

SYDNEY NEWSLETTER



ENGINEERS
AUSTRALIA

RTSA

Railway Technical Society of Australasia
Sydney Chapter
Mail: PO Box 6238, Kingston, ACT, 2604

SEPTEMBER - OCTOBER 2006

NEXT RTSA SYDNEY CHAPTER MEETING

Thursday 2nd NOVEMBER

THIS MEETING WILL BE AT THE REGULAR MEETING PLACE AT CHATSWOOD -

**GROUND FLOOR AUDITORIUM, INST. OF ENGINEERS,
8 THOMAS St, CHATSWOOD (WEST SIDE OF CHATSWOOD STATION)
Starting at 17.30 (Networking and Nibbles) for an 18.00 Presentation**

Mike Sowden from ARTC will talk on

Wayside Detection and Wheel Profile Measurement

One of the most destructive and expensive disruptions to the operation of trains is derailments. This impacts heavily on both ARTC and the Operators, in direct costs and loss of reputation for safety and reliability.

ARTC has concentrated on preventative rather than reactive detection, so as to give operators time to remove poorly acting rollingstock from service before it fails. The proposed modern wayside measurement technologies, from the "Alliance" of Teknis, Vipac, WID & KLD, not only segregates sub-performing rolling stock vehicle equipment but also helps to trace causal relationships between symptoms and defects, across the four sensor types.

Mike will talk on this next generation equipment and the strategically placed "Super sites" that are being established in collaboration with the operators. In this way ARTC aim to significantly reduce operating costs by early identification and intervention with "problem wagons". Mike will also give a brief description of the newly installed "wheel squeal" monitoring equipment now being used in the Adelaide Hills.

Complimentary nibbles (finger picking good!) and networking from 17.30 prior to the presentation starting at 18.00. Meetings generally finish between 19.00 and 19.30, allowing attendees to get home at a sociable hour. Trains both ways through Chatswood are still running at frequent intervals at that time of night making the journey home that bit easier.

Why not come along to an RTSA meeting (where you will be most welcome) and broaden your horizons in the industry that employs you and/or that you are keen to support. Even better consider joining RTSA (you do not have to be an engineer to be a member) and enjoy the full range of services provided by the association. Contact is at the mail address (above) or at www.rtsa.com.au or by ringing Bill Laidlaw on 0409 602 833

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THE MISSING NEWSLETTER

The more observant of you, dear readers, will note the absence of a September issue of this Newsletter. There were a number of events which brought this about, culminating in the need to send out a flyer to advise details of the October meeting. Steps have been taken to get the program up to date (see later in this issue) by setting dates well in advance and advising the specific topic details as they are confirmed, which should be two to three months in advance as a rule. Members with ideas or material that might be developed into a meeting topic should contact Bill Laidlaw (at this stage) at blaidlaw@bigpond.com or on 0409 602 833. Even if you have an idea of what you would like to see presented, but have no idea who might do it, then still let Bill know

The editor could do with some **help** as well. Among the several hundred NSW members, many of whom are active participants in the rail industry, there must be some who are doing interesting things that could be the subject of an item or article of general interest to members. Or is nothing actually happening in NSW? Up until now the independent material that has been submitted has been almost entirely from other States, a situation that offends my sensibilities and should offend yours as well.

The write-up of meetings has been instituted to convey to the majority of members who can't come to meetings (including readers from inter-state) something of the content of the meetings. Until now this has been entirely in the hands of the editor, which relies upon editorial attendance at the meeting (not always possible). In some cases writing up meetings is not too hard – the source presentation is able to be adapted quite easily (for instance the write up of Dick Day's recent presentation) but others are highly technical and or in complicated formats that make reporting difficult. In all cases an independent commentary or review of the meeting would be helpful in keeping the meeting reports interesting and useful. In this regard the editor will be lost in the bush a couple days from the nearest road (and over 1200 km from the meeting) at the time of the November meeting, so any record of that meeting will need to rely on someone who is there!

Enough of the lecture ...

THE OBSERVATION POST

Although things are not all hunky-dory with rail we at least have a quite significant investment program for the east coast trunk routes, a number of high cost urban rail programs in Brisbane (tick), Sydney (umm), Melbourne (umm) and Perth (tick tick) and some useful associated projects among which would have to be SCT's warehouse strategy, ongoing mine development and port enhancements. But apart from QR there is little sign of real action from the above rail crowd at this stage with activity being more on revival of retired equipment (ok as a quick short term measure but hardly a path to the future) or quite overt action to 'snot' the rail opposition when the real threat to rail is not on the rail property at all.

Consider rail's position in the inter-capital freight market on the east coast – where around 15% of the combined Melbourne – Sydney – Brisbane market would currently be on rail. Quite apart from the natural growth in this freight market (touted as being a doubling of freight in 20 years, although the source of that proposition now seems to be backing off a bit) there is a huge opportunity for rail to increase market share – a 'double growth' opportunity. The ARTC east coast enhancement program has something of this sort at its core, but beyond the track it might be prudent to ask where the trains and terminals coming from? A very simple head count indicates that around 16 container train sets are active in the east coast business (the M-S-B business) at the present time with a standing capacity of perhaps 2500 TEU (TEU equals twenty foot equivalents). To move these trains around 45 locomotives aggregating 140,000 hp are required.

Just for arguments sake if we assume that rail could capture double their current market share tomorrow (before any underlying growth would confuse things) we would require a further 2500 TEU of trains and another 45 locomotives – an overnight investment of maybe \$350 million. In reality there might be a small amount of slack in the existing system (if rail has improved productivity significantly there should be relatively little slack; if on the other hand we are deluding ourselves about productivity then there will be slack) and there may be some synergies that would come from expanding an existing operating system rather than starting from the ground up. But the undisputable fact is that a significant increase in inter-modal resources (as in this particular case) will be required if the anticipated task is to become anything more than a paper entry. It is significant that the major player in inter-capital rail freight, Pacific National, has no current contracts that I

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am aware of for either locomotives or wagons. Nothing! Zilch! In fact, other than SCT who have both locomotives and an innovative variety of wagons on order, there is very little locomotive or rolling stock investment of any kind except for bulk and heavy haul going on in this country. When you see 1920 Webb era open wagons cut down to make 'new' container wagons you really have to wonder.

Since we are in a charitable mood (after all we wouldn't even postulate a doubling of market share if we weren't) lets assume that there is a magical availability of resources for the extra trains that would be needed for greater market share. The next question that arises is what will we do with these trains? Naturally they will run between capital cities quite nicely over the enhanced east coast main lines. But they cannot be Marie Celeste's, condemned to travel in a perpetual sea; sometime or other they need to come ashore to unload and reload, else how will we ever access the increased market share that we have just awarded ourselves? So we need terminals that can efficiently interface between the rail network and the various customers needs. Yes, there are terminals in every capital, including in the three east coast settlements we are interested in, but do they have spare capacity? With the significant exception of Acacia Ridge (Brisbane) the inter-modal terminals are locked away in the hands of a train operator. Straight away this creates a problem – if multiple operators can run on the rail network but the terminals (at least the major ones) are for the exclusive use of only one operator's trains then without a doubt there will be a major capacity shortfall in terminal capacity. An associated issue is the fact that terminals captive in this context do not need to be efficient (in the proper sense of the word). They may be 'efficient' in terms of their owner, but that efficiency is exclusive and is almost certainly sub-optimal for the industry as a whole. It doesn't take an Einstein to work out that there is in fact quite significant latent capacity within the existing terminals, but it will take a major cultural, and probably structural, change to unlock that potential capacity. One lives in hope that QR, having just resumed ownership of Acacia Ridge to enable it to become a 'common user' terminal, will have the capability and fortitude to become the stalking horse for truly capable and efficient inter-modal rail terminals in this country. Sorting out the structural issues (of single user terminals) is another matter, but one than could be resolved with the right political and financial drivers.

It is one thing to have a significant rail upgrading program – something I am reminded of by frequent media releases from the Good Minister (although with

the recent change in Canberra that has now calmed down somewhat). But unless a coordinated and holistic program for network capacity enhancement is put in place by all the relevant players this investment runs risk of under-achieving for reasons beyond the control of any single player, a risk to all but particularly the track owners.

I feel I am entitled to be quite grumpy on this topic when I see the main game in quite large sectors of the industry as corporate acquisition, shareholder wealth, stock exchange rankings, management greed and other such distractions. These matters may be important to private companies, but the best way to generate wealth (rather than quick money) for shareholders and management has to be through intelligent growing and nurturing of the business. Do that and the shareholders wishes will be fulfilled in good time. Concentrate on the shareholders and the here and now and there is a reasonable risk that in the end the company, and probably the rail industry, will be the loser. The time is overdue for the now well entrenched privatized operators and terminal owners to realise that the structural rail model we have here is different to others elsewhere (for better or worse) and to show some zeal to get their individual interest thing aligned to a holistic view of the future for the benefit of all. Adversarial management has no part in the holistic game; it must be a coordinated and cooperative playing field if everyone is to benefit

I think it was Repco who some years ago had a mission statement which recognised that a 'healthy' company suitably recognises and rewards its owners, employees, customers and community. There isn't a whole lot of that sort of corporate attitude alive and well in some parts of the rail industry right now, although institutionally there is no reason why a rush of industry and corporate blood could not happen tomorrow to improve matters.

I was thinking of ending this piece with the oft heard Melbourne football outer cry " 'Ave a go ya mug!" but I wouldn't do anything quite so banal. However it would be a very pleasant surprise if there was some demonstrable maturity apparent by and for the industry. It might just work.

FUTURE MEETINGS

A meeting program has been determined for the remainder of 2006 and all of 2007, although always be aware that changes to topic, location or date may occur.

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We will always despatch a newsletter, or in extreme situations a flyer to advise of any changes to the advertised program. In most cases the next couple of months are firm. Meeting dates through to the end of 2007 are shown below. Topics will be advised in the newsletter as details are confirmed.

NOVEMBER 2nd: The Government and Opposition transport spokespersons have proved strangely resistant to the idea that they should present their transport policies to rail professionals, so we will go back to more practical issues. So now we will have Mike Sowden of ARTC to talk about wayside monitoring, an eminently practical application of a number of 'smarts' to improving railway service quality.

The 2007 program will start with a bit of a rush then follow the normal format through to the end of the year.

Monday 29th JAN: Eminent speaker Ed Zsombor from Canada will talk (at a city location) on the topic of short lines and regional rail. Ed is being brought to Australia as keynote speaker at the Wagga Symposium (see below) and will be doing the rounds of the various RTSA Chapters, starting with Sydney.

Thursday 1st FEB: on the evening of the Wagga Regional Rail Forum (following that event - details of which are under the COMING EVENTS heading) it is proposed that a joint meeting of the NSW and Victorian Chapters of RTSA will be rolled into a dinner, with a speaker discussing one (or more) of the several main line upgrading projects that ARTC are undertaking on the Sydney-Melbourne route. There is a perfectly good train service to Wagga (but running to a strange 'summer' timetable) that should suit participants attending the Forum and/or joint meeting.

Thur 1st MARCH at Chatswood: "Advanced Steam" by Malcolm Cluett.

Thur 12th APRIL (following Easter) in the city: a joint meeting with IRSE, with a speaker arranged by IRSE.

Thur 3rd MAY at Chatswood: tba

Thur 7th JUNE at Chatswood: tba

Thur 5th JULY at Chatswood: AGM and tba

Thur 23rd AUGUST at city location: joint RTSA / PWI / IRSE meeting, with a speaker arranged by PWI.

Thur 6th SEPTEMBER at Chatswood: tba

Thur 4th OCTOBER at Chatswood: tba

Thur 1st NOVEMBER at Chatswood: tba

CHATSWOOD – A MOVING FEAST

For the next year or so there will be periodic changes at Chatswood Station and surrounding areas as redevelopment takes place in conjunction with the new underground railway to Epping. A major change in fact occurred in mid October when the new 'down' (western) side island platform was brought in to operation with improved passenger access facilities, replacing the temporary access arrangements and 'up' (eastern) side island platform that was previously in use. Access to our venue at 8 Thomas Street is now somewhat easier – both getting in and out of the station, and in a small reduction in distance. For more details go to the Cityrail website at <http://www.cityrail.info/news/PDF/061016-chatswood.pdf>

COMING EVENTS

IRSE Newcastle Evening: Thursday 16th November 2006 at 16.30 for 17.00; venue is the Newcastle West Leagues Club, 88 Hobart Rd, New Lambton
Two Presentations are planned –
Train Order Working; and
Wayside Systems to Monitor Trains.
Members and visitors welcome. For further information contact Trevor Moore at tmoore@artc.com.au

AusRAIL 2006 (the annual rail industry conference) will be in Brisbane on 21st and 22nd November. Accommodation is tight, although it would seem there are plenty of places left at the conference. Anyone planning to go should book as soon as possible, unless they have friends or a caravan.

RTSA WAGGA REGIONAL RAIL FORUM: *Future Frameworks for Regional Rail, 1st Feb 2007*: a joint initiative between RTSA and Charles Sturt University, will be held at Charles Sturt University Wagga.

RTSA will be sponsoring Ed Zsombor from Saskatchewan to talk at the symposium on

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'Transforming Canada's Rural Railways' - about Short Lines and how they have been a growth industry, sustaining rail service to rural Canada. Ed heads up the Rail Unit within the Saskatchewan Highway Agency in which both regional road and rail are considered within the one provincial agency. Saskatchewan has some important similarities to Australian States, in terms of grain production and logistics (in particular transport).

Ed will also visit the various state RTSA Chapters before and after the symposium to talk to members. We would hope that government, grain industry and other regional stakeholders will have an opportunity to meet Ed. The symposium has been designed to bring a range of speakers covering a number of key issues targeted specifically at the regional community level.

The program at the time of compilation of this newsletter is:

Welcoming Address Professor Lyn Gorman Acting Deputy Vice-Chancellor (Administration)

- 1) Transforming Canada's Rural Railways
Ed Zsombor, Director, Rail Projects
Saskatchewan Highway and Transport Agency
- 2) Regional Governance: Lessons from the Australian Experience with Catchment Management
Allan Curtis, Professor of Integrated Environmental Management. Director of the Institute for Land, Water and Society
- 3) Evidence from Western Australia of an Integrated Grains Industry. John Goodall, Principal Beyond Rail Solutions
- 4) Regionalism, Railways and Local Government.
Ian Gray, Associate Professor School of Humanities and Social Sciences Charles Sturt University
- 5) Views from an Emerging Australian Short-line Rail Operator. Mick Maartensz Victorian Operations Manager - Southern Shorthaul Railroad (to be confirmed)
- 6) Victoria's Regional Rail PPP – Past, Present and Potential. John Hearsch, Principal, John Hearsch Consulting Pty Ltd.

- 7) Cooperative Approaches to Rail in the Hunter Valley Coal Export Industry. Kenn Clacher, Principal Kenn Clacher & Associates Pty. Ltd.
- 8) Report on 'Integration of Regional Rail and Roads and their Interface to Ports'
Mr Paul Neville MP, Chair Standing Committee on Transport and Regional Services (subject to parliamentary commitments)

Panel discussions will follow morning, lunchtime and afternoon sessions.

Full program, flyer and registration form will be available soon. Registration will be by a downloadable form from the RTSA web site (if you have no internet then contact the address in the header to this newsletter). The cost is very reasonable - \$80 for RTSA members and \$120 for non members. Progressive updates are at www.rtsa.com.au.

See the FUTURE MEETINGS section in this newsletter for initial advice of a joint RTSA NSW and Victorian dinner and presentation following the Forum.

AusRAIL Plus 2007 will be back at the usual Darling Harbour location in Sydney from 4th to 6th December 2007.

CORE 2008 will be held in Perth between 7th and 10th September 2008. Themes will be around high volume bulk freight and the integration of rail as part of the export supply chain, and rail in an urban environment and the issues of integrated planning of land use and transport as the core of successful public transport (Eastern States take particular note)

Potential delegates, exhibitors and sponsors can register their interest by going to www.CORE2008.org

LAST MEETING (1) – September

In September Alan Logan, Plasser Sales and Marketing Manager for Australia, New Zealand and South East Asia, gave us a presentation on how to manage the competing demands of high quality track in high density traffic. His emphasis naturally enough was on his company's machines, but the topic was all around the high productivity machinery now on the market that

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enables the use of increasingly tight windows for maintenance of track.

Problems of track are that lateral and vertical forces on the track cause:

- irregular settlements, ballast attrition
- surface faults of rails, gradual wear
- limited life of permanent way materials

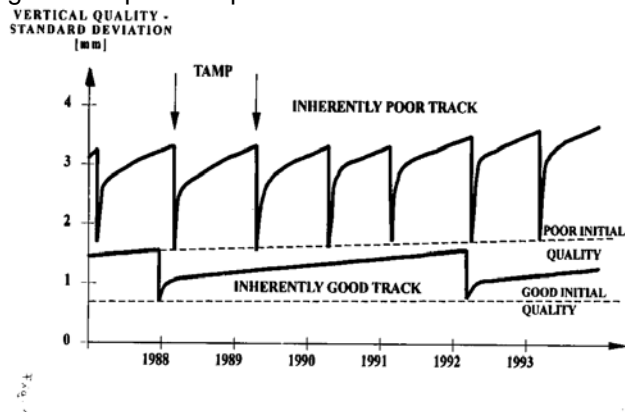
while poor drainage of the ballast bed leads to:

- irregular settlement
- more maintenance

The distribution of normalised actual costs on high density (>150 trains per day) is:-

- 20% for maintenance
- 33% for operational hindrance costs
- 47% for depreciation costs

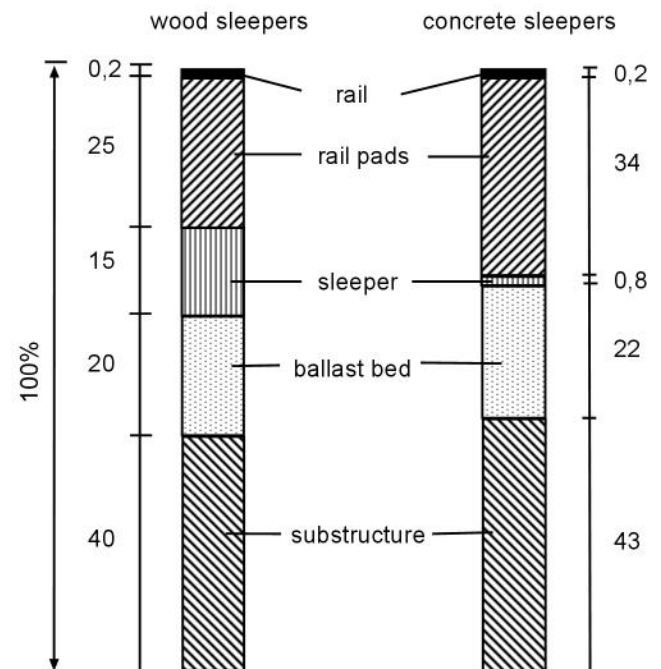
The track quality and maintenance interval cycle for good compared to poor track can be seen below:-



The function of track, apart from basic guidance of the train, is to distribute the forces at the wheel rail interface (typically 3 sq cm at 42,000 N per sq cm) to the formation at an acceptable level (typically 10,000 sq cm at 10 N per sq cm). The combination of rail, fastenings, sleepers and ballast achieve this through effective transfer and 'conversion' of forces as they transmit downwards.

Track elasticity of timber and concrete sleepers is quite different which requires different treatment to achieve the appropriate transfer of forces.

Permanent way with



Alan showed a number of interesting load distribution diagrams highlighting problems of load distribution with particular reference to fouled ballast. The effects of ballast fouling are reduced durability of the track geometry and reduced service life of the sleepers. He then gave some details of the Plasser RPMW 2002-2 track and formation rehab machine which weighs in at 560 tonnes, is 145 m long and has 2100 Kw installed power. It is able to :-

- Excavate and screen ballast
- Pre-clean ballast for recycling
- Integrated crushing/reshaping plant
- Excavate old formation
- Insert FPL material
- Compact and smooth of FPL
- Insert geotextile (optional)
- Insert new and recycled ballast
- Level, line and tamp

At this stage there are none of these machines in Australia.

The causes of ballast fouling are many but are usually from one or more of the following causes:

- Dynamic forces (causing attrition of the ballast particles, sleeper wear)
- Wind-born pollution

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- Spillage during transport (coal dust, ore)
- Rising fines from the subgrade

Alan then went through some of the more familiar equipment now available – ballast undercutters, multi head high speed tampers and the relatively new dynamic track stabilisers. The latter are interesting in as much as experience shows that use of these machines allows worksites to be restored to line speed immediately after major track work –

- Conrail USA - DTS achieves 85% of initial LTR
- DBAG - reopening track to line speeds of 250km/h after maintenance
- BR - track renewal using DTS and reopening track to full line speed
- SNCF – full line speed of TGV after maintenance

Dynamic track stabilisation also increases durability of track geometry –

- Conrail maintenance cycle increased from 3 to 4 years since use of DTS, increase of 33%
- FS durability increase of 8%
- MAV increase of maintenance cycle of 25%
- AMTRAK removal of recurring track faults - increase of durability
- South Africa, increase of 300%

Alan finished up with a short overview of some other 'mechanical clevers' such as ballast distribution systems.

LAST MEETING (2) - October

This month we had Ron Fraser, General Manger and Director of RailTrak Systems P/L, to give a presentation on two interesting measuring systems that his company deals in. The first is a digital camera system to record rail and wheel profiles and the second is a laser clearance measuring system.

The first was from the KLD Labs in America which is a wheel rail profile monitoring system. At this stage this technology is in use in 27 countries but mainly associated with rail grinding. It is now moving into rail recording and even hi-rail applications specifically designed for monitoring rather than reprofiling. Rail monitoring is done with paired cameras mounted on a moving vehicle looking angularly onto the rail. This can be done a quite high speed. Wheel monitoring is done with two similarly angled cameras that are fixed in a

special trough steel sleeper. Shutters cover the lens while inactive, which are opened by air when a train approaches. The same air provides an air curtain to keep the lens dust free during passage of the train. The wheel monitoring takes a 'slice' of the wheel, but the assumption is that the wheel is symmetrical. This monitor can work at up to 120 km/h. The client sets exception limits (this might be interesting here where there are a multiplicity of owners and operators, not all of whom are committed to keeping their rolling stock in good order) and the scan can then report approaching and exceeded limit exceptions. The actual monitor records data hierarchically – train / wagon / wheel.

The other interesting measuring device that Ron reported on was the Swedish L-Kopia clearance measuring laser. This device, which has been successfully used by ARTC in a hi-rail mounted application, provides a continuous 360 degree snapshot of the clearances including to the adjacent track, fixed objects (platforms, bridges, tunnels, trees), signalling gear and overhead wiring and structures. This allows a rapid digital profile to be acquired and any encroachments or impediments to be rapidly identified. This is useful not only as a record of the existing clearances but as a measure of the work involved to change the existing standards. It might well find an application on the east coast for instance in determining the adjustments for 10' 6" containers (a current issue) and further out for double stacking. It equally can be of use for unusual or out of gauge loads.

BIBLICAL INFLUENCES ON COMMUTER TRAINS

An issue or two ago we had a story about the inability of a commuter to get to town on his ass, despite biblical references to such things happening 2000 years ago. Well one of our correspondents (and a member!) has sent in the following comment:

Referring to the biblical references in the historic commuter letters, the first ten Southern Railway 4-SUB compartment commuter trains, produced during the Second World War, had one more compartment per car than the later production versions, and hence were more cramped.

In view of their enhanced seating capacity (468 in a four-car single-deck set, which compares with 452 in a four-car double-deck Millennium Train set) they were nicknamed "Shebas" from the biblical quote that "the Queen of Sheba had a very great train".

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HANDY HINT

You only need two tools in life - WD-40 and Duct Tape.
If it doesn't move and should, use the WD-40.
If it shouldn't move and does, use the duct tape.

ANOTHER POINT OF VIEW

Everyone must be aware that the driving force behind CityRail services is the twice daily, weekday peak periods. The off peak is given short change despite the availability of a large number of the empty seats at those times (if in doubt have a look at the last RailCorp IPART submission).

Metro-North, one of the composites created from the outer suburban rail activities of long gone major railroads north of New York, has a rather different attitude apparently, according to advice from Progressive Railroading.

Metro-North has recorded a higher off peak, reverse-commute and intermediate ridership than its New York City commuter ridership for the first time this year. In the same time that their City ridership grew by 17% the other categories grew by a total of 126%. Demographics have changed the nature and location of work in the Big Apple but this has been recognised and actively pursued by Metro-North. They have added trains, adjusted schedules, advertised and provided shuttle buses between stations and job sites. The Metro-North President is quoted as saying "We knew our real growth opportunity lay in the non-traditional markets, where we had empty seats".

NEWSLETTER FORMAT

You will notice that the front page of the newsletter has the 'Next Meeting' notice done in poster style. Where the opportunity arises consider printing off this front cover and placing on your work or other suitable notice board – more attendees at meetings means better informed people engaged in the industry.

MEMBERSHIP – JOIN UP A NEW MEMBER

While this newsletter is primarily intended for members it is distributed more widely than that. Readers who are not members of RTSA should seriously consider joining the organisation. Details of membership and how to join will be found in the RTSA website at www.rtsa.com.au

Although RTSA is a technical group under the auspices of Engineers Australia it is open to everyone who has a real interest in railways. It is the only technical group which covers all disciplines (civil, mechanical, electrical, signalling, communications etc.) and as such is one of the most rewarding rail technical networking groups in the country. The annual cost is very reasonable, and the rewards are considerable.

RTSA offers a number of regular activities for its members, including meetings, visits and technical tours. The every other year Conference on Railway Engineering (CORE) is a highlight. A number of awards are made annually to encourage recognition of meritorious activity in support of the rail industry. A particular RTSA attribute is that it engages in considerable well reasoned and structured lobbying in support of the rail industry with regular submissions and presentations to policy study groups and enquiries. Membership, in support of this activity alone, is very worthwhile. Consider joining RTSA now if you are not yet a member, or if you are a member see if you can introduce a friend as a new member. Remember www.rtsa.com.au

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NOTICEBOARD

KEY RTSA SYDNEY CHAPTER COMMITTEE CONTACTS

Bill Laidlaw	Chairman	0409 602 833	blaidlaw@bigpond.com
Malcolm Cluett	Secretary	9589 0226 (H)	malcolm.cluett@bigpond.com
Max Michell	Newsletter Editor	02 9331 5662	samrom@bigpond.com
Basil Hancock	Committee	Bob McCotter	Committee
Arnold Aranjo	Committee	Trevor Moore	Committee
Andrew McKay	Committee	Chris Venn-Brown	Committee
Andrew Honan	Committee	John Watsford	Committee

CONTRIBUTIONS TO THE SYDNEY NEWSLETTER

Part of the function of RTSA is to keep members in touch with what is going on in the industry and with each other and to that end we are only too happy to publish items of interest. Articles or editorial comment for Newsletter are very welcome. We have several hundred members locally some of whom have stories, events or developments of interest that could make an interesting item for Sydney Newsletter.

Contact details are –

The Editor, Max Michell, e-mail to samrom@bigpond.com, phone 02 9331 5662 or post to P.O.Box 279, Potts Point, NSW, 1335.

For all other matters relating to RTSA Sydney Chapter contact Malcolm Cluett (Secretary) or Bill Laidlaw (Chairman) as above.

CPD CREDITS

Engineers Aust members who attend RTSA meetings and events will qualify for CPD credits as per the Engineers Australia criteria. Members are responsible for recording their own CPD for audit.

NOTICE TO MEMBERS RECEIVING RTSA NEWSLETTER BY EMAIL

If you should receive this Newsletter by post but would prefer to get it by e-mail (quicker and more reliable) then please let the Canberra know (address in the page header). E-mail saves time for you and costs for RTSA, which in the end can only mean better service to our members

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