

NEWSLETTER No 7/2003



Railway Technical Society of Australasia
SA Chapter
Engineering House, Bagot Street
NORTH ADELAIDE SA 5006

AUGUST 2003

NEXT MEETING JOINT MEETING OF RTSA AND PWI

**THURSDAY 4th SEPTEMBER AT BAGOT ST, NORTH
ADELAIDE - Starting at 17:30**

THE GLENELG TRAM – PAST, PRESENT AND FUTURE

TOM WILSON AND DEAN LAMBERT

Barely 16 years after the first railway in Adelaide opened for business an isolated private suburban line was built that continues to this day as a stand alone enterprise. The Glenelg Railway opened in 1873 connecting Victoria Square with Glenelg, using some dinky steam locomotives and a variety of interesting cars. The company must have done quite well since another private company built an alternate line in 1882 from North Terrace. In time the two were amalgamated, then around 1899 were taken over by the SAR. In 1929 the original 'South Terrace' line was 'sold' to the MTT to electrify and convert to standard gauge to become the line that we all know today. The 'North Terrace' line closed at the same time, although some of the unused land (and remnant platforms) remains to this day.

A little known contretemps occurred back in 1880 or so when the government railway to Nairne and Mt Barker had to negotiate with the Glenelg Company to get rights to install a diamond crossing at Goodwood. In the end an arbitrator had to be brought in to settle the price of the rights to cross the Glenelg line. It wasn't until 1929 that the overpass was built, replacing the diamonds there. In the 56 years that it was a steam railway it was never directly connected to the main SAR system (except by a devious route via the Bay and the North Terrace lines) although the two met on the flat at Goodwood. One of the very few American style diamond crossings in this country - an independent line indeed.

Now after 74 years in its second life the Glenelg tram is to be modernised into what could be described as its third life. New trams and a makeover of the infrastructure are proposed in a \$56 million modernisation. While the Glenelg train morphed into a tram there was also a widespread horse tram network in Adelaide that also 'converted' to become the core of the electric tram network in this city.

Tom Wilson from the PTB will give us an insight into the Adelaide tram network, followed by Dean Lambert

from TSA who will take us into the future with a project manager's view of the new Glenelg line rolling-stock and infrastructure.

Tom Wilson is Principal Consultant, Service Development, with the Passenger Transport Board. He is an urban planner who has worked in public transport service planning in Adelaide since the early 1970s. Tom was involved with the likes of the late Kim Bird in planning the way our train services operate, in developing the bus-train interchanges on the rail system and re-planning the bus system to integrate with the trains, and in consistently promoting upgrading and extension of the Glenelg Tram Line.

Dean Lambert is a South Australian Government senior project director. In the past few years he has been involved in a variety of different significant projects including the East End Rundle Street Redevelopment, the Wirrina Marina, Granite Island redevelopment, the feasibility study for a southern O-bahn and the Port Adelaide Waterfront redevelopment project. He has worked with the Housing Trust, Department of Housing and Construction, Tourism Commission, Department of Premier and Cabinet, Land Management Corporation and currently with the Department of Transport and Urban Planning. He holds a BA, Masters in Town Planning and a post graduate diploma of Business Management.

LAST MEETING

Our own George Erdos, in concert with Alistair Morrison from Alstom, gave us an overview of the project to renew the TransAdelaide train control system. There has been a 5 year approval process for this project, which when it gets down to actual implementation will take only two years to complete. The much reduced TransAdelaide, now responsible for the rail part of the urban public transport (including Glenelg!). During its life since the demise of SAR in 1978 TA has changed from a slow and steady piecemeal replacement policy to one of project development. From this sprang the 1980's CTC system which controls all the Adelaide metro system, including peripherals such as the passenger information system. Adelaide station and approaches had been operated by a groundbreaking electric system that had been installed in 1915 and was thought to be only the second of its type after Montreal in Canada. Despite patch-ups over the years this system had really gone beyond its useful life and would have cost a substantial sum to

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replace. Extending the 'replacement' control system to cover the network was not a big jump, neither in technology nor in cost. As with many such installations it relied to a large extent on proprietary technology and software, which, just like home computers, have a short effective life. The TA system has gone past the time when the manufacturers would support it, so in the interests of safety and reliability something had to be done. Consultants were duly hired to tell the Government the facts that they wouldn't like to hear from their own people. Alstom was duly chosen to undertake the project for TA. In this they will use 'existing technology' (commercial PC's and software to the extent possible) rather than creating another short shelf life system. What is being replaced is the technology behind the visible – in other words the field equipment and screens will remain unaltered. The mimic diagram in the control centre will go and be replaced by 24" flat screen work stations – five of which will cover the network. A new addition is a 'web based' link that will allow maintainers to dial up wherever they have access to a phone link. The system has relied on 'user' input from the various people who work in and with the system in TA. Design is currently under way through to April 2004, factory acceptance testing will then take until October 2004, with installation and shadow mode operation through to cut over planned for mid 2005.

NSW PROGRESS - ?

The NSW Minister for Rail, Michael Costa gave an illuminating address to a Chamber of Commerce lunch on 21st August, in which he outlined some quite significant new directions (including the near conclusion of an agreement that will lead to a national rail network). The words have yet to be actioned, but on the assumption that policy will head in the direction the Minister would like we thought it was timely to reproduce excerpts as follows:

Problems: Let me summarise the problems by saying this - with cost recovery through the fare-box shrinking and plans to make the most complex railway system in the world even more complex our railways over the next 20 years are heading for 'gridlock' – both financial and operational. In the last three years cost recovery through the fare-box has fallen from 33 per cent to 26 per cent. As for 'complexity,' consider this – two weeks ago when a Millennium train broke down at Milson's Point – that's one train, at one station, on one line – 45

peak hour services were delayed right across the entire CityRail network; on time running dropped from its 90 per cent average to 60 per cent, and 50,000 people were very late getting home. Why? Because our system is so interconnected - so complex that problems spread right across the network immediately.

Put simply: the problem is our system promotes snowballing unreliability. I can tell you what the solution definitely is not - large scale big budget projects are definitely not the solution. More complexity layered on existing complexity is not the way ahead.

Simplifying the Network

The CityRail network covers 40,000 square kilometres serviced by 14 different train lines. Only two – the Eastern Suburbs/Illawarra Line and its South Coast connection are virtually independent. These independent rail lines are consistently the most reliable. On time running for the Illawarra Line averages around 93.4 per cent and the Eastern Suburbs line around 96 per cent. This is 6 to 10 per cent consistently better than the rest of the rest of the network. The remaining lines are highly integrated causing the sorts of problems I've already referred to.

The lesson from this and from other train systems like the New York Subway, London Underground, Paris Metro, Hong Kong and Melbourne is the more independent the line the greater that line's reliability. Less complexity, more independence means greater reliability.

It's not possible to generate widespread reliability improvements on the current interconnected system. That why I can announce today the Government will align its rail capital works program to developing independent rail lines or 'rail clearways' - the development over time of five independent or discrete lines:

- The Illawarra line;
- The Bankstown line;
- A Campbelltown Express line;
- An East Hill and Liverpool line; and
- A north - west line.

The advantages of rail clearways are:

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Dramatic improvements in reliability – routine 95 per cent on time running as we see currently with the Eastern Suburbs line;

Simpler timetables with:

- the potential for trains every 3 to 4 minutes in peak periods on some city routes;
- regular 15 minute and sometimes 10 minute services at other times; and
- more frequent fast services.

Reliability problems can not infect the entire network; and

A core system of rail clearways is a better base for future expansion of the rail network.

It is a sensible, staged investment in making the current system work – a tradesmen's approach. It means in the short term saying NO to large scale projects bringing more complexity to the system.

Which brings me to stage two of the Parramatta to Chatswood Rail Link – Parramatta to Epping. Construction of the Parramatta to Epping link will be deferred. Spending \$1.2 billion on a project providing only 15,000 new passenger trips when we provide over one million passenger trips a day cannot be justified. Stage one, the Epping to Chatswood project, is proceeding. It can be justified because it removes train traffic from the northern and western line. So again I state the principle – there will be a capital works focus on making the existing system more reliable.

Currently rail car maintenance takes place at five depots – three StateRail facilities at Mortdale, Flemington and Hornsby and at the privately-operated facilities at Eveleigh and MainTrain.

State Rail are investigating centralising all major inspections at a new purpose built facility whilst continuing minor repairs and routine brake inspections at the existing maintenance centres. This would improve productivity and release more carriages for peak time operation. One point is clear – a maintenance model that keeps 30 carriages out of the peak every day is unacceptable. Not when we are paying millions of dollars for new rolling stock.

Spend First, Plan Later Rail Culture.

This culture is best observed in the current procurement of rolling stock. The Millennium Train is a case in point. To date over 200 million dollars spent on whiz bang technology when people just want to get to and from work on time. I compare the Millennium Train to the internet fridge. I mean why? No one expects it to do your homework and make a baked dinner for you. People want reliability, cleanliness and security. That's why we are developing a Steady Fleet Purchasing plan with

- standardisation on one or two simpler train types – tried and tested rolling stock;
- long term regular supply of trains; and
- long term maintenance contract as part of any acquisition.

A worse example of expenditure gone mad is the first stages of the Integrated Ticketing Project - a so called 'smart' card. A \$320 million ten year plan – that's \$320 million so only 20 percent of public transport users can benefit from having only one ticket for cross modal transport. Smart card – dumb process. It's an attempt to use technology to put 73 different fares on the one ticket. Why is that a problem? Well no one has asked if the structure of having 73 fares is sensible in the first place. I'm not convinced it is!! So I'm reconsidering our fare structure and the entire integrated ticketing project. There is an existing \$120 million capital contract. I believe the specifications for the project need to be remodelled – and aim to do this within the existing contract. I'm convinced if we don't the integrated ticket will be a technological failure.

Another example - consultants and lawyers. State Rail and RIC spent over \$40 million in the last two years on legal fees and non engineering consultants. That doesn't include Waterfall legal fees. \$40 million is more than the entire community transport grants program. This has to stop. I'd rather fund buses and drivers for transporting people with disabilities to work in bush towns than furnish board rooms of inner city law firms.

Rail Priorities

The priorities in rail are simple.

Reliability – rail clearways will deliver reliability over time – I've discussed that already.

Cleanliness – We are putting mobile cleaners back onto the network. There'll be more of those; and

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Security – we'll have 500 transit officers by the end of next year. I want more of them over time.

Securing the right people to deliver these changes is the top priority. I can announce today that Vince Graham will be the CEO of the new rail entity – the amalgamated State Rail and Metropolitan RIC and I've asked Ross Bunyon to Chair the common board to integrate the new organisation.

Vince Graham and Ross Bunyon are presently managing two processes;

- integration of State Rail and Metropolitan RIC – that's on track so we'll have a new rail entity on January 2004, and
- managing negotiations with the Australian Rail Track Corporation and Federal Government over the proposal for ARTC to lease New South Wales track. Indeed I flew to Canberra on Tuesday to meet with the Deputy Prime Minister. I can report today we've agreed to the key principles of:
 - A 60-year lease of the NSW interstate and Hunter Valley rail corridors and track to ARTC, including the dedicated metropolitan freight lines to the Sydney ports;
 - With NSW to maintain ownership of the track;
 - Safety standards across the country network will be set by the NSW Transport Safety and Reliability Regulator; and
 - Clearly defined key performance indicators to be established for track performance and maintenance standards.

The key issues of staffing and train control will be discussed with the unions in the coming weeks, but I believe we are on the way to securing an agreement for a stronger more competitive NSW and national rail freight system.

SA DRAFT TRANSPORT PLAN

The RTSA Government Relations Sub-Committee responded to the SA Draft transport Plan, as did the SA Chapter. Since this is a matter of some importance the main part of the SA Chapter submission is to be serialised over the next few issues so that members can perhaps gain a broader view on some of the issues of interest to rail:-

It is a matter of note that South Australia, although relatively small in national economic terms, has been at the forefront of a significant number of innovative developments over its lifetime, ranging from social

issues (such as universal voting rights) to technical issues among which are quite a number of railway developments. It would seem that there has been a retreat from the position of innovator and 'social powerhouse' over the last twenty years or so. A factor in this 'retreat' arose from the transfer of the non metropolitan rail network to the Federal 'Australian National Railways Commission in 1975, from which time there has been an unbalanced focus of state transport policy direction on those functions that remained with the State (primarily roads). The current draft plan is the first real attempt for several decades to again hook the state into a comprehensive policy framework for all transport for the betterment of the state. It is the belief of RTSA that part of the plan should be recognition of the need to be innovative and creative in transport if the relatively small economy of South Australia is to be best served by a new found zeal for efficient transport.

Regional Freight.

Following transfer of most of the South Australian Railways (SAR) network to the Commonwealth in 1975, a large number of the then existing branch lines were closed – in fact it could be argued that the transfer was undertaken to achieve just that. Many of the closures were of lines that had no economic future (in fact several never did from the day they were opened), but there were several that were closed for reasons more to do with the accumulated cost of accrued maintenance rather than for long term economic reasons. Now that rail reform has progressed to the point where 'rail access' is a fact of life and there are a numbers of competing operators to take advantage of the access facility, the economic 'closure' point of rail lines will have changed significantly. In fact it is possible that revival of moribund lines and/or construction of new lines will have a place in the new order of things, provided the right facilitation is provided by Plan driven policy initiatives. Some issues in this respect are noted below

- At present State roads are maintained by all three level of government. It is quite obvious that there are coordination gaps in this arrangement, particularly when looking at transport as a whole. One significant issue is the degree to which local council road budgets are disrupted when grain transport is transferred to road by changes to the rail network or grain storage infrastructure. In what hopefully will be a more enlightened era there is

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a need to coordinate such issues comprehensively, and provide the framework for solutions to be proposed and funded by all the participants. In this regard the 'road' funds of local government in particular (but also at a State level) should be able to be directed toward rail works if that this would result in lower total transport outgoings than the existing arrangements. Some balancing measures may need to be incorporated to ensure that the financial outcomes are equitable to all.

- This policy direction in fact could apply to a number of other similar issues such as environmental preservation, land development etc. The ability or even the requirement for non transport entities to contribute to transport outcomes would be a powerful tool in the establishment of an ongoing efficient transport system in South Australia. It certainly should be a requirement of comprehensive planning processes that bind all aspects of society that transport is incorporated in such deliberations.
- Road pricing for heavy trucks is also important. As shown by reports of the Bureau of Transport and Regional Economics the operations of heavy trucks hauling heavy loads over long distances are subsidised by charges levied on light trucks and cars. The hidden subsidies to heavy loads on roads should be taken into account when considering freight transport options, which may require some charging adjustments to reflect the differing user costs relative to community costs
- Access to rail tracks exists on the main lines but only to a very limited degree for sidings and terminals. There is a good case to be made for a Transport Fund that would assist the establishment of freight sidings and terminals where the overall good will be served by the state. In fact if competition policy were truly directed toward its stated objectives the Federal Government would be making 'competition' funding available for this sort of investment. For many years there has been a system in force in the UK that does this, while even in the USA there are quite significant Federal, State and Local contributions to rail infrastructure for main

lines as well as sidings and terminals. An example in this regard locally might be contributions toward the necessary good rail infrastructure to facilitate the proposed new Outer Harbor port and transport links – without one the other will falter.

- There is a need for funding of transport infrastructure (particularly rail) to be less constrained by a traditional 'no risk' mentality and for greater freedom to act to invest in infrastructure wisely.
A case in point is the proposal to re-open the rail network centered on Mt Gambier. This proposal has been under discussion for three to four years now, yet appears to be as far from a practical resolution as it ever was. The State has offered to invest \$10 million in the project, but has not yet found the courage to settle the issue with an interested third party. If sensible 'risk management' were applied to the funding offer it should be apparent that the state has little (if anything) to lose should the third party run into financial difficulties. If the State contribution is placed entirely in the track the investment will not be lost – there are a number of operators who would, in even the worst situation, jump at the opportunity to take over a partially or wholly restored SE network. It would appear that a high degree of risk aversion, rather than risk management, has been behind the extended inactivity on this important project.
- One of the largest single freight sources in the state is Roxby Downs, yet it remains remote from the rest of the rail network. The result is extended road haulage to Adelaide and beyond. Several years ago the total in and out tonnage from the area was close to 1,000,000 tonnes per annum, quite sufficient to progress a rail link. It is understood that the original agreement between the state and mining company may be unhelpful in this regard, but that should in fact only provide an incentive to find an appropriate work around. The terrain north from Pimba is relatively benign and would lend itself to a 'lie of the land' alignment with provision for overtopping in the rare event of heavy rainfall – a low cost but effective line that would provide a compatible link to the national

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rail network.

- The state should actively promote the development of 'short lines' in accordance the American model. In general these are just that – short distance lines providing services to regional communities or industries to connect them with larger rail networks nearby. The attraction of these lines is that they are almost free of overhead costs which mean that they can survive where traffic volumes would preclude larger operators. Short line development would need some support from government, both in terms of small business support (as is already on the political agenda) and in a suitable low risk decision making environment that can respond quickly and effectively to proposals for any such operation. The obvious locations for this type of operation are the South East, the Snowtown – Wallaroo line, the Roxby Downs line (when built) and any of the routes that ARG hold which they may decide to relinquish.

FUTURE MEETINGS

The meeting on Thursday 2nd October will be the last general meeting for the year and will be a presentation by Bob Bridges, a principal of InterDynamics., who will be talking about what he describes as 'The Journey' – the process by which they have gone from a small Adelaide group to being a leader in some internationally recognised capacity software.

The AustRail Plus 2003 conference will be in Sydney over the period Mon 17th Nov to Wed 19th Nov. Be warned that as a result of a conflict with the Rugby World Cup accommodation in Sydney is hard to get and at premium prices

The SA Chapter AGM, and more importantly the very sociably dinner, will be on Tuesday 25th November, details of which will be in the next Newsletter.

The 2004 program will start on Thursday evening 5th February at the usual Bagot St venue.

CORE 2004 is to be in Darwin from 20th to 24th June and promises to be a highlight of the railway year. The web site has details as at the present time, while it is

expected that registration brochures will be out early in the New Year.

For those who like to get in early bookings are now open for flights at the time of the CORE2004 conference. Cheap fares and Frequent Flyer flights are sure to go quickly once the CORE2004 bookings are opened so think about getting in early and saving the dollars

DARWIN PROGRESS

By the end of July the railheads had both reached to within about 100 km from their destinations. The southern tracklaying team was 93 km from Alice Springs while the northern team were just past Adelaide River with 107 km to go. The last delivery of rail left Whyalla in the second week of August while the production of concrete sleepers is rapidly heading to a conclusion. It is noticeable that the numbers of people employed on construction is dropping rapidly as is the number of machines engaged. By the time you read this the track laying should be entering its final few weeks with the main work likely to be completed around the end of September. There of course will be a lot of work to be completed on facilities etc as well as track consolidation on the newer sections of track before commercial train services can commence. As a matter of interest the daily construction trains gross around 6800 tonnes when loaded so the track nearest the construction depots at Tennant Ck and Katherine will be well bedded down by the time tracklaying is completed. There may be some interesting temporary train arrangements in the interim before the formal commencement of Darwin services in January next. It is understood that freight services to Alice will increase to five each way per week prior to start up of Darwin running.

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NEWSLETTER DESPATCH

The majority of SA RTSA Chapter members receive their newsletter by e-mail. Every so often the e-mail will bounce (in effect the electronic equivalent of 'address unknown'). In these cases the member will automatically revert to hard copy mailing until a new e-mail address is advised. The main issue here is to let Malcolm Menadue know IN ADVANCE of any e-mail address change so that you don't fall on hard (copy) times. Please also advise if you would rather receive via e-mail instead of hardcopy post.

In all cases let Malcolm Menadue know at mmenadue@ozemail.com.au

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Max Michell	8390 3300	N/L Editor

Articles or editorial comment for Newsletter are more than welcome. Between well over 100 members locally there must be some stories, events or developments of interest that could be the basis of an interesting article in Newsletter. After all part of the function of RTSA is to keep members in touch with what is going on in the industry and with each other.

Send copy to the Editor, Max Michell at samrom@bigpond.com or fax to 08 8390 3772

CONTINUING PROFESSIONAL DEVELOPMENT

Those of you who are members of I of E (i.e. are professional engineers) should be aware that attendance at RTSA meetings can be counted toward your CPD requirements. The most convenient way to record this will be in your professional diary or similar form. A short paper covering CPD in some detail is available from Malcolm Menadue or Max Michell.