This will also be a chance to meet some, if not all, of the RTSA National Council members.

Please start letting me know of your intended interest to attend with or without your partners. (cameron.smart@qr.com.au).

Final Words

I would like to reiterate the call that I made in the last two Rail Horizons newsletters, to all those members of the Rollingstock fraternity to consider becoming involved in the content development of the Rail CRC's project for providing a Continuing Professional Development suite of courses for Rollingstock Engineers. Please consider helping this worthwhile project, as it attempts to capture decades of experience and knowledge, and subsequently

impart it to those new engineers who are coming into the industry. Contact Chris Venn-Brown (chrisvb@midcoast.com.au) of RTSA if you are interested.

See elsewhere in this newsletter for more information on the course proposed to commence in 2006.

*Cameron Smart,
Queensland Chapter Chair*

New South Wales

"Rail for a Better Future" continues. This has been the theme of a series of meetings and public forums in which the Sydney Chapter combined with the Centre for Engineering Leadership, the Transport Panel and the Civil Panel of Engineers Australia under the leadership of Sydney Chapter Chair of EA, Professor Vernon Ireland. It aims to identify the users perceptions of what the NSW Rail System can do to improve the rail services of the Sydney suburban and interurban rail services under the current issues of congestion, driver shortages, slow delivery of new train sets and the use of older non-air conditioned rollingstock until new contracts are let for their replacement. A final one-day conference is scheduled to be held in Sydney on the 23 of June. Speakers are being sourced to address solutions to the various issues already aired by the community through the three sessions held in 2004.



During 2005, the Sydney Chapter meetings will be held on the first Thursday of the month, January & December excepted.

3 February 2005

The February meeting was the Annual Meeting and election. A special welcome to Bob McCotter from Nu-Macey who joined as a committee member, Bob along with the 2004 committee were elected unopposed, thanks to Alec Stoney for his sterling job as Returning Officer

once again. Max Michell, now in Sydney from interstate, was welcomed to the Chapter.

Engineer, author and committee member, David Jehan, made a presentation of the Rack Railways of Australia. David held the audience spellbound as he outlined the differing types of rack available and on the number of rack railways laid within Australia, albeit that the total length of all the rack railways ever built in Australia regardless of gauge, type of rack or propulsion would, if laid end to end, only add up to a total of approximately 20Km!

Whilst many of the members would have traveled on the Ski Tube to avoid the delays on the icy roads to the NSW ski fields and some may have recently traveled to Tasmania to see and ride on the restored Mt Lyell rack railway, we were not so familiar with the Blue Mountains sewage nor the Ellalong Colliery underground rail systems nor the differing styles of rack available and in use throughout the world.

3 March 2005

Alan Burns, Sales and Marketing, Bombardier Australia addressed the members on the development and progress of the V/Line Vlocity diesel railcars and the Perth Commuter Electric train sets. Alan described the cars details and performance and the need to provide differences to meet the purchasers' requirements from sets already in service with other operators. During his presentation, Alan brought out the need for Australian wide standards to not only reduce costs but to maintain a viable rail manufacturing industry on shore. The role of the ARA is welcomed as they work to bring the many existing, but different standards together for each category of the rail industry. Data sheets were distributed to the members.



Alan concluded his presentation speaking on the progress of the new Sydney electric sets, four suppliers have been short listed with the concept of both single deck and double deck trains being offered for differing service needs within the Sydney metropolitan area. Australian content and manufacturing were also outlined.

The 2005 program is still mainly in draft form, as some speakers are yet to confirmed the suggested dates and topics. The committee has however already commenced working on the 2006 program

The call for technical papers for the RTSA stream for AusRail Plus 2005 will be mailed to members this week.

During 2005, the Sydney Chapter meetings will be held on the first Thursday of the month, January & December excepted. February will be the Annual Meeting where the office bearers will be re-elected, a booking form has already been forwarded to chapter members.

The 2005 program is still in draft form, as some speakers have not confirmed the suggested dates and topics.

April	Joint Meeting with IRSE Details to be confirmed
Thursday 5 May	Australian Railroad Group Ron Dagostino
Thursday 2 June	ARTC New South Wales Operations Derek Harris
Thursday 7 July	CityRail Outer Suburban Cars (OSCARS) United Goninan
July (provisional)	Site Visit - OSCAR/Hunter Railcar plant United Goninan, Newcastle
August	JOINT MEETING WITH PWI Details to be confirmed
1 September	150th Anniversary Heritage Topic David Hill
Possible October	Epping – Chatswood Tunnel Inspection Site Visit TIDC
Thursday 6 October	Great Southern Railway Operations GSR
Thursday 3 November	Pacific National Queensland PNQ
December	NO MEETING
Meetings and Events are subject to confirmation.	First Thursday of the month meetings are held at Harricks Auditorium, Ground Floor, Engineers Australia, 118 Alfred Street Milsons Point, NSW 2061

Bill Laidlaw, Chapter Chair
Basil Hancock, Secretary

RTSA Office Bearers

National Chair: George Erdos

Ph: 08 8218 4000 Fax: 08 8227 0992

Deputy Chair: John Watsford

Ph: 02 9330 7900 Fax: 02 9330 7902

Chair - Government Relations Committee: Philip Laird

Ph: 02 4221 3421 Fax: 02 4221 4845

NSW Chapter Chair: Bill Laidlaw

Ph: 0409 602 833 Fax: 02 9477 5041

Secretary: Chris Venn-Brown

Ph: 02 6556 7217 Fax: 02 6556 7024

Treasurer: Ravi Ravitharan

Ph: 03 9905 1986 Fax: 03 9905 1972

Queensland Chapter Chair: Cameron Smart

Ph: 07 3235 7697 Fax: 07 3235 1352

SA Chapter Chair: Robert Schweiger

Ph: 0413 128 775 email: rschweiger@jhg.com.au

Victoria & Tasmania Chapter Chair: David Ferris

Ph: 03 9620 3600 Fax: 03 9740 7917

WA Chapter Chair: John Syers

Ph/Fax: 08 9387 1946

RTSA Secretariat: Nina Lenz

PO Box 6238, Kingston ACT 2604

Ph: 02 6270 6548 Fax: 02 6273 2358

RTSA National Newsletter - Editorial Contact

Mark Carter

GRMS Media,

3 Bruce Street, Broadview, South Australia 5083

Phone: 08 8261 2292 Fax: 08 8261 2219

e-mail: grms@bigpond.com



Call for Abstracts - CORE2006

The Conference on Railway Engineering CORE2006 hosted by the Railway Technical Society of Australasia (RTSA) will be held from **30 April to 3 May 2006** at the Grand Hyatt Hotel in Melbourne, Australia. The theme for this biennial conference on Railway engineering is "**Rail Achieving Growth**".

Following the usual CORE conference format the conference sessions will be held over 2 days (1-2 May 2006), with Sunday 30 April and Wednesday 3 May being reserved for welcome cocktails and technical tours respectively.

The **Call for Abstracts** is out now and it is expected that more than 50 refereed technical papers covering a wide range of disciplines reflecting the conference theme will be the highlight of the conference. The abstracts and papers can be submitted directly through the CORE conference website. The **closing date for submitting abstract is 31 March 2005**.

A **Trade Show** has been also planned as part of the CORE conference, exhibiting more than 50 exhibition booths in the newly renovated high tech exhibition facilities at the Grand Hyatt Melbourne. As with previous CORE conferences, support from the sponsors and exhibitors would be greatly appreciated.

An entertaining **Social Programme** has been planned as part of the partners program and conference dinner, and these will complement the technical content of the conference.

For more details on the CORE2006 conference including registration, submission of papers, sponsorships and exhibitions please contact Annette McClellan at ASN Events:

Telephone **+61 (0)3 5983 2400** and e-mail **am@asnevents.net.au** or visit the conference website **www.core2006.org**

Ravi Ravitharan

Conference Chair - CORE2006



Conference on Railway Engineering

"Rail Achieving Growth"

30 April – 03 May 2006

The Grand Hyatt, Melbourne Australia

30 April 2006 – Registration & Welcome Cocktails
1-2 May 2006 – Conference Sessions & Partners Program
3 May 2006 – Technical Tours

Sponsorship and Exhibition packages are now available.

Conference Registration will be open in May 2005.

Visit conference website or contact Annette McClellan on 03 5983 2400 or e-mail am@asnevents.net.au for details.



www.core2006.org

POST GRADUATE COURSE IN ROLLING STOCK ENGINEERING

COMING IN 2006!

- ▶ Are you new to the railway industry and keen to learn more about rolling stock?
- ▶ Have you been looking for ways to broaden your knowledge and improve your future engineering career opportunities?
- ▶ Does your employer want you to become more productive, quicker?

Graduate Diploma
Masters Degree

- Rolling Stock and the Railway Environment
- Traction and Locomotives
- Freight and Passenger Rolling Stock
- Train Brakes and Safety Systems
- Train Dynamics
- The Rolling Stock 'Design, Construct & Maintain' Life Cycle
- Full Year work related project/ thesis

Proudly sponsored by



www.railcrc.cqu.edu.au

Expressions of Interest in this proposed course should be directed to

Dr Richard Dwight, University of Wollongong, (02) 4221-3183, radwright@uow.edu.au