

## Executive Chairman's Report

Since I will be handing over the Executive Chairman position to Martin Baggott (current Deputy Executive Chairman) at the completion of my two-year tenure of office in September 2008, I have taken this opportunity to highlight some of the achievements of the Railway Technical Society of Australasia (RTSA) and point out some of the initiatives that have been put in place to assist railway professionals during that two-year period.

The RTSA which was formed in 1998, following on from its predecessor the National Committee of Railway Engineering (NCRE), has steadily built a reputation where it is recognised as one of the important pillars of the railway industry. Continuing professional development (CPD) has been the main focus of the RTSA. Apart from organising in excess of 60 technical presentations and site visits over the last two years, the RTSA has arranged three symposiums and one eminent speaker tour to address important railway related issues.

I would like to highlight our eminent speaker tour entitled "Delivering Sustainable City Transport" (*see p15*) that has been planned for late August/ early September 2008. During this program, the RTSA 2008 eminent speaker Mr Andrew McCusker, the Operations Director of the Hong Kong MTR Corporation, will be exploring the best practices to address rising energy costs, commodity and food price inflation, along with environmental concerns, and identify the role of rail transport in doing so. He will also discuss city economies and their dependency on efficient, effective, and affordable and reliable transport systems. He will provide some insight into the successful Hong Kong property/railway model to elaborate on the above issues.

In addition, the RTSA has worked closely with Engineers Australia and the railway industry to develop the RTSA Professional Development Assessment Program (PDAP). The RTSA is the first industry-based institution to put in place a structured approach to improve the standing of railway professionals and to assist the efforts of industry to address the critical skilled work force shortage. The RTSA PDAP program complements currently existing organisation based development activities

(eg. internal graduate training programs) and also provides an opportunity to railway professionals, in organisations without any structured development programs, to achieve professional recognition.

Another major initiative that has been put in place by the RTSA is to publish railway related technical publications in the Transport Engineering in Australia (TEA) journal (*see also p13*). The TEA journal is managed through a web based Editorial Manager System and covers all forms of transport modes. The TEA journal reflects the multidisciplinary nature of the railway profession and it includes the traditional engineering areas such as design, construction, operations, maintenance and safety as well as planning, economics, behavioural science and policy analysis. Publishing railway related papers in the TEA journal is anticipated to provide wider national and international recognition for researchers and inventors based in Australia and New Zealand.

The formation of the New Zealand chapter has been another major RTSA development. This new initiative has provided a strong platform on which to strengthen the links between railway professionals in both countries and to provide opportunities to work closely together and share some of the common issues that they face. To help to facilitate the formation of the NZ chapter, the RTSA has become a joint technical society of both Engineers Australia and IPENZ in New Zealand.

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# Rail Horizons

Contents – July 2008



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AUSTRALIA

**RTSA**

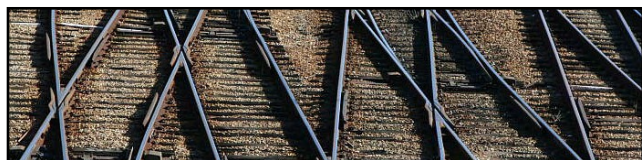
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The RTSA which is currently successfully celebrating its 10th anniversary has more than 1000 professional members and 10 corporate members. As a peak professional body, the events of the RTSA to promote science and technology as well as professional development are well received by the members and the wider industry. One such event is the biennial Conference on Railway Engineering (CORE). The next CORE conference is to be held from 7 to 10 September at the Perth Convention Exhibition Centre, Western Australia. The organizing committee is working hard to bring you a high quality, interesting and rewarding conference. I hope to see you all at CORE 2008.

**Ravi Ravitharan**  
**RTSA Executive Chairman**



## Point of View

**Max Michell**

After what seemed to have been a frustrating and unnecessarily extended series of negotiations, the long awaited agreement between Victoria and ARTC in regard to the management of the broad gauge line north from Seymour to Albury finally surfaced at the end of May.

As with the 2004 agreement between ARTC and NSW in regard to control of the interstate main lines in that state, the bureaucracy seems to have been driven by a combination of confrontational and visionless zeal, based around empire building and misguided attempts to extract more cash from the Commonwealth.

Fortunately this approach was overtaken by an admirably patient and consistent ARTC, supported by a number of unrecognised but heroic people within the state apparatus who managed to see common sense prevail.

The Hon Tim Fischer in welcoming the announcement said, "We will never know how close things went towards making an awful decision to retain the old dual-gauge, ugly corridor for another 45 years.....Some senior people around Melbourne were prepared to go with this, (however) I feel the report of the Regional Freight Network Review and the work of John McQuiltern (ex VIC MLC) played a vital role over recent months (in ensuring the right decision)."

Prior to 1962, the date when the standard gauge line was opened between Albury and Melbourne, there was double (SG) track between Sydney and Junee and double (BG) track between Mangalore and Melbourne, with the intervening 360 km being single track. From 1962 the proportion changed so that roughly half the Melbourne Sydney line was double track and half was single (480 km each). And so it has remained to this day.

Current train numbers on this line segment would not justify duplication just in order to increase line capacity. Train numbers are but a shadow of what they were 40 or 50 years ago when the long stretches of single track were quite capable of handling the then traffic. What this project will allow for is much more consistent service quality.

This will be achieved through the multiplication of 'best quality' (shortest transit time) train paths between Melbourne and Sydney, which is an essential factor in any strategy to win back freight on this corridor. Rail's share of the contestable Sydney Melbourne interstate freight market has shrivelled to irrelevance in recent years, now estimated at less than 10%.

The key issue facing the industry is to improve the timeliness and reliability of delivery in order to at least arrest the decline in market share and to make inroads into the very substantial market available on this corridor.

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Much of the challenge is presented by extended run times over what is a rather slow and convoluted route, coupled with relatively ponderous terminals all leading to poor delivery reliability. With both NSW and Victoria now on board, ARTC have been given the opportunity to advance its plans to recover the situation and achieve a reversal of what has been a long and painful slide by rail.

In a radical move away from perennial investment in lengthening crossing loops (an activity that repetitively has lengthened some NSW loops four times in the last couple of decades) ARTC has opted for what they call 'passing lanes' - sections of double track around 7 km long in single track sections to allow trains to pass non-stop with no more than a restriction to 80 km/h at the entry and exit for the train taking the diverging track.

Passing lanes had been planned at around 30 km intervals on the ARTC standard gauge mainline south of Junee, but the adjacent broad gauge track in Victoria had always been a bit of a conundrum principally between Seymour and Albury.

Over time this broad gauge regional track has declined in importance, such that the normal daily train program is for three passenger trains and one freight train each way. A measure of current activity is that there is just one intermediate crossing loop in almost 200 km of track.

It has long been recognised that the broad gauge track has only a limited value in its current form, but could be a very valuable resource if gauge converted to match its parallel mate.

A number of projects will also be carried out south of Seymour including reworking and gauge conversion in the Melbourne terminal and yard area, as well as linking into the Dynon Port Rail Link now under construction.

Further out a passing lane will be created by dual gauging the Albion-Broadmeadows BG freight track; Donnybrook loop will be extended to 1800 metres while passing lanes are already under construction at Kilmore East and Tallarook.

The intention is to 'close' the broad gauge north of Seymour from the start of November this year and gauge convert the line in conjunction with ARTC's North South concrete-sleeping project.

The long planned Wodonga deviation, re-routing rail away from the town centre, will also form part of the works program. Buses will replace Albury services between Seymour and Albury from approximately November 2008 until July 2009, when V/Line passenger services will resume on standard gauge track

It is understood that, despite the 11 km longer route, V/Line trains will achieve the same transit times as now, no mean feat when it is considered that these trains, with up to 10 stops, are only marginally slower than the fabled

non-stop Spirit of Progress on broad gauge with no change to line speeds!

There is obviously a lot of detail yet to be sorted, along with inevitable changes as the project progresses but it is fair to say that this, in one hit, is probably the most important improvement project on the Melbourne to Sydney corridor since 1962.

The combined impact of this gauge conversion and the passing lanes will be to reduce single track of the whole corridor from around the current 50% of the route to around 23%, to be achieved in little more than a year from now.

Duplication of the whole route is now a possibility, although the actual need for such work will depend very much upon whether the market and above rail operators respond to the opportunities presented by the current investment program by lifting rail's market share on the corridor.

Although both have done the 'good talk' bit neither have actually backed that with much action thus far- in fact it is not unreasonable to suggest that interstate freight on this corridor is, at present, quite depressing, with infrequent trains carrying too much 'fresh air'. The real test will be when ARTC are able to offer faster and more frequent freight paths, something that should be achievable within a year or so, once the Victorian project and the Southern Sydney Freight Line are operational.

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## **Government Relations Committee**

### **Meeting with Minister Gary Gray AO MP**

Ravi Ravitharan, Martin Baggott and I met Gary Gray AO MP (Parliamentary Secretary for Regional Development and Northern Australia) at Parliament House, Canberra, on Wednesday 28 May. The meeting was set up at RTSA's request to give the new Government some background on the RTSA's activities and functions.

Our main function was to promote RTSA's mission in rail development, particularly CORE conferences, skills and professional development.

Minister Gray was naturally interested in last year's regional rail symposium. We were able to highlight a common failure of regional rail in Victoria and Tasmania and the parlous state in NSW and New Zealand. Minister Gray outlined the NSW Grain Task force and whether the RTSA should not be part of the consultative review of this task force. We were pleasantly surprised and are writing back to warmly welcome a consultative role in the task force, and will be talking to the Minister's office again on this.

The Minister made the point of bottlenecks to ports and intermodal terminals, which he saw as critical for Australia's terms of trade.

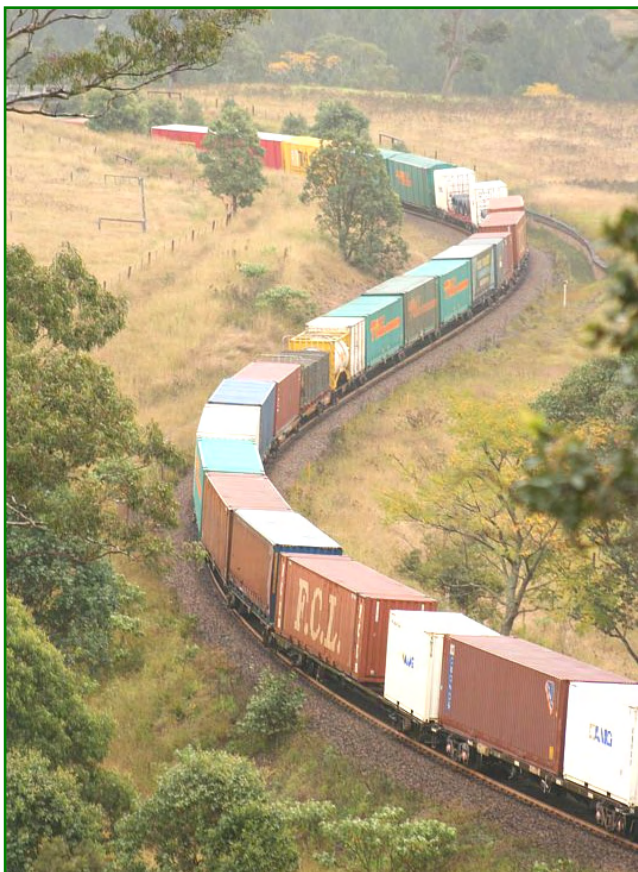
The Minister also offered to facilitate a meeting with Sir Rod Eddington of Infrastructure Australia (for the *RTSA Metros - Future Rail for Sydney* conference) if we wished.

We pushed the CORE conference, given Minister Gray holds the seat of Brand in Western Australia through which the Mandurah Line passes. He was very interested in attending the conference if could make it. A full brochure of CORE2008 has been sent and hopefully he will be able to attend.

We touched on a number of other areas such as interstate rail infrastructure improvements and the *RTSA Metros - Future Rail for Sydney*. Many were not directly related to his portfolio and so he was not able to offer any direct support. However Minister Gray tried to organised an unannounced meeting with Minister Albanese. Unfortunately due to time constraints we were not able to meet Minister Albanese but were grateful meeting his adviser instead.

We had set ourselves the task of merely giving the Government a 'heads-up' of the RTSA, particularly what it does and how it can offer independent advice (representing 1,000 members throughout Australia and New Zealand). We wanted to have an on-going dialogue with the new Government. On this basis we considered the meeting was a success.

**Andrew Honan**  
*Chairman, Government Relations Committee*



## Competitive trains need Competitive tracks

*The following has been adapted to reflect Australian conditions, by Dr Philip Laird, from the Editorial for the September 2003 issue of the New Zealand magazine Rails.*

If the new arrangements for NSW and Queensland mainline tracks is bound only to repair and maintain, then the result will be a really nice-looking, largely 19th century railway and that's not good enough. The reason is that the railway has to compete with trucking and overseas ships working our coasts, so it is vital that the railway be continually upgraded and improved to keep up with that competition.

By "railway" we mean the inseparable combination of track and train. Trains need tracks, both are part of the same mechanism in a way that trucks and roads are not. So if trains are going to do more and better, they'll need suitable tracks on which to run. Those tracks will need to be continuously improved in the same way that our main highways are.

How much of either the Pacific Highway or the Bruce Highway is still precisely on its original alignment? Now ask just how much of the railway system is exactly on the same alignment as it was when it was built over 80 years ago, sharp curves, steep grades and all.

The NSW Roads and Traffic Authority, and Queensland Main Roads Department with generous Federal funding, has over the years, in simple terms, routinely met the demands of road users. Roads too crowded, so build another couple of lanes. Heavier trucks wanted, so strengthen road foundations. A round-about route, so build a by-pass. Grade too steep? Build a deviation.

As highway engineering standards are far removed from those applying 25 or 50 years ago, so too should mainline rail tracks.

The rail industry must show some entrepreneurial spirit. It must work at getting more traffic on rail by upgrading, not just maintaining, the rail network. So if rail is to be more competitive in future, remember this: competitive trains need competitive tracks.

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## John Adams - Order of Australia

RTSA Life Member Mr John Adams has been awarded the Medal of the Order of Australia (OAM) for services to engineering particularly through the standardization of railway transport systems and executive roles with a range of professional organizations.

John has enjoyed a distinguished railway engineering career, spanning some 55 years of which 40 years have been spent in the service of the Australian rail industry.

John was born in England and in 1949, he joined the Southern Region of the then British Railways where he was engaged on the design, planning & implementation of track reconstruction works, including major junction layout remodelling, on the heavily trafficked, third rail electrified lines for which the Southern Region was responsible.



During his time with British Railways he became a volunteer member of the Brighton Section of the Permanent Way Institution (PWI) beginning a close association with the PWI, which lasts to this day.

In 1965, he migrated to Australia and joined the South Australian Railways as a Civil Engineer with principal responsibilities for the development of major station yard layouts for the Port Pirie to Broken Hill Rail Standardisation Project and was responsible for all construction activities including planning & implementation of the complex staging for triple-gauge rail operations.

In 1978, he became involved with the Adelaide to Crystal Brook Standard Gauge Project assisting with the preparation of a report and recommendations for revised proposals involving a comprehensive operational and organisational review, economical evaluation and coordination of planning requirements.

With the receipt of approval for the implementation of the project, at a cost of \$92 million, he was appointed as Project Engineer. He served in this capacity from 1980 until 1983 and saw the whole project brought to its successful conclusion.

After this project was completed in 1983, John became Assistant Chief Civil Engineer (Administration) when he was made responsible for the planning, design and management functions related to the provision of civil engineering works and services; direction & control of the annual Capital Works programme.

In this job, he remained involved with standardisation and was party to the first study and report into the potential viability of standardising the Adelaide to Melbourne line.

In 1985, his service to the South Australian Railways and, latterly Australian National (AN) was recognised when he became Chief Civil Engineer.

After four years as Chief Civil Engineer, he left AN in 1989 and became a very successful self-employed consulting engineer. In this capacity, his enthusiasm for railway engineering remained undiminished and he has continued to serve the industry in a wide variety of ways up to the present time.

The expert consultancy services that he has given over the last 15 years are many and varied. To give some idea of the span of the work with which he has been involved a few of the more important ones are listed in the following:

- National Rail Corporation One Nation Infrastructure Projects
- Strategic Plan development for the National Rail Corporation
- Expert advisor to the Victorian Government & Geelong Corporation on rail Gauge standardisation matters
- Member of Design Working Group and Maintenance Alliance Board for the Alice Springs to Darwin Railway
- Advisor on gauge conversion for Spanish Government Railways (RENFE)
- Track design & project management of the Port Dock Museum track remodelling project
- Planning advice & concept designs for SteamRanger Railway Preservation Society

Distinguished as John's working life has been, he nevertheless has found the time and energy to give huge voluntary support to both the Permanent Way Institution and the National Committee on Railway Engineering (NCRE) of the Institution of Engineers Australia (Trading Name: Engineers Australia), now the Railway Technical Society of Australasia (RTSA).

In 2003, he was granted Life Membership of the PWI in recognition of his devoted service to the Institution.

His involvement with Engineers Australia and the RTSA is no less formidable. He was a member of the National Committee from 1983 until 2003 during which time he was Chairman (from 1991 to 1995).

Amongst his other accomplishments are Chairman of Organising Committee and Conference Chairman for both CORE91 and CORE2000; SA Chapter Chair (1998 to 2000) and Chairman of the Awards Committee from 1999 to 2003. He is also a Life Member of the RTSA.

## ► End of Seymour to Albury broad gauge

The Australian Rail Track Corporation (ARTC) has signed an agreement with the Victorian Government to take over the management and operation of the single track, broad gauge main line linking Seymour and Albury. Acquisition of the 200km line will allow ARTC to convert the track to standard gauge thereby providing a double track main line between these two points.

Originally ARTC had intended to create a number of 7km long passing lanes on the existing standard gauge track between Melbourne and Albury, similar to those currently under construction in southern New South Wales between Junee and Albury.

The handover coincides with an extension to the ARTC lease over the Victorian interstate network which was originally due to expire in 2014, but has now been extended by 45 years to 2059.

ARTC Chairman, Barry Murphy said, "this provides ARTC with greater certainty in investing and delivering significant infrastructure improvements to the Victorian standard gauge system."

The \$501.3 million North-East Rail Revitalisation Project will be delivered by ARTC under the Southern Improvement Alliance, which is already undertaking major upgrades between Melbourne and Sydney.

The Project will include:

- Construction of the Wodonga Rail Bypass to remove the rail line from the centre of the city;
- Conversion to standard gauge and concrete re-sleepering of the 200kms broad gauge track between Seymour and Albury;
- Concrete re-sleepering of 106km of SG single line track between Tottenham and Seymour with construction of passing lanes at Kilmore East and Tallarook;
- Three V/Line passenger locomotives and 15 passenger carriages to be refurbished and converted to standard gauge for Albury services;

It is expected that the broad gauge track will be closed for gauge conversion in November this year and all works should be completed in 2010.

## ► Advanced Train Management for SA

The prototype of the next generation of train control - the Advanced Train Management System (ATMS) - will be trialled in South Australia over the next three years.

Lockheed Martin, on behalf of ARTC, is developing the next generation of Train Control technology. Investment of \$75 million for the 'proof of concept' program of the new system was announced in June.

The investment will be used to design, develop, construct and test the ATMS prototype system on 120kms of the interstate network between Adelaide and Port Augusta (believed to be principally between Coonamia and Port Augusta).

Once proven, the ATMS system will replace traditional trackside signalling, managing trains through the use of sophisticated computer programming and a Global Positioning System (GPS). The train's position, speed, braking distance and engine data can be checked against other trains operating on the network and then sent back into a central management system to monitor train separation.

ARTC CEO, David Marchant said, "This secures the distance between trains with an added safety margin for braking and protection from trains entering into another train's space."

"Capacity will be substantially increased by enabling more trains to operate on the existing rail infrastructure and this has the potential to more than double the capacity of the network using existing rail corridors."

## ► Rio Tinto invests in driverless trains

Mining giant Rio Tinto has announced an investment of A\$395 million to automate its iron ore railway in the Pilbara within the next five years with technology partner Ansaldo STS. Driverless trains will operate over most of the 1,300km of track that serves its Pilbara operations, helping Rio Tinto meet its goal of expanding annual iron ore production to 320 million tonnes in 2012.

Rio Tinto says this will be the first time automation has been used in a heavy haul railway of this scale, though the technology successfully operates on many metro passenger railways around the world.

The roll-out of automation is part of a wider project to upgrade the rail network, which includes the introduction of 40 new-generation locomotives, extensive re-railing and a substantial reinvestment in rolling stock, including the purchase of 2,400 new ore cars over 18 months.

Automated operations will integrate with the existing train management system and will bring efficiency gains through greater scheduling flexibility and the removal of delays.

Rio Tinto Iron Ore chief executive Sam Walsh said, "Our immediate goal is to ensure the continued safety of our rail operations while implementing leading technology, and meeting our ongoing need for train drivers as we expand. While some roles may change due to expansion plans,

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current employee numbers will not be reduced by the automation of most rail operations.

A successful trial of automatic operation has taken place in the Pilbara, with 126 journeys of empty and loaded iron ore trains completed on a section of railway from Paraburdoo to Tom Price. Rio Tinto Iron Ore is continuing to work closely with the Western Australian Office of Rail Safety to ensure all safety and other regulatory requirements are met.

### ► **Adelaide to electrify**

The South Australian Government has announced a fully funded, \$2 billion, ten-year investment in Adelaide's suburban rail network and in other public transport improvements.

The major impetus of the investment program announced in the June State Budget is the electrification (at 25kV) and standardisation of the bulk of the Adelaide suburban rail network. Adelaide is the last of the mainland capital cities to retain a solely diesel powered suburban railcar fleet.

Major extensions were also announced for the Glenelg to City tramline to incorporate branches to West Lakes, Port Adelaide and Semaphore utilising the existing Outer Harbor heavy rail line as a backbone.

New trams and trains will be purchased to provide and expand the new services, a new system-wide state of the art smart card ticketing system will be introduced and funds will be made available to purchase land to secure a transport corridor from Seaford to Aldinga.

When all works are completed there will be an increase in services to provide a 15-minute weekday rail service to all rail stations with a frequency of less than 10-minutes to key stops during the peak.

An initial four-year investment of \$648.4 million has been allocated for major upgrade works including:

- \$209 million to commence the electrification of the Noarlunga line;
- \$83 million to commence the electrification of the Outer Harbor line;
- \$162 million for a tramline extension to the Entertainment Centre and subsequent connection to the Outer Harbour heavy rail line and the purchase of light rail vehicles;
- \$116 million for re-sleepering of the Gawler line;
- \$64.4 million to acquire 80 additional buses over the next four years;
- \$29 million to begin the purchase of a new ticketing system; and
- \$14 million for short-term tram capacity options.

As part of this major transport package, planning work will also begin on the proposed tram extensions to West Lakes,

Port Adelaide and Semaphore, along with planning for the electrification of the Gawler line.

Electrification of the Belair line has not been included in this package, due to some complex infrastructure issues but these will be reviewed after completion of the recently announced Federal Government study into the future of the adjacent ARTC heavy rail freight line.

In an Australian first, 15 new dual-voltage trams will be purchased to enable light rail and electric trains to operate side by side on existing track principally on the Outer Harbor rail line. Additional trams will also be purchased for the Entertainment Centre extension and to cater for the increased patronage that has resulted from the recent City extension.

The investment allows for the purchase of 50 new EMU railcars and for 58 of the existing 3000 class diesel railcars to be refurbished and converted for electric operation.

### ► **Leading the track in railway research**

There is no doubt this is an exciting time for rail and particularly for rail research in Australia. The CRC for Rail Innovation is well positioned to become the leading Australian Rail Research Provider.

We continue to strengthen and support the position of rail as the transport mode of choice and further the generation of capacity growth in our industry underpinned by technological innovations. Our research on transport emissions and climate change will help provide industry leadership in an area where rail has a strong inherent advantage relative to road transportation. Our research will also help enhance the quality of service and the economic competitiveness of rail.

Our efforts have recently concentrated on communicating with our participants and other key stake holders. Through a road show and a series of presentations we have presented our Research Strategy to more than fifteen organisations around the country.

Through the CRC for Rail Innovation, railway research in Australia is starting to be recognised by world's leaders in this field and a good model of managing rail research. For example the CRC for Rail Innovation was invited to make presentations to the organising committee of the World Congress on Rail Research (WCRR) in Seoul (S. Korea) and to the International Railway Research Board (IRRB) held in Japan in May 2008. I was delighted to be appointed deputy Chair of the IRRB. This will help further international research collaboration and help ensure that Australia does not "reinvent the wheel" in rail research.

A number of rail organisations are showing great interest in becoming part of the CRC and we welcome this. With a broad diversity of activities involving a range of rail industry participants we are ramping up our research activities in the coming year.

I would like to take the opportunity to thank all CRC for Rail Innovation participants and supporters for their cooperation. Thanks to their commitment and contribution we are securing the future of rail research in Australia.

*David George, CEO, CRC for Rail Innovation*

## **New Zealand buys-back rail operations**

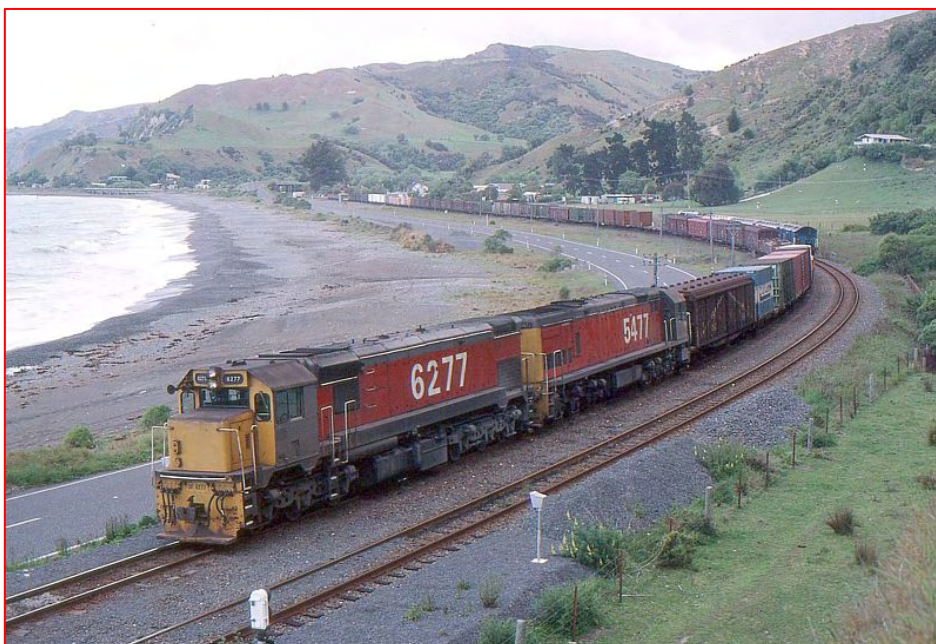
After much speculation, the New Zealand Government reached agreement in May with Toll Holdings Ltd to the purchase of Toll New Zealand's rail and ferry business for NZ\$665 million. The purchase covers Toll Rail's above rail operations and Cook Strait ferries and includes 180 mainline locomotives; 4,200 wagons; one rail ferry and leases on two other ferries. The operations employ approximately 2,300 people.

Finance Minister Michael Cullen said, "The selling off our public rail system in the early 1990s and the running down of the asset afterward has been a painful lesson for New Zealand.

"During the negotiations with Toll it transpired that buying the rail operating business including the ferries was the best way to increase investment in the industry and enable it to be more responsive to the needs of New Zealand customers.

"Running a commercially viable business that was able to contribute to the economic and environmental development of New Zealand was proving extremely difficult without government support.

"The government will now avoid paying subsidies to third parties and we also avoid the on-going disputes over the implementation of the National Rail Access Agreement that had the potential to destroy value in the business and erode the morale of the people who work in it.



"We acknowledge the important role that Toll has played in the industry by increasing the volumes carried by rail and improvements that they have made to the operation of the terminals. We look forward to continuing to work with them in their ongoing freight forwarding business.

"In the months ahead, I will explore options for significant investments in new, modern rolling stock. These will be presented to Cabinet and full details will be made available as soon as possible."

On 1 July 2008, the rail and ferry assets of Toll New Zealand were transferred into government ownership and re-branded 'KiwiRail'.

A new KiwiRail establishment board will manage the services, pending determination of the final shape of the relationship between KiwiRail and OnTrack – the previously re-nationalised track owning entity.

Former Prime Minister Jim Bolger has been appointed chair of the establishment board of KiwiRail which will manage the business previously known as Toll Rail.

A Rail Development Group will report to the Ministers of Finance and State Owned Enterprises (SOE) in early August with recommendations for the structure and management of the rail businesses going forward and this will be considered by Cabinet.

A number of options exist for the organisation which could range from a single SOE structure with OnTrack and KiwiRail as separate divisions within that organisation through to possibly a Crown Entity and SOE.

Prime Minister Helen Clark said, "With rising fuel prices and a sense of urgency in the fight against climate change, governments around the world are again looking to rail as a central part of 21st century economic infrastructure.

"With our rail system back in public ownership, we can make the strategic decisions and investments necessary for rail to play its full part in building a more sustainable New Zealand. Over time, we will be able to move more and more freight off our roads and onto rail. Rail will also play a bigger role in public transport in our major centres.

"A modern rail system can lessen the carbon footprint of our wider transportation network, taking pressure off our roads and allowing our trucking and shipping businesses to operate more efficiently and this announcement marks a major step forward in building a truly sustainable transport network."

# Society and Chapter News

## 2008 RTSA Railway Engineering Awards.

Nominations for the 2008 RTSA Railway Engineering Student Thesis Award and the inaugural Contact Mechanics Award have been evaluated by the RTSA Awards Committee.

For his thesis entitled "Developing the Single Sleeper Push Test Device used to determine Track Lateral Resistance", prepared through the Griffith University in Queensland, **Mr. Brendon Gill** has been selected to receive the Railway Engineering Student Thesis Award. The thesis makes determinations regarding the lateral resistance of a variety of railway sleepers in a range of ballast conditions. The results of the tests have been used to better understand and predict the behaviour of sleepers under lateral loading.

The runner up award in this category will be made to **Mr. Glen Bearham** for his thesis "Evaluation of Battery Power Boosted Locomotives in Pusher Applications" prepared through the Central Queensland University. Both Mr. Gill and Mr. Bearham will receive their awards at the Queensland Chapter Annual General Meeting that is to be held in July.



Ravi Ravitharan (RTSA Executive Chairman), Mina Hanna (Award Winner) and Peter Mutton (Recent Contact Mechanics Conference Chairman)

The inaugural RTSA Contact Mechanics Award was awarded to **Mr Mina Hanna** for his final year thesis on Rolling Contact Fatigue - Microstructure-Mechanical Property Relationships in High Strength Pearlitic Rail Steels of Relevance to Wear and Rolling Contact Fatigue Behaviour. The award was presented to Mina Hanna by RTSA Executive Chairman, Mr Ravi Ravitharan, at the Monash University Faculty of Engineering Awards night on 21 May 2008 in Clayton, Melbourne. Mina completed his Materials Engineering degree in April 2008 at Monash University School of Physics and Materials Engineering.

The work undertaken for the thesis which received the award examined the relationship between material

characteristics and rolling contact fatigue in four different grades of rail steels. Through the relationship between microstructure and mechanical properties, the analysis investigated how these characteristics may affect the onset of rolling contact fatigue behaviour.

The RTSA Contact Mechanics Award is offered annually to the author of an outstanding final year undergraduate project, undertaken in Australia or New Zealand, on a topic that is related to the contact conditions between wheel and rail and the consequences of these conditions in terms of material behaviour and damage modes. The award comprises of a cash prize of \$2,000, a commemorative plaque and one-year complimentary membership of the RTSA.

**Three more categories will receive awards in 2008, being; the Individual Award, the Industry Award and the Young Railway Engineer Award. The awardees have been identified and they will be announced, and presentations made, at the CORE2008 gala dinner.**

## 2009 RTSA AWARDS

In 2009, the RTSA will be offering awards in four categories. These are; the Individual Award, the Young Railway Engineer Award, the Railway Engineering Student Thesis Award and the Contact Mechanics Award. Nominations for the Student Thesis Award and for the Contact Mechanics Award will close on **Friday 28<sup>th</sup> November 2008**. For the other three awards, nominations will close on **Friday 27<sup>th</sup> February 2009**. Further details, and nomination forms, can be found on the RTSA website at [www.rtsa.com.au](http://www.rtsa.com.au)

# CORE2008 Attracts Quality Speakers

The combination of land use planning and urban transport, along with the increasing importance of major bulk haul and interstate intermodal transport, are the key issues to be explored at the CORE 2008 conference in Perth in September.

The organisers have secured an array of quality speakers to lead the discussion, including Andrew McCusker, Operations Director of MTR Corp in Hong Kong and Richard Cohen, General Manager of Rio Tinto Iron Ore Railway.

The conference will be opened by the Governor of Western Australia - Dr Ken Michael AC - himself a distinguished engineer (formerly Commissioner for Main Roads in Western Australia, Acting Rail Access Regulator and member of the Economic Regulation Authority).

The plenary session on day one of the conference will examine the role of urban rail in integrated transport and land use planning. It will explore the way two very different cities - Perth and Hong Kong - have developed metropolitan rail systems that have - mostly successfully - combined the two.

Dr Geoff Galop, former Premier of Western Australia (and now Professor and Director of the Graduate School of Government at the University of Sydney) will explain how Perth's new rail system was pushed to the forefront of the government's agenda; while the Chief Executive Officer of Perth's Public Transport Authority, Reece Waldock, will focus on how it became a reality.

Andrew McCusker will outline the strategies and philosophies that contributed to the success of the urban rail system in Hong Kong - widely regarded as one of the most successful modern rail systems in the world.

Day two of the conference will focus on freight - on major bulk haul and interstate intermodal transport. Speakers will include Ross Dunning, Chairman of the Townsville Port Authority and Central Co-ordinator for the Goonyella Coal Chain Review, Angelo Demertzis, General Manager East/West ARTC, and Rio Tinto's Richard Cohen.

The two plenary sessions provide an excellent framework for the 72 high quality technical papers to be presented at the technical sessions.

The conference will conclude with a panel discussion that will challenge the concept of the CORE 2008 theme of Rail: the Core of Integrated Transport. To be chaired by Simon Lane, Managing Director, Rail Advisory Services, the discussion panel members will include Professor of Sustainability Curtin University of Technology

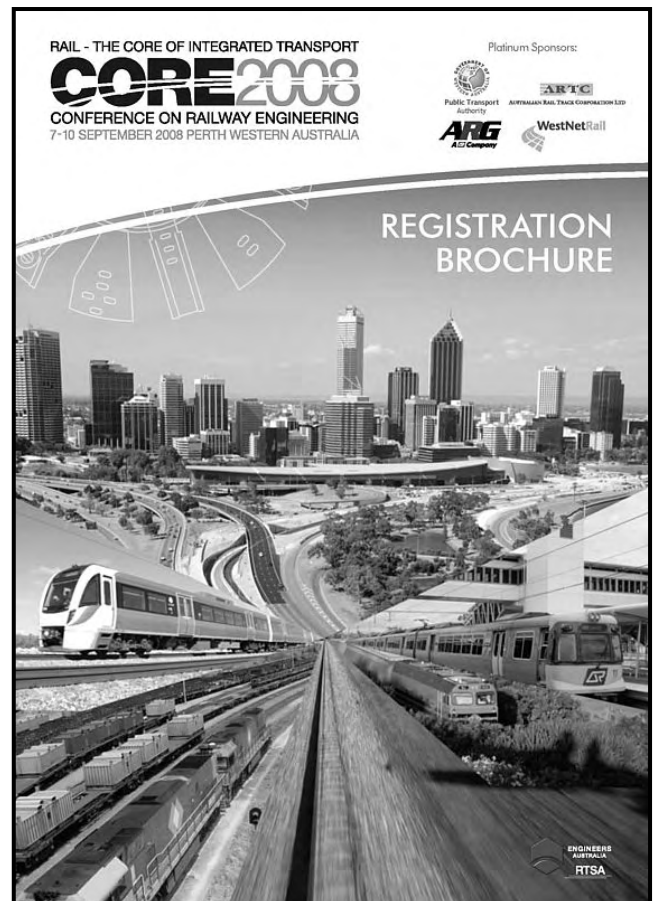
and recently appointed member Infrastructure Australia Council Peter Newman, CEO of the CBH Group Imre Mencshelyi, Group Executive General Manager of QR National Steve Cantwell, as well as Andrew McCusker and Ross Dunning.

The Chair of the CORE 2008 organising committee, John Goodall, said the quality of speakers who have agreed to travel to Perth to take part in the conference would guarantee lively and informed debate.

"We have secured quality speakers who will be able to bring a fresh new dimension to our discussion and examination of the two arms of the rail industry - freight and urban transport - that are so important to the success of our industry," he said.

"We look forward to welcoming our national and international colleagues to Perth for CORE 2008, for a conference that will cement CORE's reputation as the premier rail conference in Australia."

Registration Brochures are now available and potential delegates can register on-line through the conference website at [www.CORE2008.org](http://www.CORE2008.org) or by submitting a Registration Form.



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## Chapter Reports

### South Australia

In South Australia, our meeting programme is providing interesting and high quality presentations.

The meeting on 3 April featured an excellent address on the proposed extension of the suburban Noarlunga line to Seaford. The presentation was by Gareth Evans, Manager, Public Transport Investment and Planning, Department for Transport, Energy and Infrastructure, Policy and Planning Division. A comprehensive summary of this presentation is published in the Chapter's April newsletter, available on the RTSA website.

On 1 May, the meeting featured an address on railcar maintenance activities in Adelaide, presented jointly by Dave Carlton from Bombardier, and Brett Baker from TransAdelaide. Bombardier's objective of being the first choice supplier to TransAdelaide for rolling stock (Train and Tram) and for services – maintenance and materials – was highlighted. The very comprehensive presentation is published in the May newsletter.

The 5 June meeting, held jointly with, and hosted by the Permanent Way Institution, comprised a presentation on the topical subject of the upgrade of TransAdelaide's Noarlunga and Belair lines, presented by Randall Barry (Acting General Manager TransAdelaide), and Charles Irving (Project Director, Rail Track Renewal). See the June Chapter newsletter for a full report.

Our next meeting, on Tuesday 1 July (note change from normal Thursday meeting date), will comprise a presentation by Kevin Taylor, General Manager of the Rail Industry Safety and Standards Board (RISSB) on his organisation's objectives and business plans.

The Rail Industry Safety and Standards Board (RISSB) is wholly owned by the ARA and is responsible for development and management of the rail industry standards, rules and codes of practice, all of which have national application. The RISSB is accredited by Standards Australia as a Standards Development Organisation, and all new standards produced by the RISSB are published as Australian Standards.

On 7 August, the South Australian chapter will be holding a joint meeting with several mechanical engineering groups, comprising a presentation on Pacific National's new 92 class AC traction locomotives.

The September meeting (on Wednesday 3 September, another non-standard date) will feature RTSA's CORE Eminent Speaker, Andrew McCusker, Operations Director, Hong Kong MTR Corporation. Andrew will speak on "Delivering Sustainable City Transport".

Key issues are:

- With rising energy costs, commodity and food price inflation and environmental concerns, cities increasingly are turning to rail transport.
- The city economy depends on its vitality on efficient and effective transport.
- Citizens need affordable and reliable transport.
- City Governments need certainty in recurrent transport costs.

The address will explore the best practice that underpins meeting these aspirations, and give insight as to how the Hong Kong railways achieve this position.

Full details of Chapter activities (including venues, meeting times, programmes), and summaries of meeting presentations, are contained in the monthly Chapter newsletter, published on the RTSA website.

***Duncan McLeod, SA Chapter Chair***

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### Queensland

#### Recent Meetings

##### 26 March 2008

Larry Matters (ATSB) discussed the investigation into the causes and consequences of the level crossing collision between a road-train truck and The Ghan passenger train at Ban Ban Springs in the Northern Territory on 12 December 2006. The report identified several underlying factors which influenced the act of failing to stop the road-train at the level crossing Stop sign including expectation, familiarity, medical issues and operational constraints of heavy road vehicles.

##### 23 April 2008

Wayne Harisson from QR Infrastructure Services Group presented on Geomechanical Risk Management of the Kuranda Range. In 1995 a rockslide damaged a section of track and seriously injured a track inspector and narrowly missed the Kuranda Tourist Train. This prompted a major stability review resulting in over \$5 million of stabilisation works, a quantitative risk assessment of operations and a number of operational improvements.

##### 27 May 2008

The Rail Industry Safety and Standards Board (RISSB) is responsible for the development and management of rail industry standards, rules and codes of practice, all of which have national application. Kevin Taylor, General Manager, RISSB detailed the standards that have been issued, the standards that are being prepared, their format, the envisaged approach in their application, the management of the standards preparation process and the mechanisms and initiatives for achieving recognition.

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## Upcoming Events

The Queensland Chapter has an exciting program of activities organised for the second half of 2008. This includes a presentation on infrastructure work being undertaken by the Trackstar Alliance as part of the South East Queensland Infrastructure Plan and a presentation on increasing efficiencies in the Goonyella Supply Chain. Also, we are continuing with the popular AGM Dinner/Trivia Night in July, where this year we will include a presentation of the successful candidates for the 2008 RTSA Railway Engineering Student Thesis Award.

As always, the RTSA Committee welcomes any suggestions for events.

### **Mark Wishart, Queensland Chapter Chair**

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## Western Australia

Although the main focus in Western Australia has been the planning for CORE 2008 in September the WA Chapter has been busy in conducting technical meetings, which have been both well presented and attended.

Over the past few months the following activities have occurred.

### **24 April 2008**

Perth To Mandurah Railway - Initial Planning to Implementation, presented by Mr Peter Martinovich, Deputy Project Director, PTA New Metro Rail.

The presentation covered the history of the planning for the railway, the Master Planning Process and the comparisons between the projections and the performance to date. An audience of over 40 attended to hear this interesting and topical subject.

### **Thursday 29 May 2008**

A Case Study Of The Ban Ban Springs Level Crossing Collision presented by Mr Larry Matters, Senior Transport Safety Investigator, Australian Safety Bureau.

Following on from the paper given to the WA Chapter in March relative to the new rules for the management of level crossing protection this presentation provided an actual account of the investigation processes carried out in regard to a major national rail crossing incident. Almost 40 members and guests attended.

### **Future events**

In the period leading up to CORE 2008 the WA Chapter is planning two further technical meetings. The first will be a site visit in early July to the Perth Transport Authority centralised train control centre in East Perth with a secondary tour through the communications centre located at Perth Central Station. The second meeting will feature the update on the rail terminal facilities now in place at the

North Fremantle Container Transit Terminal. This is scheduled for late August.

Membership of the WA Chapter has been steadily increasing with the numbers now approaching 100. Persons interested in joining can nominate for membership now and receive a discount for the registration fee to attend CORE 2008 in Perth.

The RTSA website is being continually updated and all information relating to the management and proceedings of the Chapters including the current calendar of events can be accessed through this facility on [www.rtsa.com.au](http://www.rtsa.com.au).

### **John Syers, WA Chapter Chair**

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## Victoria & Tasmania

The highlights since March 2008 have been:

- RTSA Professional Development Program, Glenda Graham EA, joint meeting with YEAV. Considering the major thrust on PDP activities, this presentation is one that will be repeated
- Public Transport in Melbourne, Professor Graham Currie.
- Railway Standards Development, Kevin Taylor, RISSB. This was a very important update that brought members up to currency and a similar presentation is proposed in each Chapter.
- Annual dinner, Denis Cliché, CEO Yarra Trams, with a record 130 attendees

### **Future events**

- July 9, Incident Investigation with ATSB
- August 27, Development of Metropolitan Melbourne train system, and AGM
- September 4, Eminent speaker presentation proposed
- October, Regional rail in Victoria and NE Standard gauging

Once again I am proud to announce that our membership has increased over the past 6 months and an active program and our activities are the main way in which we can continue to generate enthusiasm.

We all eagerly await the CORE activity with many members in Victoria planning to be in Perth and take part in the conference and the tours.

### **Martin Baggott, Victorian Chapter Chair**



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## New South Wales

I would like to thank the committee for its efforts in organising the event program as well as publishing the events through the local newsletter. We have very good attendances lately, with a wide range of topics.

We hope to attract 2 or 3 young members onto the NSW committee at the next election. The aim is to help out with new initiatives next year, in particular a NSW web master role and a possible study tour of metros in Asia. (Everything seems to be about metros in NSW at the moment!)

Speaking of which, the NSW symposium 'Metros- Future Rail for Sydney' is progressing well with publicity about to be launched. We are looking for sponsorships at the moment and any organisation wishing to take up a sponsorship pack is invited to email me ([ahonan@pacific.net.au](mailto:ahonan@pacific.net.au)) or visit [www.rtsa.com.au/2008/07/metros-future-rail-for-sydney-sponsorship](http://www.rtsa.com.au/2008/07/metros-future-rail-for-sydney-sponsorship)

Details of the symposium will be released separately and RTSA members are advised to keep a close eye out for registration details in July.

**Andrew Honan, NSW Chapter Chair**

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## Railway engineering papers in Transport Engineering in Australia journal



The Railway Technical Society of Australasia (RTSA) has worked with Engineering Australia (EA) and in particular with the Transport Engineering in Australia (TEA) journal editorial panel to include railway engineering papers in the TEA journal. The TEA is part of the Engineering Australia technical journals and it is managed through a web based Editorial Manager System which can be accessed through <http://www.editorialmanager.com/eati/>

TEA journal covers rail, road, air and sea modes, and includes passenger and freight transport, as well as information and communications technology [ICT] in a travel / transport context. Reflecting the multidisciplinary nature of the profession, contributions include not only the traditional engineering areas covering design, construction, operations, maintenance and safety, but also planning, economics, behavioural science and policy analysis.

The papers which are submitted for consideration will be reviewed through a standard process. Once the paper is

accepted, it will be immediately published electronically. When there are sufficient papers, they will be collated and a hard copy of the TEA journal will be printed. If there are sufficient railway related papers, then a special "railway" edition of the TEA journal will be published. This new approach to publication process has been greatly appreciated by the publishing authors. This arrangement is anticipated to provide wider national and international recognition for researchers and inventors in the railway related fields at a relatively short period of time.

The RTSA encourages authors of railway engineering related papers including the papers presented at Conference on Railway Engineering (CORE) to submit their publications to the Transport Engineering in Australia (TEA) journal.

**For further information please contact Ravi Ravitharan, RTSA Executive Chairman ([ravi.ravitharan@eng.monash.edu.au](mailto:ravi.ravitharan@eng.monash.edu.au)) or Chris Skinner, Acting Editor, Transport Engineering in Australia ([cjskinner@acslink.net.au](mailto:cjskinner@acslink.net.au)).**

## Postgraduate Courses in Railway Engineering

These courses have been developed by the Rail CRC, with assistance and support of the RTSA.

All courses are offered in distance mode.

The **Master of Engineering (Railway Infrastructure)** degree, offered by Queensland University of Technology, comprises eight units (subjects), but a Graduate Certificate in Engineering (Railway Infrastructure) degree can also be achieved on successful completion of four specified units.

Further details at: [www.bee.qut.edu.au/study/cpe/](http://www.bee.qut.edu.au/study/cpe/)

A program of courses in **Rolling Stock Engineering** is being presented by the University of Wollongong. The course structure is similar to the Railway Infrastructure course.

Enquiries about the course can be directed to Lorelle Pollard at the University of Wollongong, [lorelle@uow.edu.au](mailto:lorelle@uow.edu.au), or phone (02) 4221 4247.

Central Queensland University is offering postgraduate courses in **Signalling and Communications**. Students are required to complete six units to achieve a Graduate Diploma of Railway Signalling, or three units for a Graduate Certificate of Railway Signalling.

The **Rail Operations Management** course is structured over three years, with three units being presented each year, leading to the degree of Master of Rail Operations Management. Exit after one year leads to a Graduate Certificate of Rail Operations Management, and exit after two years leads to a Graduate Diploma of Rail Operations Management.

Full details of both of these courses are available at:

[www.seh-postgrad.cqu.edu.au](http://www.seh-postgrad.cqu.edu.au)

Queensland University of Technology, in conjunction with the Australian Railroad Research Institute offers the course '**New Railway Environment: a Multi-Disciplinary Business Concept**'. This course provides an overview of all aspects of railway technology, and is suitable for those wishing to gain an understanding of the industry as a whole, or for those wishing to learn something of the technologies outside their own specialities.

Enquiries may be made to Dr. Wardina Oghanna at [arri@powerup.com.au](mailto:arri@powerup.com.au) or Dr. Martin Murray at [m.murray@qut.edu.au](mailto:m.murray@qut.edu.au).

## RTSA Calendar of Events

### NSW Chapter

- 6 August AK Test Cars and Mechanised Track Patrol by Daniel Thomson, RailCorp.  
11.30am (for 12 noon) - Concourse Meeting Room, Central Station
- 1 September **CORE Eminent Speaker Mr Andrew McCusker**,  
4.30pm - Masonic Centre, Sydney (subject to confirmation)
- 24 September Railway Standards Development by Kevin Taylor (RISSB)  
11.30am (for 12 noon) - Concourse Meeting Room, Central Station

### New Zealand Chapter

- 28 August **CORE Eminent Speaker Mr Andrew McCusker**,  
Time & Location (Wellington) TBA

### Queensland Chapter

- 23 July AGM, Dinner and Trivia Extravaganza  
Irish Club, Elizabeth Street, Brisbane
- 27 August Goonyella Supply Chain by Ross Dunning  
Hawken Auditorium, 447 Upper Edward Street, Brisbane
- 2 September **CORE Eminent Speaker Mr Andrew McCusker**,  
Hawken Auditorium, 447 Upper Edward Street, Brisbane

### South Australian Chapter

- 7 August 92 Class Locomotives by Graham Haywood, United Goninan.  
5.30pm - Chapman Hall, 11 Bagot Street, North Adelaide
- 3 September **CORE Eminent Speaker Mr Andrew McCusker**,  
Time & Location (Adelaide) TBA

### Victorian Chapter

- 27 August AGM followed by an Engineering Industry Week presentation on Melbourne Public Transport Planning  
5.00pm - DoI Theatre, Level 5, 121 Exhibition Street
- 4 September **CORE Eminent Speaker Mr Andrew McCusker**,  
Time & Location (Melbourne) TBA

### Western Australia Chapter

- 28 August North Fremantle Container Transit Terminal - Update on Rail Facilities by Fremantle Port Authority

[www.rtsa.com.au](http://www.rtsa.com.au)

# 2008 RTSA EMINENT SPEAKER TOUR



**Mr Andrew McCusker**

*Operations Director, MTR Corporation, Hong Kong*

## Delivering Sustainable City Transport

With rising energy costs, commodity and food price inflation and environmental concerns, cities increasingly are turning to rail transport. The city economy depends for its vitality on efficient and effective transport. Citizens need affordable and reliable transport. City Governments need certainty in recurrent transport costs. Andrew McCusker will explore the best practice that underpins meeting these aspirations and give insight as to how the Hong Kong railways achieve this position.

In his twenty years in the Mass Transit Railway, Andrew has been responsible for major projects and renewals, maintenance, operations and as director of the rail business.

In each of these fields, he has achieved substantial service, safety and business improvements through leadership and innovation which has positioned the MTR as the railway to be emulated in many aspects of rail transport.

Andrew has been instrumental in moving Hong Kong rail from a traditional somewhat monopolistic approach to one focussed on society and business needs. For MTR this has moved the company into a new era delivering sustainable profit from rail services and enhanced service delivery for customers at a very affordable price.

→ **Tour dates - see RTSA Calendar of Events (Page 14) or check the RTSA web site - [www.rtsa.com.au](http://www.rtsa.com.au)**

### 2008 JOINT LECTURE PROGRAM - IET, IEEE, ENGINEERS AUSTRALIA & RTSA **NEW GENERATION HEAVY FREIGHT LOCOMOTIVES**

**Akira Miyazaki - Toshiba Corporation - Japan**

**Thursday, 24 July 2008 - 5.30pm (for 6.00pm start)**

**Engineers Australia - Harricks Auditorium Ground Floor, 8 Thomas Street, Chatswood**

The lecture will cover two new types of new heavy freight locomotives for South Africa currently being built by Toshiba in co-operation with a South African car builder.

The class 19E, BoBo 3000kW electric locomotive will haul coal trains under 25kVac or 3kVdc catenary in the eastern part of South Africa while the Class 15E, CoCo 4500kW electric locomotive will haul ore trains under a 50kV ac catenary in western part of the country.

In the presentation, the features and capability of new locomotives and their equipment will be described highlighting the most innovative electrical engineering aspects of the technology and build project.

**Akira Miyazaki** has extensive experience in the designing of high speed trains and electric locomotive systems over 25 years, mainly responsible for traction systems. In recent years, has engaged in projects involving electric locomotives for China, South Africa and Diesel Electric locomotives for Malaysia.

**For further information please contact Mark Edmunds on 0418 424 938 or [edmunds@tic.toshiba.com.au](mailto:edmunds@tic.toshiba.com.au)**