

RTSA SA CHAPTER NEWSLETTER

APRIL 2010 EDITION



NEXT MEETING

Tram Overpass Paul Gelston

The completion of the Glenelg Tram Overpass project represents an important milestone in the Government's plan to upgrade and transform South Road into a continuous non-stop route from the Southern Expressway to the Port River Expressway. Paul Gelston, Project Director, will give a presentation on how this project was undertaken.

Please note our new venue; Level 11, 108 King William Street, Adelaide (between Grenfell and Pirie Streets).

TECHNICAL PRESENTATION

VENUE:

Level 11
108 King William Street
Adelaide

DATE:

Thursday 6 May 2010

TIME:

5.30pm (for 6.10pm start)

*LIGHT REFRESHMENTS
WILL BE PROVIDED*



Image used for illustrative purposes only.
Courtesy of http://www.southroad.sa.gov.au/__data/assets/image/0011/41006/heroimage4.JPG



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CONTENTS

News	3
Coming Events	3
Chairman's Chatter	3
Site Visit – Glengowrie Tram Depot and Tram Line Extension	5

CHAPTER MEETINGS 2010

Thursday 3 June

Field Visit to Dry Creek Maintenance Facility.

Thursday 1 July

Cairns Tilt Train Accident, Larry Matters, ATSB.

Thursday 5 August

Wheel Profiles - Carlyne Southern (Pacific National) & John Furness (ARTC).

Thursday 2 September

Joint IRSE, RTSA and PWI Meeting
Gil Langley Room, Adelaide Oval
Details to be provided.

Publisher

This newsletter is a publication of the South Australian Chapter of the Railway Technical Society of Australasia. Opinions expressed within are not necessarily those of the Chapter, Society or Editor.

Contributions

Contributions, including news, opinions, or letters to the editor, are always welcome. Send material by e-mail to saeditor@rtsa.com.au

Continuing Professional Development

Engineers Australia members are reminded that attendance at RTSA technical meetings contributes towards CPD requirements. Each RTSA technical meeting generally has a value of 1 CPD point.

RTSA Website

The RTSA website www.rtsa.com.au has details of RTSA activities, including future meetings and reports from past meetings, for all Chapters. Membership information for potential new members and an application form may be found at www.rtsa.com.au.

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NEWS

SA Chapter Meeting 8th April 2010 – Glengowrie Tram Depot and Tram Line Extension

The April joint PWI/RTSA gathering was a change from our usual format with a site visit to Glengowrie Tram Depot followed by a ride on one of the new Citadis trams, stopping at the South Road tram overpass and at the new 'end of the line', Adelaide Entertainment Centre! This visit was very well attended and gave attendees the opportunity to view the new trams 'up close' and to see the civil and track works underway to increase stabling capacity and improve/increase

maintenance facilities at Glengowrie. The visit concluded with (from what I've heard!) a very satisfactory lunch at the Goodwood Hotel! Our thanks go to Stephen Townsend at the PWI for organising an excellent visit and to the staff at TransAdelaide for being so accommodating. Some photos from the visit can be seen at the end of this newsletter.

COMING EVENTS

Core 2010 – Wellington, NZ

Registrations are now open for Core 2010 in September this year. A full conference program, together with the social and partners' program, are available for viewing on the website. Given the staggering number of technical papers submitted

for consideration, the final 72 papers selected promise a technical program second to none! Take a look at the website now <http://www.core2010.org.nz/> for more information and get booking!

CHAIRMAN'S CHATTER

Tramline outing demystifies and enlightens

One of the highlights for yours truly at last month's tram line field trip was the underfloor inspection of the new Citadis trams: it set off a thought-provoking discussion that was interesting for me, at least, as I haven't served my "forty-year apprenticeship" in rail just yet - especially in the mysterious world of wheel-rail interface...

The topic was the implications of trams running the contentious independently-rotating wheels – a feature made increasingly necessary as it allows saloon floor height to be reduced to achieve higher proportions of (or complete) low-floor ratings and hence vehicle accessibility plaudits. The Flexity trams run these wheels for the centre (drive) segment, which are also independently-

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sprung; conversely the Citadis trams run these wheels for all wheels, though they are still mounted in a slim bogie.

I've driven a number of four-wheel-drives with their cross-axle differentials 'locked' and certainly noticed the associated resistance to turning in this state, but I'd never realised that the traditional railway wheelset would want to do the same: i.e. that the inability to rotate differentially (required on tangent track if running off-centre, produced through cone-like treads) would produce a self-centering reaction. This is additive to the action I'd previously understood: i.e. that the steepening root radius repels the flange before it contacts the running face.

When all the physics are understood, it is striking how efficient and elegantly simple the overall arrangement really is. Sadly, independently-rotating wheels can't behave like this; hunting is noticeable when standing over the bogie, and traditional perway types might be right to consider it traditionally bad practice.

But does it matter? These vehicles aren't for high-speed applications - when hunting could become a real concern - and do provide low-floor access, with all the benefits this affords to both the mobility-impaired and to the societies that seem increasingly concerned with not disadvantaging this group. Yes, wheel maintenance will probably increase little tighter, but doesn't it seem probably worth the investment?

Link and Place – Natalya Boujenko

Speaking of mobility, the Adelaide branch of the Australian Institute of Traffic Planning & Management recently hosted a very insightful topic.

Ms Boujenko presented the paper featured in the 2009 Australian Transport Research Forum which outlined the *Link and Place* publication that she co-authored. Essentially it deals with transport in urban streetscapes and actually reconciles the often competing views of planners, engineers and architects. The commonsense tool for this miracle was plotting projects in a matrix bound by two axes: one representing the spectrum of how important the *place* is, or needs to be, the other representing how important the *link* is, or needs to be.

'Link', or mobility, could be applied to any mode of transport, but it was interesting how - for what feels like the first time - mobility was raised in the wider context of urban planning in a way that made it sound *quite legitimate*. To those in a transport industry this view would probably be self-evident: inefficiently and wastefully or otherwise, improvements in mobility have underpinned improvements in economies. Nevertheless, as societies supported by these economies have changed – and electorates with them - the issues caused by powering, providing and accommodating high mobility sometime seem to be considered so serious that the entire *need* for it is questioned. Rather than focussing on pragmatically managing its issues, what could be termed the 'black armband' view of the world sometimes seems quick to want to donate modern amounts of mobility – at least outwardly. The 'three cheers' view of the world, on the other swing of the pendulum, risks indulges of other mobility excesses – like how my Turkish-made Ikea glasswear is somehow *budget*...

It's this overall tension that makes the balancing properties of the *Link and Place* matrix seem a useful tool, and the paper worth a read. See you at the Paul Gelston's tram overpass presentation!
Daniel Martucci – Chair, RTSA SA Chapter



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April PWI/RTSA Joint Visit – Glengowrie Tram Depot and Tram Line Extension



The old to new – 3 tram types at Glengowrie



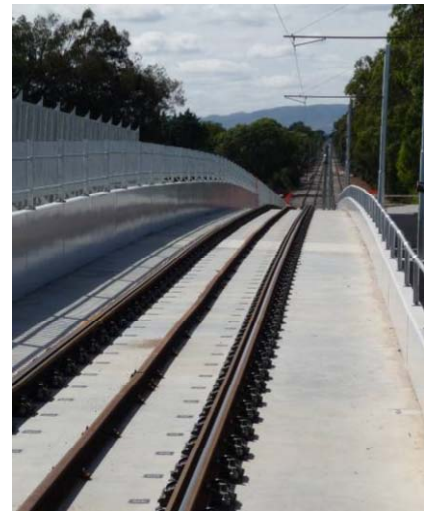
How times have changed!



Alstom Citadis tram



Tram on the South Road overpass



A view from the overpass



“All Change!” – Final Destination, Adelaide Entertainment Centre