

NEWSLETTER No 2/2007



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

February 2007

NEXT MEETING

The next RTSA meeting will be held on

Thursday 1st March 2007
at the Institution of Engineers Building,
Bagot Street, North Adelaide
commencing at 5.30pm.

The speaker for the next meeting will be:

Mr Chris Hall
from Bluebird Rail

who will talk about

"Long Distance Passenger Rail - The Transition from Government to Private Operation"

Chris will provide an interesting insight in the changes that have taken place in SA following the privatisation of such icons as the Indian Pacific and the Ghan. Chris was involved right from the start and assures us he will provide listeners with a most interesting talk on the problems and barriers that were encountered during this process.

He will also describe his first hand experience in the development of the Barossa Wine Train in the engineering workshops at Islington and how this was then the catalyst for rejuvenating these workshops into a successful business called Bluebird Rail which employs over 100 people involved in manufacture of new wagons.

Recent projects of note include:-

- 70 freezer vans for SCT
- 70 ore wagons for Portman Mining in WA
- Various types of container wagons for CFCL
- 70 ore wagons for Territory Iron (Freight Link project).
- Refurbished crew coaches for Pacific National.

This promises to be a most entertaining talk on a most welcome SA success story in the rail industry and we look forward to your attendance.

Refreshments will be served prior to the meeting.

Continuous Professional Development (CPD)

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

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LAST MEETING

At the last meeting the RTSA 2007 Eminent Speaker, Mr Ed Zsombor gave his presentation titled:

“Transforming Canada’s Rural Railways”

Ed was a very interesting and informative speaker who spoke about the unusual but common sense strategies being developed in Saskatchewan, Canada to allow branchlines to survive and remain an important aspect of the provinces transport infrastructure.



Ed Zsombor (centre) with RTSA Chairman Duncan McLeod and John Dring who gave the Vote of Thanks

Your editor was able to obtain a copy of the presentation and has developed the following paper.

A total of 36 members and visitors attended the meeting and John Dring gave the Vote of Thanks.

Transforming Canada’s Rural Railways

Ed Zsombor
Director Rail Services Unit and Provincial Railway
Inspector
Saskatchewan Canada

Introduction

Rural Canada and Australia produce mainly rural based product such as grain. A comparison of grain production is made in the following table:

Comparison Grain Production in Canada and Australia

	Canada	Australia
Grain Production (Million Tonnes)	64.7	37.1
Grain Exports (Million Tonnes)	27.4	22.2
Average Rail Haul (Miles)	904	250

Some of the major differences include:

- i) Climate
- ii) Growing season – Canada’s is relatively short
- iii) Length of average haul
- iv) Railway infrastructure – Canada has a uniform track gauge
- v) Canada farmers have extensive on-farm storage facilities.

An overview of Canada’s railways is as follows:

- i) There are approximately 40,000 miles of railways in Canada.
- ii) Shortlines account for approximately 6586 miles.
- iii) There are over 40 shortline and regional railways.
- iv) Shortlines originate 25% of all rail traffic.
- v) There are two Class 1 carriers being Canadian Pacific (CP) and Canadian National (CN).

Abandonment Process for Railways

The 1996 Canada Transportation Act made a major difference to how unwanted railways were handled. Prior to 1996, most railways were owned by either of the two Class 1 railways. If a railway line was deemed non-viable the process for the abandonment of the railway was cumbersome and difficult and required public hearings. If abandonment was approved, the railway owner inevitably dismantled the line without any opportunity for others to gain ownership.

The 1996 Canada Transportation Act simplified the abandonment procedure but made it possible for the railway to be purchased by others. Before a line could be abandoned, the Act required the owner to prepare a three-year abandonment plan that included:

- i) Advertisement of the railway for commercial sale.
- ii) If no commercial buyers appeared, the railway is offered to Local and or Provincial Governments for net salvage value.

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- iii) If Local or Provincial Governments did not take the line, the line can then be abandoned with the requirement that the railway owner pays compensation at a rate of \$30,000 per mile.

The main result of the Act was that most railways marked for abandonment are taken up by commercial or government bodies with a large increase of shortline railway track length. In Saskatchewan, shortline railway track lengths grew from less than 50 miles in 1996 to 885 miles in 2006. As of 2006 the Saskatchewan rail network of 6068 miles was composed of:

- i) CP/CN Mainline – 2195 miles
- ii) CP/CN Branchlines – 1210 miles
- iii) CP/CN Branchlines on 3 Year Plan – 781 miles
- iv) CP/CN at risk Branchlines – 998 miles
- v) Provincial Shortlines – 885 miles

The ownership structure for shortlines in Saskatchewan includes:

- i) Local co-operatives
- ii) Private companies and consortiums
- iii) Local and provincial government
- iv) Private public partnerships

Saskatchewan Shortline Details

Some of the traffic details of the Saskatchewan shortline railways are:

- i) 21,273 cars moved in the 2005/06 crop year
- ii) 17% were producer cars, i.e. grain cars loaded by the producer
- iii) 22% grain cars, i.e. grain cars loaded by grain companies
- iv) 61% non-grain cars – mostly forestry
- v) Line traffic densities range from 4 to 49 cars per mile of track.

Provincial lines are assessed for viability on the basis of cars per mile of track. The assessment criteria used is:

- i) 0 to 10 cars per mile – May not be able to cover operating expenses.
- ii) 10 to 20 cars per mile – Marginally profitable.
- iii) 20 to 40 cars per mile – Profitable but unable to re-capitalise.
- iv) 40 + cars per mile – Revenue adequate.

The average Canadian shortline operating ratio, i.e. operating cost per revenue, is 95%. The Provincial governments accept that capital grants are required for capital renewal of the railway infrastructure and moneys are made available for this on a justification basis.

The shortlines have a number of grain collection systems including:

- i) Producer car loading.
- ii) Producer car loading facilities
- iii) Country elevators
- iv) Inland grain terminals
- v) Port terminals.

Canadian farmers are able to load their own cars and bypass grain companies thus allowing them to increase the return on the grain they sell. The cars are ordered through the Canadian Grain Commission (CGC). The CGC handles all grain grading and the cars are delivered to Port Terminals.

The Canadian Wheat Board is the buyer of all producer cars carrying Board Grains, i.e. wheat, barley and durum. All non-board grains are sold through grain companies and use the country elevator/terminal system.

Grain freight rates are determined by The Revenue Cap, which is a special formula that limits the maximum revenue entitlement a railway can charge. Non-grain freight rates are unregulated and are set by the Class 1 Railways (CN & CP) and are based on what the market will bear. Shortline revenues are generated through revenue sharing agreements with the Class 1 Railways.

Railway Jurisdiction

Shortline railways have a different jurisdiction than that of the Class 1 Railways. The differences are shown in the following table.

Comparison of Railway Jurisdiction

Canada	Saskatchewan
Transport Canada	Saskatchewan Highways and Transportation
Canadian Transportation Agency	Highway Traffic Board
Transportation Safety Board	Rail Services Unit
Regulations	Guidelines
Safety Management Systems	Safety Management Plans
No distinction between railway operator and owner	Railway operators and owners are considered as different entities
Class 1 Railways (CP/CN)	Any Railway Owner/Operator Not Federally Regulated
Shortlines that cross provincial borders	Regional Shortline Railways
Railways that enter the USA	Industrial Operators

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Rail Services Unit

In Saskatchewan, the responsibility for railways is with the Rail Services Unit. The Rail Services Unit has a mandate for the:

- i) Development of shortline railways
- ii) Provision of financial support
- iii) Safety

The development of shortline railways is achieved by:

- i) Providing general advisory services on the abandonment/transfer process.
- ii) Providing track inspection/assessment services.
- iii) Assisting with the negotiation of Agreements.
- iv) Providing necessary authorizations to purchase and operate a shortline railway.

Financial support is provided by:

- i) Providing grants for feasibility studies and business plan development.
- ii) Providing a Provincial Loan that can be an interest free loan of up to 32% of net scrap value or purchase price. The loan is dependent on a number of criteria including a viable business plan, a minimum 8% local investment and strong local support.

The Rail Services Unit provides advisory services to:

- i) Local producers group
- ii) Local Governments including rural municipalities, towns and villages.
- iii) Area Transportation Planning Committees, which has a mandate to look strategically at transportation and make recommendations to the provincial or municipal governments based on social and economic goals of the area and the province.
- iv) Regional Economic Development Authorities (REDA) that have a mandate to bring people and communities together to collaborate and co-operate on plans for economic development based on natural trading areas and to link the resources, talents and strengths of their regions to support the creation of wealth and jobs, and to attract new investment. REDAs are voluntary, non-government, legal entities comprised of local governments, aboriginal groups and businesses.

The safety role provided by the Rail Services Units includes:

- i) Crossing and Track Inspection Program
- ii) Safety and Operational Innovation
- iii) Review and Authorize Safety Management Plans
- iv) Railway Safety Education
- v) Accident Investigation

Relationships between Shortlines and Class 1 Railways

In the past, CN and CP viewed shortlines as an annoyance. They now treat shortline railways as partners.

CN and CP realize shortlines are better at generating local traffic.

Shippers receive improved service and flexibility.

Class 1 railways can focus on mainline operations with the shortline railways taking care of the low density Branchlines and the collection and distribution of branchline traffic.

The partnership between the Class 1 and shortline railways is mutually beneficial due to:

- i) Fair revenue sharing agreements.
- ii) Running rights and interchange agreements.
- iii) Fair purchase or lease agreements.

Issues that require further development include:

- i) Insurance Requirements
- ii) Car Supply
- iii) Sharing of Fuel Surcharges.

Challenges and Opportunities for Shortline Railways

The challenges facing shortline railways include:

- i) Obtaining capital to rebuild old infrastructure
- ii) High fixed costs such as for insurance and property taxes.
- iii) Ability to carry increased car masses.
- iv) Jurisdiction issues.
- v) Legislative issues
- vi) The future of the Canadian Wheat Board
- vii) The Canadian Grain Commission.

The opportunities for shortline railways include:

- i) Producer car savings of approximately \$1000 per car.
- ii) Stability for economic development. Approximately \$300M in economic development is being spent on shortlines compared to virtually nil on the CP/CN branchlines.

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- iii) Public infrastructure savings with approximately 1.9m tonnes kept off roads in 1995.
- iv) Direct shipper savings compared to trucking costs of approximately \$10m per annum.
- v) Environmental benefits including reduced greenhouse gas emissions.

The Province of Saskatchewan has developed a strategy for the development of shortline railways that has been integrated into the overall transport strategy. A part of this strategy is to identify the core railway network on the basis of Federal, Provincial and Local interest. The strategy also recognizes the importance for a role in the supply of capital monies to allow ongoing capital investment.

Chairman's Chatter – Duncan McLeod

The visit by RTSA's eminent speaker, Ed Zsombor, injected some innovative ideas into the debate on regional rail. A debate that is particularly active in NSW, Victoria, and here in South Australia.

One wonders why the North American concept of a "short line" has never gained much traction in this country. We do have some examples of well-established ex-government local railways. The Eyre Peninsula grain lines made the transition to private operation, and the Leigh Creek line was offloaded onto its customer to maintain and operate. Over the border, the Government railway from Cobar to CSA Mine closed when the mine ceased production, but was later rebuilt under private ownership when the mine reopened. But we don't have many (or any?) examples where branch lines have been abandoned and resurrected as separately operated short lines feeding into the main line network.

Perhaps this is partly because Australian railways were traditionally government owned and operated, unlike the private management prevalent in Canada and the USA. Under government ownership, cross subsidisation was the norm. Loss making branch lines were typically retained until closure was necessitated by infrastructure deterioration. In North America, it appears, abandonments are dictated more by commercial considerations. Hence short lines can more readily emerge without necessarily needing costly infrastructure upgrades.

Also, in this country, there seems to be a cultural rejection of the concept that an adequate branch line may only be suitable for trains to amble along. Low operating speeds are seen as reflecting an unacceptable starving of funds; branch lines should operate at speeds that are similar to those on nearby roads. Why?

Similarly, the concept of a short line operator interchanging wagons at the main line junction is something quite foreign (other than at some industrial facilities). Perhaps our supply chains tend to be set up such that short transit times are more important than is strictly necessary. Journey durations consequent on slow operating speeds and the need for interchanges between operators are the norm in North America, but uncommon in Australia.

Most of the ingredients needed for the mix are already in place. We have successful niche operators, but running on the big boys' tracks. We have numerous "short line" passenger railways run on a shoestring (albeit staffed largely by volunteers). And we have candidate branch lines ripe for rejuvenation. The stumbling block seems to be assembling and funding the packages.

Ed Zsombor's visit didn't set out to provide the magic solution, but it certainly did introduce a welcome new perspective, and some fresh concepts. Most importantly, it generated a widespread focus and debate on the issues, including at political and government levels.

Lets hope RTSA's eminent speaker will have helped kick-start some positive outcomes.

The Observation Post – Max Michell

Welcome to 2007.

At this time of the year it seems appropriate to keep to a happy topic that not only is in tune with the season but might also act as something of an inspiration.

Last year, in April, I had to drive to Newcastle to pick a friend up and return with them to Sydney. As it happened I was rather early so I did the usual thing and dropped in to Sandgate to see what had happened in relation to the grade separation. Since my previous visit a few months earlier there had been track diversion, a temporary footbridge erected while the beginnings of site works were evident on the ground. For whatever reason I didn't get back to Sandgate again until this month, some two months after the project was completed. In that relatively short period of eight months or so the bulk of the work had been undertaken – an \$80 million rail project completed in well under one year would have to be something of an (east coast) record.

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minutes before the northbound XPT on its rather unenterprising summer timetable trundled across.



The grade separation allows the coal business to operate quite independently on its own tracks while the adjacent main lines conduct their business. The grade separation basically was aimed at removing the impediment to coal working into Kooragang (where around 70% of coal activity currently takes place) by removing the main line flat crossing. A little remarked but quite important by-product of this project has been the opening up quite a significant capacity on the main lines by removing the 7 – 10 minute coal windows needed for coal train to cross the mains at Sandgate. In the short time that I was at Sandgate recently there was a perfect demonstration of this when an empty departing coal train from Kooragang passed under an empty departing coal train from Port Waratah and an inbound grain train to Port Waratah. Not a passenger train in sight – just freight that not so long ago would have been captive to the coal lines since there was then no point in using the mains due to the Sandgate conflict.

When I last went past this site, after CORE in May 2006, there were few signs of any work apart from a bit of preliminary clearing, yet now the job is finished. .

If all the ballyhoo surrounding this bridge had been converted into a structure there would have been a monumental bridge, whereas the finished product looks to be a large version of a quite simple structure – if anything understating its importance to the rail corridor. Once again this project, in this case \$16 million in value, was well under one year in execution. Even more impressive was that from the day work started the completion date and time was fixed and adhered to

A week earlier I had to drive to Melbourne and dropped by to have a look at the new bridge over the Murrumbidgee at Wagga – actually on the day after it opened. In fact as chance would have it I arrived 5

For the last two years the unfolding of north – south corridor upgrade plans and the associated funding has been something of a teaser. Now that improvements have started to appear on the ground there has to be a renewed sense of optimism that not only are the funds starting to produce results but that the execution of major projects is in good hands.

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MEETINGS FOR 2006/2007

Future Speakers/Dates/Topics				
Date	Speaker	Organisation	Topic	Venue
1/3/2007	Chris Hall	Bluebird Rail	Long Distance Passenger Rail - The Transition from Government to Private Operation	IEAust, Bagot Street North Adelaide
12/4/2007	Roger Wyatt		Glenelg Tramline Switches Upgrade	Hyde Park Tavern Hyde Park
3/5/2007	TBA		TBA	
7/6/2007	Tim Ryan	ARTC	ARTC East Coast Upgrade	Hyde Park Tavern Hyde Park
7/7/2007	TBA		Refurbishment of 2000 Class Railcars	
2/8/2007	TBA		G&W Operations in SA	
6/9/2007	TBA		TBA	
4/10/2007	TBA		Adelaide Tramline Extensions	
1/11/2007	TBA		TBA	

Note - All 2007 topics beyond May to be confirmed.

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Articles or editorial comment for Newsletter are very welcome. We have over 100 members locally some of whom will have stories, events or developments of interest that could be reported in 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.

Send copy to the Editor, Stephen Townsend at st771048@bigpond.net.au or fax to 08 8297 0992.

Electronic despatch of Newsletter is undertaken by Steve Torok – contact Steve on steve@tge.com.au if you have any problems receiving Newsletter electronically or in hard copy. Note that electronic subscribers will get their Newsletters and flyers as soon as the editorial work is done, while the hard copy mail will of course be some days slower.

For all other matters relating to RTSA SA Chapter contact Duncan McLeod (Chairman) at e-mail dmcleod@aapt.net.au, or by phone on 08 8338 7919.

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