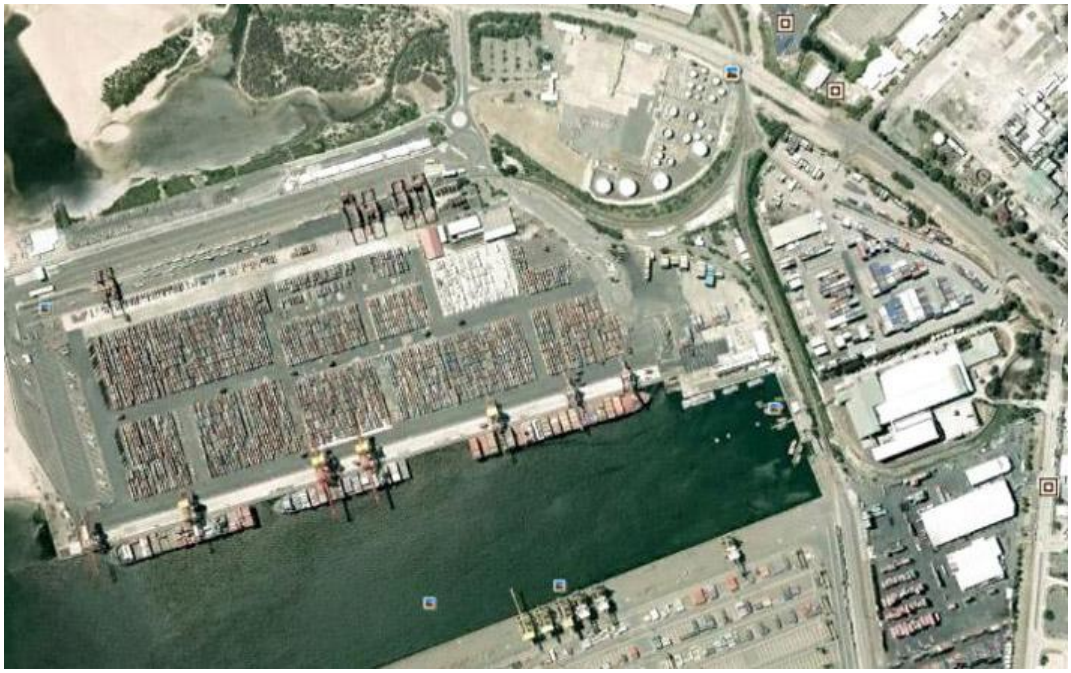
RTSA NSW CHAPTER NEWSLETTER

AUGUST 2011 EDITION

NEXT MEETING

PORT BOTANY AND FREIGHT LINE RESIGNALLING

TOMAS MAGYLA AND EDDIE HAWES



The Botany freight line is an important piece of infrastructure that is largely unsighted by the majority of the population. Ever since the Port of Sydney migrated from Sydney Harbour to Botany Bay the line has been growing in importance.

ARTC has been quietly improving the track arrangements and port sidings to be able to more efficiently serve the two incumbent and one start up port operators that call the Botany home.

Tomas and Eddie will give us an understanding of the changes that have been (and are still being) made with particular emphasis on the signalling aspects of the changes. This promises to be an informative presentation on a largely unsighted part of the freight network.

TECHNICAL PRESENTATION

VENUE:

For this meeting only:

477 Pitt St – ground floor South Tower (opposite the tram ramp from Central main concourse)

DATE:
Wed 7th SEPT 2011

TIME:
11.30 for 12.00

LIGHT REFRESHMENTS WILL BE PROVIDED

MEMBERS, GUESTS AND INTERESTED FRIENDS ARE MOST WELCOME TO ATTEND.

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THE ROOM THAT MOVES

Oh dear me. Just when things might have been settling down up comes a few more permutations and combinations to confound us all.

The next meeting (7th Sept) will be at the venue we have had to use a few times previously – 477 Pitt St in the South Tower meeting room(s). Entry is from near the Pitt St / Barlow St corner and the meeting room is on the ground floor beyond the security desk. Gather there from 11.30 onwards for a presentation start at 12.00. There is a food hall one level down if you arrive early and need a reviver.

We are hopefully that by the time of the October meeting we will be back in a more or less permanent location again.

It now transpires that we lost our previous venue at Central due to a computer!!! Yes, one of those things that for some reason seem to take over our lives and are allowed to tell us what to do.

The moral of the story is to never let a computer tell you – rather always remember you should be telling it. Any situation otherwise is an abrogation of responsibility.

ANNUAL GENERAL MEETING

At the recent AGM eleven of the previous committee of 14 were re-elected for the coming year. The other three - Paul Harris, Sarah-Ann Brennan and Varun Kashyap – have retired from the committee due to the pressure (and for some, location) of work. We thank them for the contribution to the efficient running of the NSW RTSA Chapter.

Katharina Gerstmann has stepped down from the Chair position due to the pressures of work (in many cases in far places) but fortunately has remained on the committee. Coen Stoltz has likewise stood aside from the Deputy Chair position and John Watsford has stood aside from the Secretary role. Bill Laidlaw has stepped up to take on the role of Chairman and Malcolm Cluett the secretary position while the Deputy Chair role is at this stage unfilled

The Committee as it now stands, is listed (as always) on the last page of this newsletter

Should any member feel that they could contribute to the operation of our Chapter then please feel free to contact the Chairman or Secretary.

KALAMAZOO EPIC

It appears that the Kalamazoo epic, as notified in recent Newsletters, did not in fact run. It would seem that the project ran aground, pro tem, in some sort of bureaucratic and/or legal swamp. It is understood that the event will try to run at a later date, but funds raised thus far will most certainly go to the Flying Doctor service – the charity for whom the event was being run in the first place. Check the Kalamazoo Crossing 2011 web site, at www.kalamazoocrossing.org for up to date news

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POINT OF VIEW – MAX MICHELL

A recent news item in the Progressive Railroading Daily News was headed 'RailAmerica Entices Shippers to Build, Expand Plants Along its Lines'. The item reports that RailAmerica, in the first half of 2011, has 34 customers which have now announced plans to build, expand or reopen facilities along lines operated by the company, which are expected to generate more than 25,000 car loads annually within 18 to 24 months.

A key comment is 'The industrial development team (of RailAmerica) works to increase carloads by attracting facilities to sites on the company's rail lines and helping current customers expand their existing plants, RailAmerica officials said in a prepared statement'

The gain in traffic for RailAmerica (and quite possibly other railroads) is equivalent to around 70 wagon loads a day. In Australian terms that would be a main line freight flow. In fact this is a good illustration of the outcome of an appropriate competitive model, even if it might now be classified as a heritage model.

In America, where vertically integrated railways remain the dominant arrangement, such actions are realistic. We on the other hand have vertically dis-integrated railways (apart from a small number) where the land, track and trains are in a number of different hands which places serious institutional impediments in the way of such actions.

The prospect of an arrangement similar to that pursued by RailAmerica being undertaken in this country is near enough to zero. Track owners in general have quite enough to contend with dealing with the track and its maintenance. Even where they own the real estate that the rails occupy (and most of the main lines are leased with residual ownership of the land remaining with the lessor) there is little incentive to take on extra-curricular activities that might increase traffic on rail. For a start the track owners have no ability to control how the traffic from an on line facility might move. Even if it does get on rail there is no direct link between the track owners and facility 'promoter' and the rail operator and their pricing – key issues that RailAmerica in their integrated world are able to fully manage.

Our system is all about competition but with a model that simply shuts out most of the real issues of competition – particularly the ability of rail to compete with road. There is a pretence that the model is to do with competition on rail, but with our thin population outside the few major cities, coupled with 19th century heritage rail alignments and the lack of competing parallel rail routes there is little chance that there will be any real competition in that field.

We have two major national general freight operators, yet between them they hardly manage to move more tonnes of interstate freight than the old state railways did back in the 1980's. East coast general rail freight has collapsed to miniscule proportions over the years, offset in part by real growth in the east – west market. In the aggregate however it is likely that rail general freight has actually gone backwards with an ever smaller market share of a rapidly growing freight market.

Structural issues aside it is evident to the lay observer (especially in the data vacuum that prevails in the rail these days) that the rail industry is itself a large part of the problem. Despite all the platitudes and feel good statements it is obvious

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that the major incumbents are wedded to 'rocks and seeds' simple businesses and are not all that interested in the general freight side of things.

Unlike passenger rail privatization (which in most cases is managerial privatization of state owned assets) there are no performance measures or incentives and penalties for freight performance. In theory it is the shareholders who will decide the value of the company performance, but in reality the shareholders are just as remote as most of the community from the real divergence between actual and potential achievements of their private railway company.

Unless there is a major change in direction of the competition model, which is hardly likely in a country noted for its political conservatism and unadventurous approach to all things difficult, it is likely that the current torpid attitude toward general freight opportunities will remain.

If it is institutionally impossible to emulate the entrepreneurial RailAmerica attitude in this country then what could be done to enhance the ability of rail to grasp a growing market share of freight. It would seem restoring track to something like what it would have been under a good long term steward is not the answer. The large sums spent, particularly on the east coast main line, have not so far resulted in any resurgence of rail freight. The competitive model has encouraged asset stripping but has otherwise failed to galvanise the rail side of general freight – in fact it could be argued that the asset stripping activity has knobbled general rail freight prospects. Large investments strategically targeted, such as for a quality Inland Route would certainly have an impact but even with the best will in the world (and we are a long way from that) it would be another 7 – 10 years until any large investments would come on line

Reliance on shareholders to direct their companies in more aggressive and longer term strategic action is a nonsense – in the absence of meaningful activity data and imperfect market knowledge the shareholders simply have no way of knowing where they stand or what the opportunities are. Likewise the stock market (which to a degree reflects the imperfections of the shareholders) is driven by short term gain but with long term disinterest.

The separation of above and below rail in this country has created a structure that has allowed blame-shifting to become a major 'sport'. Pacific National for instance has spent most of its fairly short life bewailing the high cost of track access, when in fact it had most of the levers for success well within its own grasp. Similar other stories could be told about most fragments in the dis-integrated industry of today.

If there is a beacon of any sort for a future for general freight on rail it can be seen in the model adopted by SCT. Unlike to acquisitive original co-owners of PN, or the residual heritage aspects of QR, SCT has been steadfastly following a course that involves managing the whole logistics chain, using innovation to extract a positive point of difference from the competition and to accept those things such as pay as you go track access as part of the system. They are the only mainline general freight operator using vans instead of containers, but in a way that allows significantly more efficient loading per wagons and thus more revenue per train length. They have constructed major city terminals which are not centered on intermodal transfer but rather warehousing and distribution. In short SCT have developed a rail freight model that fits the peculiarities of this country and more particularly the imperfections of the freight transport model that we have. In so doing they have created an expanding business that obviously generates

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good returns for the owners while providing a highly acceptable service for its customers.

The SCT model may not be the panacea to all the ills of general rail freight, but without any doubt it is a lot further forward than the paths pursued by the 'rocks and seeds' conglomerates that purport to be mainstream rail freight these days.

LETTERS TO THE EDITOR

None this month (sob ☹)

COMING EVENTS

SITE TOUR-AUBURN MAINTENANCE CENTRE

The RTSA is organizing a site tour at the Auburn Maintenance Centre (AMC).

This new purpose-built facility at Auburn in Sydney's west will be the maintenance centre for the new Waratah fleet for a minimum 30 years. The centre incorporates world's best practice in all elements of its design, construction and operation to ensure the highest levels of availability and reliability for Sydney's next-generation Waratah train fleet.

The maintenance centre is located on RailCorp land adjacent to the existing MainTrain Facility between Auburn and Clyde Railway Stations. The site area extends approximately 2km in length and is between 100-300m wide. The maintenance building is approximately 200m long and 80m wide, including 1,600m2 of office and amenities space.

This state-of-the-art centre consists of seven maintenance roads with a maintenance capacity for 1,000 cars, an automatic train wash plant and underfloor wheel profiling lathe.

The tour will be on Friday 16th September at AMC, 154 Manchester Road, Auburn at 13.45 for a 14.00 start. It is anticipated the tour will take around two hours. To book contact Silvia Fedakova by email (for preference) on silvia.fedakova@aquas.com.au or mobile 0424 781 066

RTAA / RAILCORP ANNUAL FIELD DAY

The RTAA. in conjunction with RailCorp, will again be holding their Field Day at Clyde Yard on 26th and 27th of October. This event is the only one of its kind in Australasia and is expected to again have over 50 exhibitors.

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The displays are primarily to do with track and track maintenance (which includes working displays of some quite impressive machinery) so will be of considerable interest to people who are involved in the rail industry at any level, people who are interested in rail, people who are studying engineering and anyone who is considering a career in rail.

Entry is free and includes morning tea, lunch and a 'show bag' of goodies from the exhibitors. Further information is available on the RTAA web site – www.rtaa.org.au

HUNTER VALLEY STUDY TOUR

This event will now be a joint two day event with PWI up in Newcastle and intended to run over three days from Fri 23rd March to Sun 25th March next year. The plan is:

Friday 23 March 2012

Following arrival of the morning train from Sydney
Short bus tour in Newcastle area

Lunch at Monte Pio at Telarah
3 - 4 Papers on topics concerning coal and train operations in the Valley
Evening dinner at Monte Pio
Overnight at Monte Pio or other accommodation

Saturday 24 March

All day bus tour to a number of new, exciting and interesting facilities relating to the coal operations
Lunch included
For those wishing to return to Sydney by train, the bus will return to Broadmeadow

Overnight at Monte Pio or other accommodation

Sunday 25 March

Optional Rail Motor tour to Gulgong via Muswellbrook and Ulan giving an opportunity to see the numerous rail and mining activities underway in the Valley.

Lunch will be served at Gulgong

Return to Broadmeadow in time for a train to Sydney

As a number of attendees will be locals, the various activities will be optional and able to be booked separately.

An attractive all-up price will be available for those who have the time to enjoy the full weekend. Partners will be most welcome.

It is anticipated that booking will be open late this year.

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RTSA DINNER

The RTSA Dinner was held on August 11th at Doltone House at Pyrmont. An 'overload' number of guests (120 in total) attended and from all accounts a good time was had by all.

The guest speaker for the evening was Chris lock, until recently CEO of the NSW Transport Construction Authority and now Deputy Director-General, Transport Projects Division in the Transport for NSW Department. The notes that follow are from his talk at the dinner.

The speaker joined the TCA (then called TIDC – the Transport Infrastructure Development Corporation) in 2005. He has overseen projects including:

- Epping to Chatswood Rail Line
- Rail Clearways Program
- South West Rail Link
- Commuter Car Park Program
- Northern Sydney Freight Corridor Program.

Prior to that, Chris had worked in the private sector.

After the recent change of Government things are still in a state of flux. A period of growth in transport projects and expenditure is anticipated. The TCA will need to maintain a high level of capability and performance to meet these challenges.

A major achievement was the delivery of the Epping – Chatswood railway in 2008.
(Relations between TIDC and RailCorp were strained at the time)

The new NSW Government has a new vision, and wants to do something new for transport.

The speaker displayed an Organisational chart of the TCA.

Transport for NSW – (modelled on Transport for London)

- RTA has been abolished
- Maritime Services Board has also been abolished

Both now come under Roads and Maritime Services. This reflects a cultural change – not an Authority but now an agency concerned with delivery of Services.

The agency RailCorp is also now focussed on delivery of services.

The five other new divisions of the TforNSW are:

- Customer Service and Experience;
- Planning and Programmes;
- Transport Services;
- Freight and Regional Development; and
- Policy and Regulation.

Planning and Programmes - 10, 20 and 50 year plans are being prepared.

Freight and Regional Development (covers all transport from "Paddock to Port")

Transport Services - New director (Mr Fergus Gammie) has been appointed, but his take-up date is delayed as he is involved in the forthcoming Rugby World Cup transport arrangements in Auckland).

Chris displayed a Map of Sydney overlaid with the sites of current transport projects.

Strategic Procurement (Bus, Ferries, Rail): A Centre of Excellence for Infrastructure and Fleet Assets will be established within the TCA. This will cover items such as Design Assurance & Quality Assurance. (RailCorp has already started moving design approvals from internal departments to the TCA.)

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The current Premier wishes to be known as the Infrastructure Premier. However, there are current fiscal constraints.

Chris advised us to watch out for the next State Budget (due next month) – major announcements concerning Transport and Infrastructure projects will be made at that time.

There was time for some quick questions …

Q (Prof Phil Laird) – Two announcements were made last week. 1 HSR. 2 Upper House looking at the cost of rail projects. Could you comment on these ?

A HSR – figure of $100b has been proposed for HSR. We would all love to see HSR but Fed or respective State Governments would not be prepared to pay this amount.

Costing investigation is underway (Rail Costing by TCA)

The speaker has six weeks to prepare a submission, and will be questioned in Parliament about this. Stay tuned – it will be covered in the media.

The complexities of transport costing are not well understood by some in the media, and by some in politics.

Q HSR – could it be funded by a Value Added Tax on land along the corridor ?

A That is more a comment than a question.

Q Considering what has happened in the past five years, and what is likely in the next five years, - what can we expect in the more distant future ??

A A review of design standards, so that costs of transport infrastructure can be reduced. Otherwise, have a look at the website for the current and forthcoming projects.

(The speaker gave an example of gold-plating of a recent transport project.)

There may be a lack of skills in some areas, which will need to be addressed.

Vote of thanks was given by Martin Baggot,

Final comments, - the new venue at Jones Bay was well received. The evening was a good time for networking, and enjoying fine food and wine.

ENGINE COOLING – A BASIC APPROACH

For a bit of variety I have included two pictures from a number that came via the internet that show the results of the major snow storm that hit New Zealand early this month.

The Midland line in the South Island (Christchurch to Greymouth) crosses under the main alpine range of that island. The line between Springfield and Otira is a real mountain railway, although it doesn't actually get to much over 700 metres in elevation. However it definitely qualifies as an alpine railway. The two pictures that follow look to have been taken at Arthurs Pass, the high point in the middle of the line, and at Cass which is a crossing loop on the climb up from Sprinfield. Both pictures show a pair of 3000 hp DXC class locos that in more normal times would be hauling coal from the West Coast to Lyttelton for export but in this case were apparently being used to keep the track trafficable (they presumably have admirable electrical insulation).

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DXC 5189 and 5293 at what looks to be Arthurs Pass (above) and Cass (below)

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AUGUST MEMBERS MEETING

Report on Study Tour organised by RTSA NSW Division: High Speed Rail in Taiwan, South Korea and Japan

Presentation by Pascal Sueess, Senior Project Manager, Parsons Brinckerhoff

The presentation commenced with an overview of the three HSR systems.

Japan's Shinkansen system was the pioneer of High Speed Railways, and the first section of the system from Tokyo to Osaka opened just before the 1964 Olympic Games. It has been progressively expanded over the years. With the break-up of Japanese Railways, it is now run by a number of different companies, each of which have different rollingstock. There is some degree of inter-running between JR Central, JR West and JR Kyushu. The Shinkansen lines of JR East, by contrast, are built to different technical standards. Unlike the earlier railways in Japan, the Shinkansen system is standard gauge. This is also true of the HSR systems in South Korea and Taiwan.

Taiwan's system opened in January 2007, and runs down the Western side of the country from Taipei to Zuoying, with six intermediate stations. Trains are scheduled for 96 minutes for the 245km. The technology was adapted from the established Japanese Shinkansen system.

There are thirty train sets, very similar to the 700 series Shinkansen sets in Japan. Each 12-car set has 989 seats.

South Korea's system links Seoul and Busan, and commenced in 2004. Unlike the other two systems, some of the route is on existing trackage, rather than a dedicated HSR corridor. Construction of additional HSR-only tracks will further separate HSR trains from the slower ones, and reduce journey times while unlocking rail capacity.

There are two series of HSR trains – the TGV look-alike KTX1 (built by Alstom and Rotem) and the home-developed KTX2 (built by Hyundai Rotem).

At present the latter have technical problems and are not in service. Like the KTX-1, the KTX-2 trains have articulated carriages and separate driving heads at each end.

South Korea statistics

240 km HSR
3384 km total rail network

KTX-1

46 train sets, 20 car units
965 seats per train

KTX-2

24 train sets, 10 car units
363 seats per train

The Shinkansen System

A number of slides were presented showing statistics for the Japanese Railway system. JR now has seven subsidiary companies, which operate in different regions. Parts of the Shinkansen system have been split up between these companies, when JR was reorganised and privatised.

The JR group collectively operate 0.255 billion passenger kilometres per year. There are 137,400 employees.

After the recent earthquake and tsunami, the itinerary of the tour party was changed to exclude travel North of Tokyo. At the time of the presentation, Shinkansen services North of Tokyo had just resumed, but to a reduced timetable.

On the original route Osaka-Tokyo, the market share of rail is 82%, for the 2h36m journey. The demand is an

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amazing 128,000 persons per day. There are up to thirteen trains per hour.

Other areas of Japan are not as densely populated as the Tokyo – Osaka corridor.

Hakata – Tokyo is a much longer corridor route than Osaka - Tokyo, and the time disadvantage of rail on the corridor is higher, hence the market share is only 10 %.

If the Shinkansen services are to be extended to the Northern island of Hokkaido, as is proposed then there would need to be dual-gauge track laid through the Seikan Tunnel (the longest in the world). There is a commercial incentive for this, as Tokyo – Sapporo is currently the busiest airline route in the world.

A feature of the Shinkansen rolling stock is that almost every axle (or on some types, every axle) is powered. The 500 series trains have a very pointy nose, resembling a concorde aeroplane.

The MAX (multi amenity express) trains are fully double deck. These have 3 + 3 seating in the upper deck (hopefully not for Sumo Wrestlers) and 2 + 3 on the lower deck. On JR East, it is common for Shinkansen services to operate with coupled sets.

There was also at one stage full dining carriages on the Shinkansen lines, but this service is no longer provided. Unlike dining cars in Australia, where the galley area uses up space, and is cramped laterally to accommodate the passenger walkway, this car was of double-deck configuration with the galley in the downstairs area between the bogies. An example is in the new Nagoya HSR museum, which was visited by the tour party. The Maglev vehicle is also in the museum, which holds the current all-time rail speed record. Some series of Shinkansen trains have been retired, and examples are also on display. The design life of Shinkansen rolling stock is reckoned to be 13 years.

There is a trolley service serving food at the passenger's seat. There are also drink vending machines – a common sight in Japan.

Scenes were shown of the interior of an 800 series train. These were nicely finished with wood panelling, slatted blinds and curtains. A feature is a washroom which is separate from the toilets.

A surprise for the tour party was the provision of smoking compartments (with separate ventilation) and also full smoking carriages in the 300 series (though the latter are being phased out). There are different policies among the JR Group companies regarding smoking accommodation. Beware when making a booking, otherwise you might end up in a smoking car.

The KTX system in South Korea has Cinema cars. This idea might seem a bit obsolete in the days of iPads. The KTX trains provide free WIFI.

In contrast to HSR in Europe (where the seat reservation system is complex and confusing) the system in the Asian HSR trains is simple. Some of the cars on each service are reserved, and some are unreserved.

In Taiwan, on board staff use a smart-phone for information on seat reservations.

Platform screen doors are used on some systems, and not others. They are not full-height. Passengers in the three countries have a disciplined approach to queuing and waiting.

Given the vast numbers of passengers, the large capacity trains (with coupled sets) and the very high standard of punctuality, it is important that passengers can easily find their platform, and wait at the right spots before boarding. The passenger signage and train indicator boards were of very high quality, and the pictograms are able to be understood by someone who cannot speak the local language. There were markings on the platform showing where to queue. Photos were shown of the passenger experience in arriving at the station and boarding a train.

The train graphs for the Shinkansen system were shown. There are all-stations, semi- fast and express

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services (known as Kodama, Hikari and Nozomi respectively) – all sharing the same tracks.

The Shinkansen timetable is intricately planned, allowing express services to overtake stopping services. Pascal provided an animated version of the train graph, showing how there is little recovery time in the system. Typically the intermediate platforms are on loop tracks. Shinkansen services have more stations than HSR trains in other countries. That such high levels of punctuality are obtained, given the winter climate and snowfall, is even more impressive.

Noise walls are provided at intermediate stations, where waiting passengers are in close proximity to trains passing at line speed.

On all of the systems, there is a maintenance closedown each night. It is not practical to have a weekend closedown, owing to the volume of traffic. In Japan, weekend services are almost as frequent as weekday ones, though some of the very early and late services are omitted.
In Taiwan, there are more passenger services on Sundays than on weekdays.

One comment was that staff on all of the systems are very diligent and focussed on their job, and this is reflected in the exceptional punctuality of the service, despite the complexity of the timetable.

The RTSA participants were fortunate to visit the control rooms of the three HSR systems.

The Taiwan control room was a very impressive facility, with work stations for the various officials and a large mimic diagram. There was an elevated viewing gallery for visiting parties.

In South Korea, there was one control centre for the whole railway network of the country, including HSR. There is a backup control room at the other end of the HSR line, though it was unclear how often it was used, and the staffing arrangements for it to be cut in.

The JR Central Control Room was an older facility, with no viewing platform. The mimic diagram on the wall was a hard-wired facility. There were staff on hand to monitor earthquake and weather activity, as well as power systems and train movements.

All HSR systems world-wide have in-cab signalling, as the trains operate too fast for lineside signals. A greater degree of safety is obtained by removing the human element of manually driven trains.

The tour party saw a simulator for the HSR train cab in Taiwan, and was able to observe the signalling system.

The party toured a Japanese substation. These are provided every 20km or so (reflecting the high power demand of HSR trains compared with 25kV suburban trains in Australia). The circuit-breaking equipment was quite noisy, as trains entered and left the section it supplied. Scott T transformers are used to convert the incoming power from 3 phase to 2 phase.

Older sections of the Shinkansen still use ballasted track, while the newer sections use slab track. The heavy snow on parts of the network can cause problems for ballasted track. There are anti-derailment bars fitted at strategic sites (primarily due to earthquake risk), installed just inside of the back face of the wheels.

The party also visited four maintenance depots, in Zuoying (Taiwan HSR), Busan (KTX), Hakata (JR West) and Hamamatsu (JR Central), where cars were being stripped down for attention. Various mechanical and electrical assemblies were seen. A paint booth and a wash plant were also seen. Trains were always perfectly presented in traffic. As might be expected in Japan, robots are used to do the painting in the booth.

Photos of selected stations were presented. Taipei station is quite old (as the HSR trains use the existing structure). The other stations on the Taiwan HSR network are attractive modern structures with much use of glass. Kyoto station in Japan was a remarkable structure with a large glass canopy, and a high sky-walk under the roof which was open to the public.

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The design of the Shinkansen trains is owned by JR, and thus any manufacturer can be given a contract to build the trains. There was an inspection of both the Kawasaki and the Kinki Sharyo plants, where N700 series trains were under construction.

South Korea did not just import the technology like Taiwan. Here there is a large government-funded railway research institute, and a commitment to develop their own technology.

How fast is HSR ? Generally a significant part of the trip should be at 200 km/h or above. A selection of speed profiles was shown. The South Korean speeds were lower, reflecting the fact that some of the trip was on existing track shared with other trains. GPS was used by Pascal to monitor speeds and journey times.

The ultimate speed depends on several factors, such as noise and the limitations of the catenary.

The JR Maglev test track, upon which the all-time rail speed record was set, is currently being extended. JR Central is considering rolling out Maglev for future Shinkansen lines, rather than steel wheel on rail technology.

There is also a Maglev metro in the city of Nagoya, built for the 2005 Expo.

The speaker thanked the staff from the various facilities which were visited during the trip, and also Toshiba (Taiwan), KRRI (South Korea), JORSA (Japan) and Marubeni (Japan) for their help in organising the tour.

Questions and Answers

Q - Reliability and Punctuality

A - In Japan, a train running more than 59 second late is declared to be late. There are no equivalent figures for Taiwan and South Korea. Punctuality is taken very seriously, and refunds are given for late trains.

Q - Door Sizes – Why is the driver's door on the Shinkansen shorter than the passengers' doors?

A - Well observed. This may be related to equipment layout in the cab, rather than diminutive sized train crews. Maybe passengers have large amounts of luggage but the crew do not.

Writers note – looks like this is due to the sloping roofline at the ends of the carsets. The HSR trains are much more streamlined than our XPTs, for example.

Q - One audience member noted much arcing between the pan and the overhead on an earlier visit to Japan (in the vicinity of Mt Fuji). Does this arcing cause high wear of the overhead ?

A - No idea of the extent of this problem. No excessive arcing noted during the recent visit.

Q - Inter running, and multiple gauges in South Korea ?

A - As far as is known, all railways in South Korea are SG now.

Incidentally, the Seikan tunnel is currently NG only. When Shinkansen trains are routed through this tunnel, they will need to run on mixed gauge tracks for the first time.

Q - Noise emissions – from aerodynamic or wheel/rail interface ?

A - No further information, but it is obvious that the noses of the trains are getting longer, and that fairings are being applied around the pantographs. These measures both reduce aerodynamic noise.

Q - KTX-2 trains in South Korea. Are they articulated like the earlier KTX-1 TGV look-alikes ?

A - Yes – passenger cars are articulated. Future 400 km/h trains will be conventional with distributed power (and not with a Drive Head on each end)

Q - Which was the cheapest system for passengers ?

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A - This is a complex question. It is difficult to compare travel passes with single-use tickets. The tour party used single tickets in Taiwan and Korea, and a JR pass in Japan.

Writer's comment. Readers wishing to know more about HSR in Japan, South Korea and Taiwan can find much information on the internet. Wikipedia is a good place to start.

RAIL ENGINEERING STUDENT THESIS AWARDS

The following 2012 Railway Technical Society of Australasia (RTSA) student thesis awards are **NOW OPEN** for nominations!!!

THE RAILWAY ENGINEERING STUDENT THESIS AWARD
Presented by the Railway Technical Society of Australasia (RTSA), and in celebration of the outstanding achievements of undergraduate engineering students, the Railway Engineering Student Thesis Award is presented to the author of an exceptional final year project on a topic of Railway Engineering.

The 2012 winner will receive a **$4000 CASH PRIZE** and a FREE year long membership to the RTSA!!!

To learn more about the award, or to nominate online TODAY
go to www.rtsa.com.au/awards/student-thesis-award/

THE WHEEL-RAIL INTERFACE AWARD
The Wheel-Rail Interface Award is presented to the author of an outstanding final year project on a topic related to the contact conditions between wheel and rail and the consequences of these conditions in terms of material behaviour and damage modes.

The winner of the Wheel-Rail Interface Award will also receive a **$4000 CASH PRIZE** and FREE year long membership to the RTSA!!

To learn more about the award, or to nominate online TODAY go to
www.rtsa.com.au/awards/contact-mechanics-award/

*Please note that nominations for both the above awards close on the **Friday 24th November 2011.***

WHERE AND/OR WHAT IS IT?

The picture last month was taken at Wagga in the late 1970's when the Edward St underbridge was quite new, the by then ageing DEB sets had replaced the not so successful Tulloch cars and upper quadrant signals still ruled the South. Quite a few readers responded and all picked the location and vintage.

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It is obvious that last month was too easy so this month we have something that should tax most readers. This picture was taken recently and is in the Sydney suburban area. Where is it and what is the story attached to it?

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FUTURE MEETINGS AND EVENTS FOR 2011

Date and time	Activity	Location
Wednesday 7 September 2011 11.30 for 12.00	Port Botany and Freight Line Resignalling – TBC Tomas Magyla – Eddie Hawes	477 Pitt St (South Tower)
Wednesday 5 October 2011 11.30 for 12.00	The Alternative Railway – What happens when there are possessions and shutdowns Nigel Parker - RailCorp	To Be Advised
Wednesday 2 November 2011 11.30 for 12.00	Waratah Train Signal Compatibility Dave Nolan - RailCorp	To Be Advised
Wednesday 7 December 2011 11.30 for 12.00	Heritage Topic Speaker from TrainWorks Thirlmere	To Be Advised

Members with ideas for meeting topics should contact the Secretary, Malcolm Cluett, in the first instance – contact details on the back page of this Newsletter

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The best way to submit contributions is by e-mail to the Editor at max412@gmail.com or alternatively to the address shown in the footer.

Engineers Australia members are reminded that attendance at RTSA technical meetings and events contributes towards CPD requirements.

Each RTSA technical meeting generally has a value of 1 CPD point.