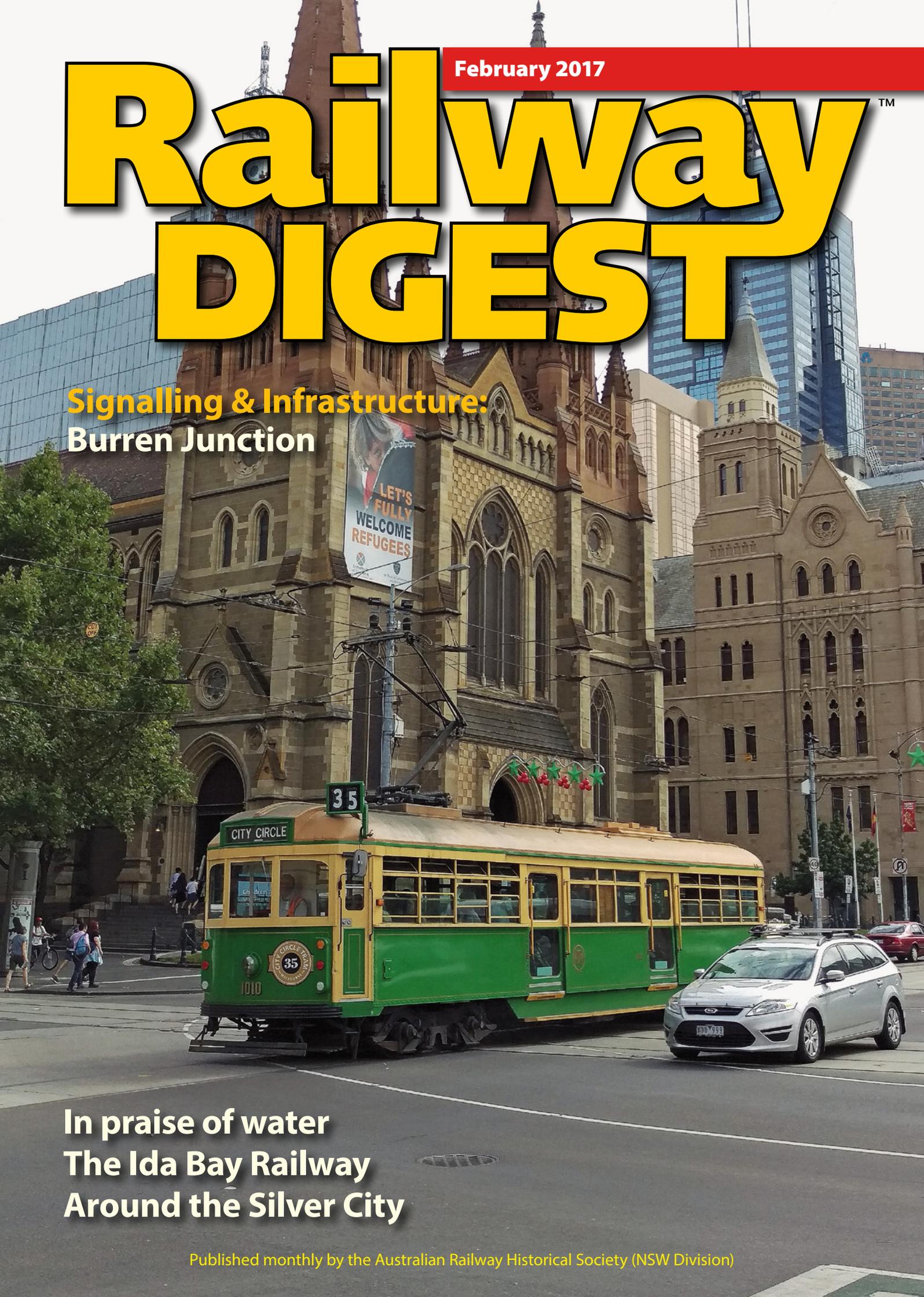


February 2017

Railway DIGEST™

**Signalling & Infrastructure:
Burren Junction**



**In praise of water
The Ida Bay Railway
Around the Silver City**

Published monthly by the Australian Railway Historical Society (NSW Division)



Editor Bruce Belbin
Assistant Editor Shane O'Neil
National Affairs Lawrance Ryan
Editorial Assistant Darren Tulk
International Ken Date
General Manager Ross Verdich
Subscriptions: Ph: 02 9699 4595 Fax: 02 9699 1714
Editorial Office: Ph: 02 8394 9016 Fax: 02 9699 1714
ARHS Bookshop: Ph: 02 9699 4595 Fax: 02 9699 1714
Mail: 67 Renwick Street, Redfern NSW 2016
Publisher: Australian Railway Historical Society NSW Division, ACN 000 538 803
Print Post 100009942
Publication No.
Newsagent Gordon and Gotch Ltd
Distribution
Mailing & Distribution Ligare Pty Limited and Australia Post
Printing Ligare Pty Limited
Website www.railwaydigest.com.au
Facebook www.facebook.com/railwaydigest

Contributor Guidelines

Articles and illustrations remain the copyright of the author and publisher. Please do not submit photos or articles that have been previously published or submitted to other publications. Article contributions are welcome; views expressed in this magazine are not necessarily those of the editorial staff or publisher. We welcome photographs of current Australian railway subjects in the form of digital files. Please include a detailed description including train details, time, date, place and photographer's name at the time of submission. Items that are not returned may be held within the ARHSnsw Railway Resource Centre. **Please limit email sizes to 15MB and Readers Write letter submissions to 500 words.**

Publication deadlines: *Railway Digest* is published on the last Wednesday of each month prior to the cover date. The deadline for advertisements and contributions is the 1st of the month prior to the cover date.

Copyright © Australian Railway Historical Society New South Wales Division 2017

Contact email addresses

Editorial editor@railwaydigest.com.au
Photographic contributions photos@railwaydigest.com.au
Articles/submissions articles@railwaydigest.com.au
Subscription enquiries/change of address mail@arhsnsw.com.au

Contributors

Tony Bailey, Peter Hower, John Holmes, John Hoyle, Philip Jeeves, Geoff Lillico, Max Michell, Vaughn Moore, John Temple. ABC News, ACT Government, Aurizon, Australian Transport Safety Bureau, *The Border Mail*, Brookfield Rail, The Hon Darren Chester MP, Minister for Infrastructure and Transport, Government of Queensland – Minister for Transport and the Commonwealth Games – The Honourable Stirling Hinchliffe, *The Hobart Mercury*, Keolis Downer, *Maribyrong Leader*, *The Newcastle Herald*, Parliament of Australia, Public Transport Authority of Western Australia, Public Transport Victoria, South Australian Department of Planning, Transport and Infrastructure, South Australian Minister for Transport and Infrastructure – Stephen Mullighan MP, Sydney Trains, Tasmanian Minister for Infrastructure – Hon. Rene Hidding MP, Transport and Logistics News, TRANSLink, Transport for NSW, Victorian Department of Land, Planning, Water and Environment, Victorian Minister for Public Transport – The Hon. Jacinta Allan MP, VicTrack. www.brisbanetimes.com.au, www.indaily.com.au

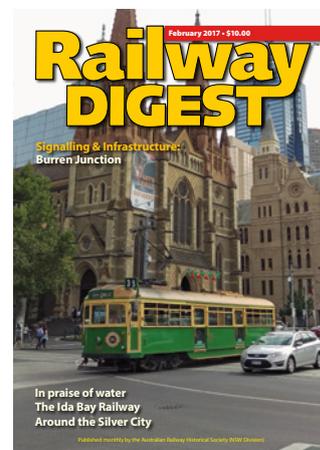
Cover: On Thursday 29 December 2016, veteran Melbourne tramcar 1010 passes St Pauls Cathedral approaching Flinders Street Station on the free City Circle service. 1010 is a former W7 tram, rebuilt at Bendigo to W8 specifications (see 'Modernising Melbourne's Iconic Tramcars' in February 2016 RD, from p.29). Scott Curnow

Opposite: On the privately-owned South Maitland Railway in the NSW Hunter Valley, CFCLA Goninan/GE units EL61 and EL53 head an empty coal train just south of East Greta en route to Pelton on Friday 4 November 2016. Stephen Miller

Back cover upper: An unusual sight at Sydney's Thornleigh Station

February 2017

Volume 55, Number 2



Features

GALLERY

32

A selection of recent railway photographs from around Australia.

In praise of water

37

Railways have a love-hate relationship with water. For 150 years water was the fundamental source of power on rail, and still is, in a less obvious way, for most of the electrified railways of today. Max Michell reminisces about a special piece of railway that skirts the waters of the Hawkesbury River and Mullet Creek, north of Sydney, that was a part of his life for six years.

Regulars

Rail Industry	4
Railway people	6
News	8
Operations	10
– Around the Silver City	40
Signalling and Infrastructure	46
– General News	46
– Level Crossing News	50
Preservation and Tourist	52
– Opening of the South Australian Light Railway Centre	52
– The Ida Bay Railway, Tasmania	54
Readers Write	57

on Monday 9 January as Lachlan Valley Railway's Goninan/Caterpillar unit 4702 and Southern Shorthaul Railroad's 4701 pass through with Train NK81, the AK track recording cars, bound for Queensland. The 47s hauled the train as far as Acacia Ridge, where they were replaced by a 82 Class unit due to certification issues with QR. Graham Attenborough

Back cover lower: CityTrain HFE0, worked by 700 Series EMU 702, powers through Thagoona, near Ipswich, Queensland, during brake testing between Walloon and Rosewood on Thursday 15 December 2016. This was part of the Acceptance Testing Program for the 700 Series EMU, constructed by Bombardier in India. Michael James

Winning consortium announced for \$238 million Torrens Junction project

A consortium comprising of Laing O'Rourke, AECOM and Kellogg, Brown & Root has been awarded the design and construction contract for the \$238 million Torrens Junction rail project in South Australia.

The successful consortium was announced on Monday 19 December by Federal Minister for Urban Infrastructure Paul Fletcher and South Australian Minister for Transport and Infrastructure Stephen Mullighan.

The consortium will undertake the separation of the interstate freight rail line from the Outer Harbor passenger line as well as build a rail underpass located at Park Terrace (see August 2016 *RD*, page 6).

"This project will deliver substantial benefits for transporting freight across the country by rail, while reducing the number of heavy freight vehicles using the road network," Mr Fletcher said.

Currently freight trains must give way to Outer Harbor passenger trains resulting in delays to rail freight network services.

"This upgrade will improve the productivity of the national rail freight network, not only by reducing those delays, but also by enabling around 20 per cent longer, 1800-metre, freight trains to operate between Adelaide and Melbourne," Mr Fletcher continued.

South Australian Transport and Infrastructure Minister Stephen Mullighan said there would also be significant benefits to the road network, with the removal of the level crossing at Park Terrace.

"Almost 50,000 vehicles use this part of the Inner Ring Route every day but with 160 daily passenger train movements through the level crossing traffic is held up by a total of more than two hours every day," he said.

"About 11 freight trains a day travel through the Torrens junction, closing the Torrens Road and Hawker Street level crossings for up to six minutes each time. "Removing the need for freight trains to stop at Torrens junction will also mean they don't have to slow down or stop through the Torrens Road and Hawker Street level crossings, reducing traffic delays at these locations."

The Torrens Rail Junction project will feature a new lowered railway station at Bowden, improving connections to the Bowden Urban Village, Entertainment Centre, park lands and local area, including a new shared pedestrian and cycling path.

The Torrens Rail Junction project is the second stage of the \$357.6 million Goodwood and Torrens Junctions project. Stage two works also include a new pedestrian and cycling overpass at Goodwood to complete the popular Mike Turtur bikeway – Adelaide's busiest cycling route used by up to 1000 cyclists a day. Together these projects are expected to support about 212 jobs a year during construction and will be delivered in line with the South Australian Government's Industry Participation and Steel Procurement policies.

Stage one, the Goodwood Junction, was completed in 2013, improving rail safety and productivity by eliminating the delays caused by the freight line crossing the Seaford passenger line. Stage one also delivered the Adelaide Showground Station in 2014, which caters to more than 100,000 passengers a year. The Australian Government is contributing \$189.4 million towards this \$357.6 million project.

Fast tracking fast rail: release of transport connectivity report

On Tuesday 6 December, the House of Representatives Standing Committee on Infrastructure, Transport and Cities presented its report, *Harnessing Value, Delivering Infrastructure*, on the role of transport connectivity in stimulating development and economic activity in urban areas and regional Australia.

The Committee has recommended development of value capture mechanisms as a means of funding new transport infrastructure and the development of high speed rail to facilitate new patterns of settlement in Australia.

Committee Chair Mr John Alexander MP says the effective planning and development of transport infrastructure in our major cities and regions would optimise not just our potential for growth but also quality of life and cost of housing.

"We should give effect to urban renewal and densification while rebalancing the pattern of settlement through strategic decentralisation," Mr Alexander says. "The key to this is high speed rail funded by value capture."

The Committee also recommended:

- developing a framework for the specification and evaluation of proposals for the development of a High Speed Rail Network in Eastern Australia
- investigating options for private funding of High Speed Rail through value capture
- the monitoring and investigation of other technological innovations for transport connectivity
- recognising the potential contribution towards the costs of new transport infrastructure of value capture
- developing a system for coordinating the planning and funding of major infrastructure projects across all levels of government
- coordinated procurement of vehicles and rolling stock for transport infrastructure

- establishing value capture mechanisms for individual transport infrastructure projects as a condition of federal funding
- developing a toolkit of value capture mechanisms that can be applied by all levels of government
- continued roll-out of City Deal-type agreements with the various state, territory and local governments; and
- developing a consistent and coordinated approach to the application of value-capture to major infrastructure projects, with the Australian Government acting as the single-point for the collection of value capture revenues.

A copy of the report can be obtained from the Committee's website or from the secretariat on (02) 6277 2352.

Brookfield Rail and CBH finalise interim rail access agreement

Brookfield Rail and the CBH Group have finalised a new interim access agreement for continued access to the freight rail network into 2017.

The agreement secures access to all lines currently used by CBH providing supply chain security and certainty for WA grain growers for this season's bumper harvest.

The new interim rail access agreement will be effective from 1 January 2017 until the earlier of 31 December 2017 or the date that access is provided under a long term access agreement.

Both Brookfield Rail and CBH continue to seek a long term access agreement through an arbitrated process under the Railways (Access) Code 2000 (WA) administered by the Economic Regulation Authority.

Keolis Downer secures Newcastle Transport contract

Keolis Downer, Australia's largest private provider of multi-modal public transport, has been awarded a 10-year contract to operate Newcastle's public transport system, including buses, ferries, transport interchanges, and the new light rail network.

On Monday 12 December NSW Premier Mike Baird and NSW Transport Minister Andrew Constance announced that a new operator Newcastle Transport will start running services from July 2017.

"We are investing more than \$500 million to breathe new life into Newcastle, and we will now have a transport system in place to support the extra jobs and activity at the heart of a truly revitalised Newcastle," Mr Baird said. "Newcastle Transport will guarantee better and more frequent public transport options, giving Novocastrians the world-class transport they deserve."

Mr Constance said the successful Keolis Downer bid for Newcastle Transport would deliver massive service improvements for Newcastle commuters, which is why it was chosen over lower cost bids.

"For the first time, the operator will have to guarantee a better deal for locals. Ferry commuters will get a service every 15 minutes throughout the day. Light rail customers will get a service every 7.5 minutes, an improvement on the expected 10 minute wait," Mr Constance said.

In addition, a new 'night owl' bus service will be set up to support the weekend night-time economy, and the city will get on-demand buses.

Newcastle Transport will start running bus and ferry services in July 2017, and service changes will start in 2018 to minimise disruption. It

will run the light rail when it opens in 2019. Fares will remain part of the Opal system.

The Rail, Tram and Bus Union (RTBU) of New South Wales said it "cautiously welcomed" the Keolis Downer agreement, noting that it marked the end of an era for Newcastle Buses and Ferries. RTBU divisional secretary Chris Preston said the union welcomed "better integrated public transport for the city of Newcastle".

"It's a great step forward for Newcastle transport workers who can now finally put a face to their future employer, and will soon get some clarity about future work conditions," Mr Preston said.

"Whilst it's business as usual for the public transport workers of Newcastle, the RTBU will be in contact with the new operator at the very first available date, to continue to advocate on their behalf throughout this transition.

The chief executive of Keolis Downer, Campbell Mason, said all operational staff would be offered work on current terms and conditions. He confirmed they had been given a five-year guarantee of employment. "All operational staff will be offered continuation of employment with our newly-formed company, Keolis Downer Hunter Pty Ltd, on current terms and conditions. We are very much looking forward to working with the team to deliver a world class service in Newcastle. It's important that we get this right because the decisions we make now will drive the success of local businesses, tourism and the character of the city."



The Trans-Australian rail replacement train stands in Spencer Junction yard with veteran Clyde/EMD units GM 37 and GM 43 coupled either side of former Freightlink crew car FDDY 01, on Saturday 19 November 2016. The Adelaide–Tarcoola rail replacement project involves the upgrade of around 1200 kilometres of track, using 60kg per metre rail supplied by Arrium Steel at Whyalla. Peter Clark

Cubic to commence work on customer trial of contactless fare payments

Transport for NSW (TfNSW) has contracted Cubic Transportation Systems Australia (Cubic) to design, build and operate a contactless transport payment solution for a customer trial in 2017.

Cubic will develop and then implement the system add-ons needed to enhance the Opal system to facilitate the customer trial. The contract with Cubic is valued at \$10.2 million.

In a 16 December media release TfNSW said; "While we look forward to implementing the trial during the next year, we'll closely monitor customer take-up and feedback to better understand how customers view contactless payments as a possible option on the network."

Contactless transport payment with credit and debit cards has the potential to offer passengers an easy to use and convenient option for travelling. Only a few major mass transit systems similar in scale and complexity to Sydney's have introduced contactless transport

fare payments. London's Oyster card system is a well-known example, which also incorporates a Cubic-designed contactless payment option. Experience gained in London will underpin the NSW customer trial.

TfNSW is also in discussions with banks and credit card payment schemes to finalise their participation in the customer trial. It is the first time in Australia that these financial institutions have been directly involved in contactless transport payments and they are determining their interest, role and position in the project.

A lot of critical work needs to be completed to get to the customer trial stage such as finalising partnerships, working with the finance and contactless payments sector, and developing the software TfNSW needs to integrate into the Opal system.

Details on the contactless customer trial will be released closer to the implementation date.

ARTC purchases land for a future Bromelton terminal

The Australian Rail Track Corporation has purchased nearly 850 hectares of land near Beaudesert, 63 kilometres south of Brisbane on the Sydney – Brisbane railway. The land is earmarked for a future intermodal terminal. Highlighting that this initiative is a new one for the ARTC, CEO John Fullerton said that as a company the ARTC takes a long-term view on decisions that will benefit and grow the rail freight industry and investing in Bromelton aligned with that goal.

Mr Fullerton said that given the site's strategic location and intended scope for the area to see an intermodal logistics hub or 'inland port' developed over time, it was important that the ARTC looked at the opportunity closely when land became available. He said the site was adjacent to B-double transport routes that are less than one hour's drive from the Port of Brisbane and the Brisbane CBD.

Mr Fullerton said rail had historically suffered from a lack of support from a planning perspective with rail terminals having been built in the past across a small footprint in inner-city areas, only to be crowded out by urbanisation. He said that as a consequence, Australia has a heavy reliance on road transport and that has reduced the efficiency of freight supply chains and the country's international competitiveness.

The ARTC has no immediate plans to develop the Bromelton site, but early planning for that process will start over the coming months. The site is near the SCT Logistics terminal that was scheduled to open last month. Both are located within in the State Development Area which was secured by the Queensland Government in 2008 for future development as a logistics and transport area. The ARTC has not disclosed the purchase price of the land.

Railway people

Aurizon announces appointment of new CFO

The Aurizon announced on Thursday 15 December that Pam Bains would be appointed as the Executive Vice President and Chief Financial Officer at Aurizon following the impending departure of Keith Neate.

Managing Director & CEO Andrew Harding said Keith Neate would be leaving that week by mutual agreement. "Keith has been with Aurizon for the past five years and has done a good job helping with the successful transformation work to date as well as developing the internal capability of the Finance team," he said. "However, I have a strong view on the work that needs to be done to further reform Aurizon, drive down costs and improve competitiveness and efficiency. On behalf of shareholders I want to take Aurizon to the next phase of growth and development and I believe Pam will be an asset to my executive leadership team in helping deliver this goal."

Pam Bains is currently the Vice President Network Finance. She has been with Aurizon for the past six years. In her various senior management roles at Aurizon, Pam has led or played a key role in a number of major projects including transition of reporting requirements

at IPO to meet external reporting requirements for a listed entity, capital restructuring in the Network business as well as support for various regulatory reforms which have improved the financial performance of the Network Business.

Pam holds a BA (Hons) in Accounting and Finance, and has broad experience in finance and leadership roles in both Australia and globally over the past 25 years. Prior to joining Aurizon, Pam was the Head of Finance, Customer Service at Telefonica O2 UK – one of the largest global integrated telecommunications operators providing mobile/fixed telephony and broadband. Pam has also held senior management roles at Next PLC, General Electric and Arthur Anderson. She is a graduate of the Australian Institute of Company Directors and a member of the Institute of Chartered Accountants of England and Wales.

Pam Bains



RISSB Rail Safety Conference 2017

Enhancing Safety through Collaboration

4 – 5 April 2017 | Pullman Brisbane King George Square



RISSB Rail Safety Conference remains the premier safety and standards conference for the Australasian rail industry.

The central theme for 2017 is 'Enhancing Safety through Collaboration' and we look forward to sharing an insightful program of case studies and industry experiences highlighting the collaboration that is essential for ongoing safety wins and incident reduction.

The program includes:

- Industry safety updates including insights from ONRSR, the ARA, TrackSAFE Foundation, ACRI and RISSB
- Case Studies from Metro Trains Melbourne, TasRAIL and Sydney Trains on implementation of their safety strategies
- An insight into benchmarking safety performance in light rail from GoldlinQ
- 'Ask the Regulator' Panel will give attendees the opportunity to engage directly with the executive team from ONRSR on how the industry is 'Enhancing Safety through Collaboration'
- Incident investigation will also form a large part of the program as we hear from ATSB, NZTA and the University of the Sunshine Coast on recent investigations and determining what a good incident investigation might look like

Sponsorship and Exhibition Opportunities

RISSB's Rail Safety 2017 is a unique event targeted solely at rail safety executives across the industry. This is a chance for you to promote your services, products and expertise to the decision-makers. With limited exhibition space available, don't delay in securing your opportunity to lock in a prime space.

To enquire about how you can get involved or to discuss branding sponsorship opportunities please contact: **Samantha Lister** on 02 9080 4432 or email: Samantha.Lister@informa.com.au

Capital Metro tree removal and replacement program begins

Removal of trees along the Northbourne Avenue, Federal Highway and Flemington Road corridor began in mid-December as construction continued on Canberra's Capital Metro light rail project.

"As the community will be aware, to build light rail we will have to remove and replace trees along the light rail corridor. Overall more trees will be replanted as a result of the project," ACT Minister for Transport and City Services Meegan Fitzharris said.

The removal of trees is necessary to assist with the relocation of utilities, allow room for track laying, and the building of light rail stops. Beginning in December 2016 and continuing throughout 2017, trees will be removed in three stages in different areas of Northbourne Avenue and the Federal Highway between the Canberra CBD and light rail terminus at Gungahlin. The first stage, the removal of approximately 120 trees, was completed prior to Christmas 2016. The next stage of tree removals will be along the inner row of the median strip to allow for the installation of the light rail trackbed.

"More trees will be replanted along the light rail corridor, and replacement trees have already arrived at the Yarralumla Nursery to be replanted along the route (see December 2016 RD, page 8). These trees are being monitored by horticultural experts to manage their growth, and we expect they will be ready to start planting in late Spring or early Summer 2017", Minister Fitzharris said.

"We are also working with local organisations to reuse and recycle some of the removed trees. There are exciting opportunities for reuse and recycling with schools and other community organisations.

"I would like to thank the community for their patience during this important part of the light rail construction and we look forward to seeing the project continue to take shape and uphold the grand boulevard of Northbourne Avenue," Minister Fitzharris concluded.

More information on the Capital Metro tree removal program, including an update on the stages of works, can be found on the Transport Canberra website at www.transport.act.gov.au

Work underway on Albury station restoration

Restoration and improvements to Albury railway station commenced in late-November as part of the NSW Transport Access Program with work being undertaken by Sydney-based company Degnan Construction.

The upgrade includes construction of two new entry ramps and improvements to the transport interchange with two new pedestrian crossings and a designated zone for public vehicles to pick-up and drop-off passengers. Platform lighting and public toilets will be upgraded and bench seating replaced.

Extensive repainting will also be undertaken, including a refurbishment of the iconic clock tower and four clock faces. On-site manager for contractor Shades Painting and Decorating, Keiran Maher said as work proceeded high pressure hoses would be used to ensure the 19th century building had a "deep clean" with up to ten painters engaged on the work.

Mr Maher said his company would be doing work on Wagga and Orange stations during 2017.

The entire Albury station project is due to be completed in March.



It's becoming hard to imagine that there was once a rail yard here. Looking west from the site of the old Newcastle Station with the former signal box on the right, on Saturday 7 January. Robert Rouse



Southern Shorthaul Railroad (SSR) has been trialling bank engine working on the Fletchers International Export intermodal train operating from Dubbo to Port Botany. The operation involves placing a G class unit at the rear of the train when its gross weight exceeds 5,000 tonnes. The G Class is crewed and in radio contact with the lead locomotive's driver. The banking engine is attached from Dubbo to Mount Victoria but is normally only required between Wellington and Orange (where many 1 in 40 grades are present) and Lithgow to Zig Zag (1 in 42 grade). The trial was expected to finish at the end of 2016, but the banking operation was noted on services during January. An upturn in volumes of containerised export grain from Fletcher's Dubbo facility has led to an increased size for the company's service, with all 62 of its fleet of FRAY wagons often in service on the train. In this Saturday, 26 November 2016 view, the three leading locomotives have just crossed Wheelers Lane level crossing at Dubbo with train No. 8148 for Port Botany. The two leading locomotives are FIE Class units 001 and 003 plus CEY Class 006 deputising for the third FIE Class, 002, which was receiving new wheels at UGL's Broadmeadow facility. All three locomotives are 4,500 hp/3,355 kW UGL/GE C44ACi units. On that day the train comprised all 62 FRAY class wagons. This train's gross weight was 6,032.88 tonnes and it was 1,285.5 metres in length. SSR's G Class 514 was in the rear. John Hoyle

QUEENSLAND SAVANNAH

2017 CATALOGUE OUT NOW
WWW.RAILWAYADVENTURES.COM - 1300 733 323

Operated by Guidepost tours and the SCT Travel Group in conjunction with Scott McGregor's Railway Adventures - ATAS accredited

Scott McGregor's RAILWAY ADVENTURES

• CAIRNS • CHILLAGOE • MT SURPRISE • COBOLD GORGE • CROYDON • NORMANTON •

6 - 14 June 2017

With Tim Fischer AC, Scott McGregor and Chris Harding

Escape to North Queensland and enjoy exclusive private charters on the railways, roads and rivers across Queensland's wild Outback Savannah country. Indulge in a gently paced, weeklong adventure to North Queensland's most intriguing destinations and natural wonders. Cover a variety of landscapes, from the wide open gulf country, with its snaking rivers and teeming wildlife, to the numerous craggy ranges and lush agricultural tablelands. Rich history and culture in this remote part of Australia are brought to life by your tour leaders and local guides, on your very own iconic trains, boats and planes.

- Exclusive travel on a 2-day private charter of the legendary Savannahlander train
- Charter of the iconic Gullfander train on the Croydon to Normanton line
- Privately chartered plane flight over the Gulf and wide Savannah country
- Guided excursions at Chillagoe Caves, Undarra Lava Tubes, Cobbold Gorge and Karumba
- Special sunset sand island soiree, boat trip and dinner in the Gulf
- 2 nights at the wonderful Cobbold Gorge resort
- All meals including welcome and farewell dinners, with drinks and a special mid-tour Railway Adventures feast at Cobbold Gorge



Above: Due to a shortage of motive power to handle the bumper grain harvest, Pacific National has returned a number of stored Clyde/EMD DL Class units to service. On Friday 23 December 2016, DL44 and 8167 with DL43 dead attached, head empty wheat train 4527N past Farley towards Werris Creek, where after a change of locomotives, the train will proceed on to Merrywinebone for loading. Bruce Gehrig
Below: No.8138 Freight from Manildra is behind 8123, 8168 and 8128 as they climb up the grade past the site of Athol Station on Thursday afternoon 5 January. Orange landmark, Mount Canobolas, dominates the background. Lawrance Ryan





On Wednesday, 14 December 2016 the first train hauled by 'mainline' locomotives operated to Walgett. Southern Shorthaul Railroad's No. 4577, powered by an all-EMD ex-Victorian combination of G 513 'Mike Moy' and C Class units 509, 510 and 504, hauled a 50-wagon grain train to GrainCorp's loading facility at Walgett. The train is seen here departing Wee Waa. After loading the train returned from Walgett to Newcastle the following day as train No. 5478. John Holland Country Regional Network, on behalf of Transport for NSW who owns the rail corridor, has recently completed 13 kilometres of re-railing with 53kg/m rails on the Burren Junction to Walgett section. Other works to allow 'mainline' locomotives to run to Walgett included the replacement of over 75,000 timber sleepers with steel sleepers, installation of 19,000 tonnes of ballast and resurfacing of 88 kilometres of track to lift the track and align correctly into position with the new sleepers. The maximum axle load on the Walgett line beyond Burren Junction is now 21 tonnes. Previously it was 17.3 tonnes. John Hoyle

BONDI TO THE OPERA HOUSE
THE TRAMS THAT LINKED SYDNEY

Only
\$29.00

DALE BUDD RANDALL WILSON

BONDI TO THE OPERA HOUSE
THE TRAMS THAT LINKED SYDNEY

With over 250 photos and informative text, this book captures the colour and life of Sydney during the 80 years when trams were part and parcel of living in the harbour city.

Available at the ARHSnsw Bookshop
67 Renwick Street, Redfern NSW 2016
or order online at: www.arhsnsw.com.au

Rail revolution

140 years of railways in Orange and the west

Orange & District Historical Society presents a one-day symposium to mark the 140th anniversary of the arrival of the western railway line in Orange

Date: Sunday 23 April 2017, **Time:** 10am-4pm
Venue: Kenna Hall, Orange

Guest speakers:

- Euan Greer:** Revisiting the opening day celebrations in 1877
- David Hill:** The contribution of rail heritage to today's society
- Bob McKillop:** The influence of the railways on the economy and industrial development of the western districts of NSW
- Denny Ellis:** Railway operations at their height in Orange during the 1940s and 50s
- John Bastick:** Orange railways in the period leading to their decline

Morning and afternoon teas and lunch provided.
Cost for the day \$30, including all refreshments

For more information and tickets contact Phil Stevenson on 0402 412 188 or email him at: ibiswines@bigpond.com

Around Sydney

Inner city rail services halted by overhead wiring damage

Hundreds of Sydney rail commuters were left stranded and faced long delays due to overhead wiring damage between Town Hall and Wynyard station in the Sydney CBD on Tuesday 20 December.

Buses replaced trains on the T1 North Shore, Northern and Western Line from Wynyard to North Sydney during the evening peak. No trains from the city were able to travel past Wynyard and authorities urged the public to delay their journeys or allow extra travel time.

Services were affected from about 5:00pm and normal services did not resume until the following morning.

In the early hours of Wednesday, Sydney Trains said T1 North Shore and Northern lines had resumed and that buses would “continue to supplement or replace train services”.

On Wednesday 21 December, Sydney Trains Chief Executive Howard Collins issued a media release complimenting Sydney Trains staff for their work throughout the night to restore power and repair the damage.

“We understand the frustration of our customers as a result of last night’s significant issue near Wynyard Station,” Mr Collins said. “We are very sorry for the delays and thank our customers for their understanding and patience last night. We are looking into the cause of the issue and our main priority is to ensure our customers are able to travel as normal this morning.”



Above: There are currently eight XPT Sets rostered for timetabled services, and at 0705 on Thursday 1 December 2016 four of them (in other words 50% of the timetabled fleet) were captured together at Central, stabled in an almost perfect line. Basil Hancock

Right: During January, the York Street entrance to Wynyard Station was closed, so that various upgrades could be carried out, including complete replacement of the bank of four escalators by new compliant escalators in the same configuration. Reconstruction of the 1930s era timber finished decking and escalator flanks. On Saturday 10 December, Shane O’Neil photographed the old wooden-tread escalators as they entered their final weeks of service.



Caught in the crossfire between the south-west Metro and south-east light rail, Sydney faces major disruption during 2017

Transport Minister Andrew Constance has warned Sydneysiders to brace for further disruption in the central city as the first high-rise towers are demolished later this year for construction of the second stage of the metro project.

The construction of the metro line will overlap that for the \$2.1 billion light rail from Circular Quay to the city's south east, which has caused major disruption, having forced the closure of busy thoroughfares such as George Street in the CBD.

Most of the 19 buildings – some as high as 22 storeys – slated for demolition from as early as July are in and around Martin Place, and on Pitt Street near Town Hall. They include 39 Martin Place, best known as the home of high-end jeweller Tiffany & Co.

17 buildings in North Sydney and Crows Nest will also be demolished, to make room for stations on the new line.

"We have made no secret of the fact we are going to disrupt people's lives very heavily in the next 24 months," Mr Constance said. "Given the buildings that will need to come down in town, there are going to be additional truck movements."

Around half of the 204 freehold property titles the government has earmarked for the project have already been purchased.

The environmental impact statement for the line from Chatswood to Sydenham prompted around 300 submissions, including from the City of Sydney and Inner West councils urging the government to build another station on the line between Waterloo and Sydenham. The government has not taken up the councils' suggestion.

The first stage of the metro line from Rouse Hill in the north-west to Chatswood is due for completion by 2019 at a cost of \$8.3 billion, while the price tag for the second stage has been put at between \$11.5 billion and \$12.5 billion.

Mr Constance said he hoped the cost of the second stage would be lower than forecast, and emphasised that the line would be "an economic driver for the city". "We are going to expect another 150,000 commuters into the CBD every day in the next 10 years," he said. "In order to be able to cater to that growth, we have got to have a metro train. "These are the type of planning approvals that allow us to get on with the job."

The first of five tunnel boring machines will begin excavating two 15.5-kilometre tunnels by the end of this year for the line from Chatswood to Sydenham. An environmental impact statement for the final section of the line from Sydenham to Bankstown will be released by June.

It will require the closure of the existing Bankstown line, forcing tens of thousands of commuters who normally travel by train to catch buses for more than six months.

Mr Constance said it was too early to say exactly how long the Sydenham-Bankstown line would be closed but the government was looking at ways to minimise the period.

"There are construction methods that could be used that can minimise it, and reduce the construction disruption by months," he said. "That is being considered at the moment."

**OVER
2000 LOTS
COMPLETELY
UNRESERVED**

MAJOR AUCTION - COWRA, NSW

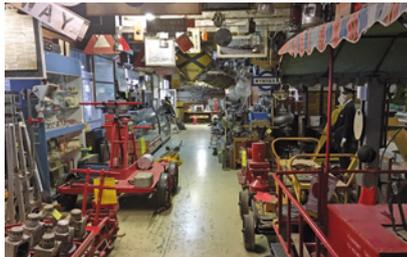
FRIDAY 31st March, SATURDAY 1st & SUNDAY 2nd April 2017

On account of the Cowra War, Rail and Rural Museum, who are relinquishing their complete museum collection
10291 Mid Western Highway, Cowra, NSW (Bathurst Road)









Extensive collection of Railway, Military, Petrol & Oil and General including Army tanks, trucks, vehicles, motor bikes, WWI and WWII articles of interest including horse drawn vehicle, Cowra Prisoner of War displays, uniforms, full length Railway carriages, numerous station signs, station furnishings, train lights, crossing signs and lighting, gauges, clocks, station seating, ticket machines, telephones, carriage racks, carriage seats, lamps, model trains including massive working model train display and all things Railway along with petrol, oil, garage and other signage, petrol pumps, display cabinets, National cash register, side show and numerous other collectables.

Agents Comments: Cowra War, Rail and Rural Museum was founded by the Horsfall Family in 1979 and sits on approx. 3.5 acres on the outskirts of Cowra. Significantly important collection of War including many items relating to the WWII Cowra Prisoner of War camps and many items from WWI along with an impressive line up of war vehicles, tanks, trucks, bikes etc. The collection includes many interesting and rare Railway related items many dating back to the very early beginnings of Railway in this country along with many items of general interest including a very early Bondi bell circa 1901 and a most magnificent early National cash register. Approx. 450 misc. signs. All items are in excellent condition for age with the majority of the collection under cover and dry.

More details to follow including full catalogue by 6th March 2017
Full online and absentee bidding available. No phone bidding.
No items available for sale prior to auction
12.5% Buyers Premium applies to all lots
Payment: EFT, EFTPOS or Cash Only. Absolutely no cheques.

Catering available. Book Accommodation early.
Auctioneer: Ashley Burns **0408 618 294**
View photos on www.burnsandco.com.au
Burns & Co Auctions, Auctioneers and Valuers
57 – 59 Eighth Street, Mildura (03) 5023 5000 LMCT 11428



WHEN PRICE MATTERS THINK BURNS & Co

FEBRUARY 2017

13

Man loses arm attempting to board moving freight train

A local Alice Springs man lost most of his left arm on Thursday 22 December when he attempted to illegally board a northbound freight service.

Northern Territory Police received a report that a man had been hit by a train travelling into the Central Australian town just before 9.25pm. Emergency services attended the scene and found the injured 26-year-old missing his arm, which had been severed just below the shoulder, a NT Police spokesman said.

Witnesses said the man tried to jump on to a wagon to “get a lift into town” from The Gap, located about 2.6 kilometres south of Alice Springs. “He’s attempted to jump up, he’s missed or he’s slipped,

and actually got dragged by the train for a little distance,” the Police spokesman said. The man, believed to be an Alice Springs local, was conveyed to hospital in a critical but stable condition.

The accident occurred near an Aboriginal community from where residents walk alongside the tracks on the way into and out of town, according to Craig Garraway from St John Ambulance.

“It happens probably every 12 to 18 months in Alice Springs where someone’s injured at the track, whether they’re asleep on the tracks or hitching a ride,” Mr Garraway said.

He said the local night patrol group now check to try to ensure people stay away from the rail corridor.

South-east Queensland rail disruptions continue – QR COO resigns

A last-minute round of Christmas Day train service cancellations across south-east Queensland prompted the State Opposition to label Queensland Transport Minister Stirling Hinchliffe the “grinch who stole Christmas”.

On Christmas Eve, Queensland Rail (QR) announced 150 Christmas Day cancellations affecting all lines across the south-east. Free train travel was offered in compensation, as well as taxis for some stranded customers. (A further service revision notice, issued just before midday on Christmas Day advised that a total of 235 services were actually cancelled – equating to one third of all scheduled operations.)

A Queensland Rail spokeswoman said the service cancellations were due to “resourcing issues that Queensland Rail have been experiencing over the last couple of months”.

Mr Hinchliffe vented his frustration via Twitter on Christmas morning. “This is a totally unacceptable performance from Queensland Rail,” he said. “My entire focus today is on supporting our customers.”

Robert Dow from the lobby group Rail Back On Track called for the QR board to be sacked. “We are now in the realm of sheer incompetence. Heads must roll from here,” he said. “There clearly is a major issue within Queensland Rail - bloated management unable to carry out their job functions. Get rid of them, and the Queensland Rail Board. Clearly ineffective.”

Mr Dow said a rail commissioner “with an actual rail background” should replace the board. “Set up a switched on management team, get union cooperation to sort this mess before it is too late”, Mr Dow said.

On Thursday 29 December QR’s chief operating officer Kevin Wright resigned in the face of the continuing network problems, which have resulted from a driver shortage across south-east Queensland (see December 2016 RD, page 15).

According to a report on ABC News Mr Wright was asked to resign after the Christmas Day disruptions. It is understood that that he will not receive a severance payout, after more than 16 years with QR.

Mr Wright is the third high-profile departure since the start of the rail fiasco after QR CEO Helen Gluer and board chairman Michael Klug resigned in October.

From 3 January, Martin Ryan – Queensland Rail’s executive general manager travel and tourist operations – will act as chief operating officer while recruitment is undertaken for a permanent replacement.

In November, Queensland Premier Anastacia Palaszczuk increased the powers of QR investigator Philip Strachan after she expressed “outrage” that QR was stonewalling Mr Strachan’s search for information about the network’s failings (see January 2017 RD, page 18)

The probe was ordered after hundreds of train services were cut and

timetables were thrown into chaos when the Redcliffe Peninsula Line, north of Brisbane, opened in October.

It is understood further changes to QR management are likely in response to the Strachan report. A spokesperson for Mr Hinchliffe would make no comment on Mr Wright’s resignation, saying staffing arrangements at QR “were a matter for Queensland Rail”.

Despite reservations regarding the ability of the network to handle crowds associated with New Year’s Eve celebrations, services ran without disruption. Translink successfully delivered hundreds of extra public transport services across south east Queensland for New Year’s Eve across all rail, bus, ferry and tram operations.

On Sunday 1 January, Minister Hinchliffe publicly thanked TransLink and rail operator, Queensland Rail, for their commitment to getting the job done. “TransLink staff, bus, ferry and tram providers have all done an exceptional job in coordinating successful New Year’s Eve services for passengers across the entire network,” Minister Hinchliffe said.

“For Queensland Rail - from train crew and station staff to the network controllers in the Rail Management Centre, I want to thank all for their efforts in delivering a seamless special event service to many thousands of passengers on New Year’s Eve.

Queensland Rail provided 910 services for New Year’s Eve including an additional 60 demand-focused services for special events including the fireworks displays at South Bank.

Minister Hinchliffe said 259 train drivers and an equivalent number of guards were rostered on the CityTrain network to provide special New Year’s Eve services.

“I can confirm there were no cancellations or service alterations as a result of Queensland Rail’s current shortage of traincrew,” Mr Hinchliffe said. “Like thousands of families I travelled to and from Sandgate to the South Bank precinct by train, experiencing the same reliable rail service firsthand with our customers. I received regular event briefings throughout New Year’s Eve from Queensland Rail, Police, Translink, and just as importantly the passengers on-board the CityTrain network.

“The feedback from passengers was overwhelmingly positive.”

Mr Hinchliffe said his focus remained on delivering the Palaszczuk Government’s five-point plan for restoring reliable services and passenger confidence in Queensland Rail.

“The seamless and coordinated delivery of additional New Year’s Eve services on the TransLink network demonstrates the commitment to reliability and is an important step in restoring passenger confidence,” Minister Hinchliffe said. “With the Palaszczuk Government’s Fairer Fares initiative, the recruitment and training of more Queensland Rail train crew, the rollout of Next Generation Trains, and the pending Commission of Inquiry, 2017 is shaping up a critical and positive year for public transport in South East Queensland. “I will be working to deliver for all public transport users in 2017,” Minister Hinchliffe said.

On the cloudless afternoon of Sunday 4 December 2016, 200 Series SMU Sets 202/208 approach Petrie Station on the new Up Kippa Ring Line, running as CityTrain #1K38 to Springfield. Michael James



Cheaper fares for Queensland commuters

The Queensland Government reduced public transport fares for commuters across south-east Queensland from Monday 19 December 2016 ahead of an official 1 January launch.

Queensland Minister for Transport Stirling Hinchliffe said the key changes to SEQ's fare structure under the Fairer Fares package:

- Fewer zones: SEQ's 23 travel zones will be simplified to eight.
- Cheaper fares: Fares for all zones of travel will be slashed.
- Extending off-peak discount: Peak period won't start until after 6am in the morning to encourage earlier travel and give these users cheaper fares. The 20 per cent off-peak discount will now apply for all travel between 7pm and 6am, between 8.30am and 3.30pm Monday-Friday and all day on weekends.
- Kids go free on weekends: Children under the age of 15 will be able to travel free on the weekend on a child go card.
- Senior discounts: Seniors and pensioners will retain the 'One, Two FREE' travel
- 8 and 50 for commuters: The Government will scrap 'Nine + FREE' and replace with 8 paid journeys and 50 per cent off subsequent journeys per week to deliver higher travel savings to more customers.
- Concessions for Queensland job seekers: TransLink will work with Federal Agencies so jobseekers on Newstart or Youth Allowance will be able to access concession fares in 2017
- Concession fares for asylum seekers: In line with other states like New South Wales, Victoria and the ACT, asylum seekers in Queensland will be able to access concession fares to use public transport in 2017.
- New Fares Advisory Panel: The Government will establish a Public Transport Fares Advisory Panel to provide independent advice on future public transport fares, products and ticketing.

"These fare reforms are the most significant change to South East Queensland's public transport network in a decade and will deliver cost of living relief to at least 93 per cent of commuters," Minister Hinchliffe said.

The Fairer Fares package was announced in June for a 1 January 2017 start but was rolled out ahead of schedule to provide an extra two weeks of fare relief for customers.

Some observers have said that the fare reductions were introduced early in an attempt to ease public criticism resulting

from extended service delays during the last three months of 2016 (see December 2016 RD, pages 15-16 and January 2017 RD, page 19).

Minister Hinchliffe said most customers could expect to save between four and 34 per cent per trip. He said the Fairer Fares package, which was subject to wide-ranging consultation through the SEQ Fare Review Taskforce, would encourage more people to choose public transport over private vehicles. "Taking the equivalent of seven million cars off our roads every year will mean less congestion on our local and major road networks," he said.

Minister Hinchliffe said compressing the zonal structure would benefit commuters in Brisbane, Gold Coast, Ipswich, Logan, Sunshine Coast, Redland and Moreton Bay. "Commuters will pay less across the whole network including for local travel within their communities as well as for longer trips," he said.

Some examples of savings under the Palaszczuk Government's *Fairer Fares Package*:

- An average Gold Coast commuter travelling between Robina and Brisbane city would save \$1196.64 a year under the changes because their 15-zone trip would become a five-zone trip.
- A Gold Coast family travelling locally, with one parent commuting between Labrador and Robina and another travelling between Labrador and Southport, will save \$1196.64 a year because these four and two-zone trips would both become single zone trips.
- Weekly commuters to Brisbane City from Goodna, Strathpine or Samford will save \$889.92 and commuters from Morningside or Tarragindi will save \$315.36 a year.
- A weekday commuter who travels a single zone, to and from work during peak period, will save \$1.30 per week with '8 and 50' combined with the cheaper zone rates. Currently they pay \$30.15 per week under 'Nine and Free'. With '8 and 50' and \$3.20 for a single zone of travel they will pay less, only \$28.8 per week.
- A commuter travelling on public transport during peak times from Goodna to Brisbane's CBD each weekday for work, currently pays \$5.96 per trip to travel across five zones and in per week with 'Nine and Free' would spend \$53.64 per week. Under the changes they will only travel two zones and pay \$3.90 per trip and with '8 and 50' will end up paying \$35.10 per week. That's a weekly saving of \$18.54 with the cheaper zone prices and also '8 and 50'.

For information on the new fares and zones visit www.translink.com.au

Lightning strikes halt Gold Coast light rail network

G:Link light rail services resumed running on Monday 12 December after a two day outage blamed on lightning strikes. Services had been suspended since about 3.30am on Saturday 10 December.

Light rail operator GoldlinQ's chief executive, Phil Mumford, said lightning-packed thunderstorms that hit the Gold Coast in the early morning of Wednesday 7 December melted several sections of cabling responsible for network communications.

"We had at least one, could have been multiple, strikes across the network, not on trams, because we're not running trams at that stage but we've had a lightning strike hit the ground near the light rail network", he commented.

That strike damaged a circuit board, causing an immediate emergency shutdown, which crews were able to rectify later the same day.

However, Mr Mumford said the full extent of the damage was not revealed until much later in the week, when several sections of the underground fibre optic cable failed.

"Safety on G:Link is paramount, and it's for that reason the system is designed to isolate faults on the network if and when they occur," Mr Mumford said. "Technical staff worked around the clock to pinpoint and repair faults in the fibre optic cables that control and coordinate the G:Link system's six electrical transformers. This was an extraordinary event."

"Test trams were running on the line by Sunday afternoon and into the night to verify the robustness of the system once the faults had been identified and rectified."

Mr Mumford said a full review would be conducted but was confident the problems were not evidence of a design fault.

"I think this is a rare and extreme event that occurred down here on the Gold Coast. The system actually performed exactly as it is designed and constructed to", he concluded.

Queensland Minister for Transport and the Commonwealth Games, Stirling Hinchliffe met with Mr Mumford on Monday 12 December for a briefing on the technical issues causing the G:Link services shutdown.

(The G:Link network is privately owned and operated by GoldlinQ, and is contracted to provide tram services to Translink, the state government agency tasked with providing integrated public transport services in southeast Queensland.)

"I want to thank the GoldlinQ team for its unwavering commitment to getting the G:Link tram network back on line for this morning's peak period," Minister Hinchliffe said. "Over the weekend, in a coordinated response with Translink, GoldlinQ acted quickly to minimise inconvenience to passengers by providing buses to maintain services along the G:Link corridor, and deployed staff to stations to direct and keep commuters informed."

"Everybody worked together to minimise inconvenience to passengers under difficult and complex circumstances," the Minister said.

Since commencing operations in July 2014, G:Link trams have travelled 2.2 million kilometres over more than 15,000 hours with service disruptions accounting for less than 1 per cent of total operating hours.

Final report into 2015 Julia Creek derailment released by ATSB

On Saturday 26 and Sunday 27 December 2015, the crews of trains 9E56 and 9T92 encountered wet weather as they travelled toward Julia Creek, a small town approximately 664 kilometres west of Townsville on the Mount Isa Line. The Bureau of Meteorology (BoM) had issued a series of localised severe thunderstorm warnings for the North West forecast district, which was normal during the Queensland wet season. The Network Control Officer (NCO) at the Queensland train control centre in Townsville was monitoring information on the BoM website and had received some information from the rail traffic crews who were travelling along the section. The NCO acted on the information available by arranging track inspections of the relevant sections of track west of Julia Creek.

As these inspections were occurring, train 9T92, comprising locomotive 2814 hauling 26 tanker wagons loaded with sulphuric acid for a total trailing mass of 2028 tonnes, continued to travel toward Julia Creek from the east.

On Tuesday 21 June 2016, G:link light rail vehicle 08 waits to return north at the South Broadbeach Terminus, west of the Gold Coast Highway and adjacent to the large Pacific Fair shopping centre. Peter Clark





A grain train, headed by Clyde/EMD units 2392 and 2389, loads at Capella's Graincorp facility on New Years Day. While grain trains continue to serve Capella, no work has commenced on GrainCorp's proposed new rail terminal at Yamala, 22 kilometres east of Emerald on Aurizon Network's Blackwater System line to Emerald. The proposed terminal is part of GrainCorp's Project Regeneration program designed to speed up train loading and reduce transport costs. GrainCorp is seeking some financial assistance from the Queensland Government for rail facilities at the terminal but this has, at this stage, not been forthcoming. In addition Central Highlands grain growers are reported to be indicating that modern grain loading facilities should be established beside the Emerald – Springsure branch line (perhaps at Gindie) and in the vicinity of Capella on the Emerald – Clermont branch line. Some growers have stated that while the Yamala site may mean cheaper rail transport for growers, their road transport costs will be greater. For example, road transport costs for grain farmers situated north of Capella would more than double and additional road trains carting grain through Emerald would be required. Andy Plunkett

At 9.33am on Sunday 27 December 2015, with the train approximately 20 kilometres east of Julia Creek the train passed through a section where floodwaters had previously overtopped the track and receded. Shortly afterwards the crew of train 9T92 encountered another area where floodwater had overtopped the track. However, at this location the floodwater had scoured the ballast and compromised the integrity of the track.

The driver became aware of the washout only moments before the locomotive impacted and derailed, causing it to tip on its side. All of the 26 trailing tanker wagons also derailed to the north of the track and came to rest laying in the pooled floodwaters.

The report determined that after sighting the washout, the train crew could do nothing to prevent, or lessen the impact of the incident.

About 20 minutes after the derailment, emergency services arrived to attend to the train crew and take control of the site.

Due to the closure of the Flinders Highway due to flooding, the emergency response team was unable to respond immediately and did not arrive on site until about 6.15pm. On arrival the emergency response team commenced preparations to assess the damage to the tanker wagons, the extent of product leakage and arrangements for its containment.

The presence of floodwaters across the Flinders Highway and saturated soil conditions at the derailment site restricted ready access by Queensland Rail and other response teams. Assessment and recovery

operations continued for several weeks following the derailment (see April 2016 RD, page 15).

The Australian Transport Safety Bureau (ATSB) found that scouring of the ballast and formation adjacent to the 617.190 km point by floodwater meant that the track could not support the weight of train 9T92 as it passed over the affected area.

The resulting deformation in alignment of the track initiated the derailment. Reporting procedures implemented by Queensland Rail and Aurizon provided insufficient guidance to the NCO or rail traffic crew to identify and respond to potential hazards from a wet weather event.

As a result of the derailment Queensland Rail has issued Safety Alerts to improve the effectiveness of the current network rules in relation to managing hazards associated with weather events. A review of weather monitoring services and the upskilling knowledge of relevant personnel on interpreting meteorological information has also commenced. Queensland Rail has commenced a review into the feasibility of adopting the Australian Standard AS7637 Railway Infrastructure – Hydrology and Hydraulics.

Aurizon has introduced respiratory protection masks for train crew on trains transporting acid. Additionally Aurizon continues to reassess the emergency evacuation procedures, locomotive windscreens and secondary communication opportunities/options.

The full ATSB report can be downloaded at: http://www.atsb.gov.au/publications/investigation_reports/2015/rair/ro-2015-028/

First stage of AdeLink tram extension out to market

The first stage of the South Australian Government's massive expansion of Adelaide's tram network was released to market in early December. The \$50 million first stage includes the design and construction of a one-kilometre extension from the intersection of King William Street and North Terrace to East Terrace.

The extension forms Stage One of EastLINK, with future stages planned through Kent Town to the Eastern suburbs. The extension also marks the first stage in the CityLINK loop around the CBD. It will feature three new stops and provide a frequent and reliable link between the Riverbank's Educational and Cultural Precinct, Entertainment Precinct and the Health and Biomedical Precinct.

The planned 10-minute free shuttle service could transport more than 2000 people an hour between the city's east and west ends.

"AdeLINK is an ambitious project that will connect North, South, East and West, ease city congestion and reduce our carbon footprint. It is also an investment in South Australian jobs – we will ensure as many local jobs and contractors as possible are utilised during the project", SA Transport and Infrastructure Minister Stephen Mullighan said. "Expanding our tram network has the potential to attract investment,

boost economic growth and encourage urban renewal and jobs, and bring residents and visitors to the city centre. Importantly, it will support and contribute to the growing market demand for residential development in the CBD, inner and middle metropolitan Adelaide."

Works are scheduled to commence in the first quarter of 2017 and be completed by the end of the year, weather permitting.

The SA Government is also calling for tenders for improvements to the existing tram network, including an upgrade to the City South tram stop and upgrading tram tracks that will provide tram passengers with a smoother, quieter journey.

The City South works will deliver a much needed upgrade to the existing tram stop located at the intersection of Sturt, Halifax and King William Streets that will improve accessibility for people with disabilities and upgrade track that was installed in the early 1980s.

Additional track upgrades will occur along Jetty Road to improve the running of the trams and improving safety for cyclists with the inclusion of a rubber inlay.

The Jetty Road works will be scheduled to start mid next year, well after the busy summer period.

Bombardier 4000 Class EMU 4007 waits at Tonsley to commence a service to Adelaide on Monday, 21 November 2016. Considered the 'Cinderella' of the Adelaide suburban network, the Tonsley branch has seen something of a revival with electrification and an improved train frequency. The line currently receives a 30-minute frequency service during and between weekday peak periods but no evening or weekend services operate. However, a Commonwealth/State funded \$85.5 million project announced in May 2016 will enable the Tonsley line to be extended 600 metres to the Flinders Medical Centre via a 520 metre rail bridge over Sturt and South Roads. This project is expected to result in increased in patronage on the Tonsley line when it is completed by the end of in 2018. At this stage, the future of the current Tonsley Station is unknown. John Hoyle



For the nostalgia of rail, don't miss...

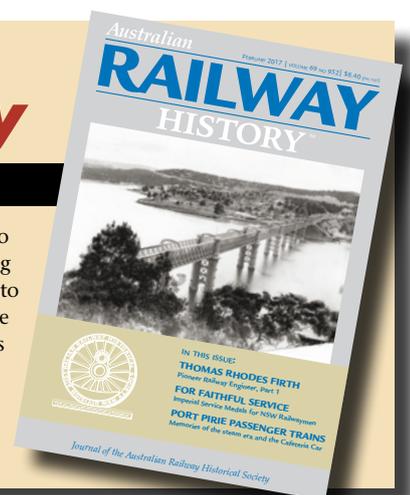
Australian Railway History

February 2017 issue out now! Just \$8.40

The February 2017 issue of *Australian Railway History* features two more articles on careers of prominent railway officials and workers. Thomas Rhodes Firth arrived in Sydney as an engineer in 1859 to supervise construction of the Main South Line to Picton. Part 1 of his story by his great grandson Tony Firth focuses on Thomas' work supervising railway contractors constructing the Great Western Line, the Main South Line and the Illawarra line to Sutherland.

Trevor Edmonds explains the recognition given to railway employees for faithful service by nominating them for Imperial Service Medals awarded by the King to civil servants across the British Empire. He analyses the rationale behind the selection of those awarded medals and the influence of particular Commissioners.

Rodney Barrington recalls his rail trips from Adelaide to Port Pirie from 1965, when the grand steam locomotives of the SAR still dominated these services.





Bombardier Flexity Classic tram 109 awaits departure from the Adelaide Entertainment Centre terminus for Glenelg on Monday 21 November 2016. While all-over advertising provides revenue for transport operators, it restricts passengers' views out of the tram, especially on wet nights. Work is expected to start this year on a \$50 million one kilometre extension of the Adelaide tram network from King William Street along North Terrace to East Terrace as part of the South Australian Government's AdeLINK plan involving a number of extensions to the tram network. The Government put the project out to market in late 2016. John Hoyle

Mid-year budget review supports Adelaide light rail

The South Australian Government will spend an extra \$20 million to purchase three new trams and extend the city tram line along King William Street to the Festival Plaza in the Adelaide CBD.

The funding was announced on Thursday 15 December as part of a mid-year budget review.

The Government said the new section of tramline, north along King William Road, would ensure no interruptions to the busy North Terrace-King William Road intersection, when a future extension to Prospect goes ahead. (Prospect is an inner city suburb located north of the Adelaide CBD.)

The Government had previously announced a \$50-million plan to extend the tramline one kilometre along North Terrace to the old Royal Adelaide Hospital (RAH) site, which is marked for future development after the new RAH opens in the city's west. (See previous item.)

South Australian Treasurer Tom Koutsantonis said the investment was part of the Government's "AdeLINK" plan to "massively expand our tram network to the north, south, east and west".

"This announcement builds on that commitment," he said. These new trams will increase the frequency of services, while the new stop will limit disruption to the North Terrace intersection and bring passengers right to the doorstep of the Festival Centre."

A 2015 audit for Infrastructure Australia found the performance on urban roads and urban public transport in Adelaide was a "key challenge" for South Australia. It flagged a tram network as a medium-term solution in the next five to 10 years.

South Australian Transport Minister Stephen Mullighan said the

extension would bring more tourists and visitors to the city centre. "While a majority of benefit will be to public transport customers, expanding our tram network will also play a crucial role in addressing the congestion challenges we face across the metropolitan area," he said.

Work on the Festival Centre stop is expected to start soon and be finished by the end of 2017.

In total four new stops will be built, at the South Australian Museum, University of Adelaide, the old Royal Adelaide Hospital and Festival Centre.

Subscribe to

Railway DIGEST

and you'll never miss an issue of Australia's leading railway magazine. Go to www.railwaydigest.com.au to subscribe online, or fill in and post the application form on page 59. For a digital subscription, go to www.pocketmags.com

December 2016
 ARTC 6-SSB combine for mainline loading at Whyalla
 August 2016
 Travel on the Westlander
 Cattle trains return to Oakley



CFCLA Goninan/GE EL Class units EL60 and EL63 worked the Balco transfer freight in South Australia during December, and are seen here crossing the Port River Bridge at Birkenhead, in Adelaide's north-western suburbs, on Tuesday 20 December 2016. Jack Chambers

Outer Harbor and Grange rail line closed during January for overpass construction

As part of the Torrens Road to River Torrens Project, the Outer Harbor and Grange rail lines were closed from Monday 2 to Monday 23 January to allow construction of a new rail overpass over South Road, in suburban Croydon just north-east of the Adelaide CBD (see December 2016 RD, page 19).

Key activities undertaken included:

- Removal of existing rail track and sleepers.
- Installation of retaining walls and backfill of embankments.
- Construction of south bound surface road under the rail overpass.
- Lifting of three overpass segments into place and cast overpass deck and walls.
- Installation of ballast and tracks.
- Conduct of signalling works and running test trains.

Work continued around the clock to ensure that the project was finished within the available timeframe.

During this rail closure, additional maintenance work on the Outer Harbor and Grange lines was also completed including:

- Maintenance of the Port River Bridge
- Early works for Torrens Rail Junction
- Level crossing upgrades at Harris Street, Hargrave Street and Gedville Road
- Maintenance at various stations
- Track replacement between Woodville Station and Port Road
- Signalling maintenance
- Vegetation management

For safety reasons these activities could not be undertaken while trains were running.

Train services were scheduled to recommence from the first service on Tuesday 24 January 2017.

For information on the rail overpass visit www.t2talliance.com.au

For information on maintenance works visit http://www.infrastructure.sa.gov.au/RR/rail_revitalisation/rail_maintenance_calendar.

metroMate mobile app launched

A new public transport smartphone app has been launched to give Adelaide Metro passengers better information and assistance on their travels. The *metroMATE* app provides easily accessible real-time and personalised information for passengers to choose the best way to get to their destination.

"The *metroMATE* app is one of a number of ways we are making travel on our public transport networks easier and more convenient for all passengers", said South Australian Transport Minister Stephen Mullighan. "For the first time commuters will be able to see where the train, tram or bus they are waiting to catch is on the network. This is a huge improvement on all other public transport apps available."

The app has been released as a trial 'beta' version for testing and feedback before being made ready for broad-scale release.

It is currently available for Apple products and features:

- Mobile friendly access to journey planning
- Real-time arrivals based on current location and planned destination
- Ability to save and monitor regular stops and journeys
- Ability to set alerts and alarms for favourite journeys
- Real-time map location showing next service

South Australian company *The Distillery* worked with the SA Department of Planning, Transport and Infrastructure to develop the app, which was launched on Tuesday 21 December.

As with other apps, *metroMATE* will be regularly updated in response to feedback from users.

The app can be downloaded for Apple products from the Adelaide Metro website: <http://www.adelaidemetro.com.au/metro-mate>

An Android version is currently being developed and will be available in early 2017.

The initiative is being undertaken as part of the State Government's Digital First strategy and the Department of Planning, Transport and Infrastructure's Digital Transformation project.

Public surveys for the development of *metroMATE* were conducted in September 2016 with 1000 responses received. The high priority functions identified in the survey have been included in the app.



An oddity on the Adelaide suburban rail network is a stretch of track on the Woodville–Grange line that passes through the Royal Adelaide Golf Club course at Seaton. On Wednesday, 23 November 2016, single-ended Comeng-built diesel-electric railcars 3111 and 3112 operate a Grange to Adelaide service through the greens while golfers play their shots. The course was once served by its own station called Golf Links, which closed in 1961. John Hoyle



GWA empty copper train 1911 has recently become a once-a-week Sunday evening operation with only a small number of wagons travelling up, the remainder being attached to SAD1 Adelaide-Darwin freight. The overpowered combination of ALF20, ALF18 and ALF23 are on approach to Angle Vale Road level crossing at Virginia, north of Adelaide, with just four wagons and a crew car in tow on Sunday 1 January. Jack Chambers



DQ Class locomotives 2006 and 2002 lead a ballast train east through Bishopsbourne, in Tasmania's north, as they head for another ballast drop at Perth at noon on Friday 6 January. Rowan Kinnane

No Tasrail mainline derailments in 2016 calendar year

Tasmanian Minister for Infrastructure Rene Hidding told a government business enterprise hearing in early-December that there had been no main line derailments in the 2016 calendar year to date.

"Rail remains the safest and most efficient mode of freight transport, and by eliminating derailments, TasRail has been able to rebuild customer confidence as demonstrated by the consistent year-on-year growth in market share," Mr Hidding said.

Mr Hidding said the improvements were the result of track upgrades under the Tasmanian Freight Rail Revitalisation Program.

On Tuesday 6 December the TasRail board approved a major \$20 million track upgrade of the South Line. (The South Line or Main South Line runs from the Brighton Transport Hub – north of Hobart, to Western Junction Yard.) Mr Hidding said Ulverstone-based company VEC had won the tender to install 24,000 metres of new rail on the line – one of the state's busiest.

The devastating floods that hit Tasmania in June 2016 contributed to a worse than expected loss for TasRail in 2015/16. The state-owned rail company posted an above rail loss of \$5.8 million in 2015-16 compared with a forecast loss of \$4.1 million.

Flooding caused damage to the rail network in 65 locations, causing the suspension of all rail services.

Also on 6 December, Mr Hidding announced that Tasmanian company

Stubbs Construction had been awarded a \$5.5 million contract for works at the South Burnie Rail Yard.

The company will build a purpose-built facility to allow the installation of a new under-floor wheel lathe, replacing the existing above-floor wheel lathe which has reached the end of its life.

The project will result in numerous benefits such as:

- Reduced maintenance costs for rolling stock
- Reduced time for wheel turning and re-profiling
- Productivity improvements
- Increased asset availability
- Reduced wheel/rail noise; and
- Creation of up to 35 local jobs expected during construction.

Mr Hidding's congratulated Stubbs Construction on being awarded this contract saying that he looked forward to continued growth in the sector, especially in the northwest of the state.

To read *Railway Digest* on your PC, Mac, Mobile, Tablet and more, visit
www.pocketmags.com

Murray Basin Freight Rail Project Steams Ahead

On Friday 16 December Federal Minister for Infrastructure and Transport Darren Chester and Victorian Minister for Public Transport and Major Projects Jacinta Allan released the tender for stages two and three of the project, which will standardise and upgrade the entire Murray Basin freight rail network.

Mr Chester said the Murray Basin Freight Rail Project would boost the safety, capacity and reliability of freight services in north-west Victoria. "This project is economically crucial to better connect primary producers to Victoria's major ports," Mr Chester said. "The Australian Government is committed to supporting farmers, their families and our regional economy through investment in much-needed regional transport infrastructure projects such as the Murray Basin Freight Rail Project."

Minister for Public Transport and Major Projects Jacinta Allan said the project was great news for regional Victoria.

"This vital project will allow our primary producers to get more produce to port, more efficiently – boosting jobs and the regional economy," Ms Allan said. "It's good for farmers and their families, and we're not wasting a moment getting it to market and getting it done."

Stage one of the project, completed earlier this year, upgraded the Mildura line with the installation of sleepers and the replacement of rail.

The second stage, now released to market, will standardise the track between Yelta and Maryborough which will increase axle loading and allow heavier trains carrying more product with each trip to market.

The Maryborough to Ararat line will also be upgraded and re-opened as part of stage two, providing a key freight connection to the Port of Portland from north west Victoria and interstate.

Stage three of the project – also released to market on 16 December

will standardise the gauge and increase axle loading on the Manangatang and Sea Lake lines.

Complementary works funded by the Victorian Government include completion of sleeper and rail upgrades on the Hopetoun Line and as part of the tender for Stage two works, standardisation of the Ouyen to Murrayville line.

The \$440 million Murray Basin Freight Rail Project is jointly funded by the Australian and Victorian governments, with both contributing up to \$220 million.

The tender for stages two and three close on 3 February. For further details, visit www.tenders.vic.gov.au

The Murray Basin Rail Project involves standardising and upgrading over 1000 kilometres of rail track that services the Murray Basin region. It includes restoring the track's condition to its underlying track class and speed rating. Specifically, it involves converting the track gauge from broad (1600 millimetres) to standard (1435 millimetres) on the following sections and increasing the allowable train axle loading (TAL) from 19 tonne to 21 tonne:

- the Maryborough to Yelta rail line (406 kilometres)
- the Korong Vale to Sea Lake rail line (140 kilometres)
- the Dunolly to Manangatang rail line (247 kilometres)
- the Gheringhap to Warrenheip rail line (66 kilometres).

It also includes:

- re-opening of the Maryborough to Ararat standard gauge rail line (87 kilometres) and upgrading it to 21 TAL
- converting the Ouyen to Murrayville rail line to standard gauge (109 kilometres).



The unusual sight of N469 hauling an H Set out of Golden Square (Bendigo) on Saturday 10 December, after the locomotive received repairs at the SSR workshops at North Bendigo. Jack Chambers

ATSB releases findings into 2015 SPAD incident at Marshall

The Australian Transport Safety Bureau (ATSB) has released its final report into a Signal Passed at Danger (SPAD) incident at Marshall on Friday 29 May 2015. (Marshall is located approximately 80 kilometres from Southern Cross station on the Warrnambool Line. It is a southern suburb of Geelong.)

On 29 May 2015, an empty VLocity unit VL1141 was being transferred from Waurn Ponds to Geelong, passing through Marshall and South Geelong stations en route and without stops. The empty-cars train was following a Melbourne-bound service.

When the empty-cars approached Marshall, the Distant signal for this location was displaying Caution. This indicated that at least one of the Home signals in advance was at Stop. The train's speed was reduced in response to this indication, but was subsequently increased to above 100 km/h as the train continued towards Marshall Railway Station.

Nearing Marshall Station platform, the driver observed the next Home signal at Stop and applied the train's brakes. However, the train could not be stopped before it passed this signal and the next, which were both at Stop.

Marshalltown Road level crossing intersects with the railway about 140 metres beyond Marshall Station and the empty cars entered the crossing before the warning devices activated.

There was no collision at the crossing, no injuries, and no damage to any infrastructure as a consequence of this incident.

The ATSB found that the driver of the empty-cars did not respond appropriately to the two-position signal indications through the Marshall location, including the Caution indication on the Distant

signal. The speed of the train was too high as it approached Marshall Station and as a result the train could not be stopped in response to observing the next signal at Stop.

The driver had recently qualified to drive passenger services and this was his first shift driving without supervision. It was found that the training had not adequately prepared the driver for the sequence of two-position signals at this location. The predominant signalling on the Melbourne-Geelong corridor is three-position.

The ATSB also found that the rule that described the required driver response to a Distant signal at Caution in a two-position signalling system did not fully reflect the design principles for this type of signalling configuration.

Since the re-establishment of Marshall Station (in 2004), rail passenger traffic through Marshall had increased tenfold, and there was scope to enhance the signalling configuration.

As a result of the incident immediate actions by V/Line included imposing temporary speed restrictions for this location and retraining the driver in two-position signalling. V/Line also developed a simulator session to improve driver training in two-position signalling.

V/Line advised that funding has been secured for the development of a business case and feasibility study for a track and signalling upgrade of the South Geelong – Waurn Ponds section.

ATSB has recommended that V/Line amends the rule for the required driver response to a Distant signal at Caution.

The full report can be found at: http://www.atsb.gov.au/publications/investigation_reports/2015/rair/ro-2015-009/



Pacific National Goninan/GE locomotives NR57, NR78, NR9 and NR2 are approaching Seymour with 2WM2 Port Kembla–Melbourne steel train on Tuesday 1 November 2016. Scott Mitchell

Better train services and information for passengers

The Victorian government is considering a market-led proposal to upgrade telecommunications on Melbourne's rail system to improve services and provide better information for passengers.

The proposal would see an upgrade to the metropolitan train network to 4G technology, supporting extra services, more timely and detailed maintenance alerts, more accurate arrival times, and high-capacity signalling.

The proposal by Nokia and Vodafone has moved to stage four of the Market Led Proposal assessment process. If approved, rollout of the upgrade is expected to take about six months with no disruptions to commuters.

Responding to the proposal on 7 December Victorian Treasurer Tim Pallas said, "Our Market-Led Proposal Guideline gives all businesses a transparent way to work with the Government, enabling collaboration that leverages unique opportunities while protecting the community's interests."

New simplified Victorian Train Network map released

The Victorian Government has introduced a new colour-coded train map, to make it quicker and easier for passengers to find their way on Victoria's rail network.

The new map was officially unveiled on Thursday 29 December. It provides a different colour for each metropolitan rail line and highlights interchanges, making it easier to tell which line passengers are on and where they need to change services.

Colours have been carefully chosen to be distinguishable by people with the two most common types of colour vision impairment, and are

Naming bridges in high-risk areas to boost safety

Rail bridges in bushfire, flood prone or isolated rural areas of Victoria are being named to ensure locations can be easily identified by emergency services.

Victorian Minister for Public Transport Jacinta Allan was in Huntly (Located 10 kilometres north of Bendigo) on Friday 25 November to announce Ellis Bridge as the first bridge to be named and to launch a competition to find names for five bridges in Moorabool Shire.

Official bridge names are determined through a community nomination and vote under VicTrack's Bridge Naming Competition. Launched in 2015, the competition is designed to find names for bridges in 'high-risk' areas, so emergency services can locate them more accurately.

The success of the pilot competition in Huntly means five more high-risk rail bridges near Ballan, Navigators and Bacchus Marsh will now be named under the program.

The local community were invited to nominate names for the bridges by 31 January.

Names must commemorate a local community member or event, and follow the criteria set out by the Office of Geographic Names (OGN). Nominated names will be shortlisted by a panel including the OGN, local emergency services, Moorabool Shire Council and VicTrack, before the community votes on their favourite name from the shortlist.

The bridges are located at McCormack Road, Paces Lane and Browns Lane near Bacchus Marsh, Dunnstown Road near Navigators, and Portland Flat Road near Ballan.

More car parking spaces to ease pressure at Victorian stations

The Victorian Government will build up to 2100 extra car parking spaces across the state to make it easier for passengers to find a park at local stations.

On Thursday 15 December Victorian Minister for Public Transport Jacinta Allan announced that Ace Infrastructure, Civilex and 2-Construct have been awarded the contract to upgrade 14 station car parks across outer Melbourne suburbs and regional Victoria.

The stations to be upgraded are:

- Castlemaine (Bendigo line – 150 spaces)
- Deer Park (Serviceton line – 225 spaces)
- Ferntree Gully (Belgrave line – 215 spaces)
- Gisborne (Bendigo line – 40 spaces)
- Keilor Plains (Sunbury line – 220 spaces)
- Kilmore East (North East line – 50 spaces)
- Kyneton (Bendigo line – 100 spaces)
- Melton (Serviceton line – 270 spaces)
- Officer (Pakenham line – 150 spaces)
- Regent (South Morang line – 117 spaces)
- Upfield (Upfield line – 100 spaces)
- Wallan (North East line – 150 spaces)
- Watsonia (Hurstbridge line – 101 spaces)
- Williams Landing (Werribee line – 150 spaces)

New lighting, CCTV footage, line markings and signage will improve safety and access in and around the stations.

The 2016/17 Victorian Budget included \$20 million to build more than 1500 new free, sealed car parking spaces but this number was increased to 2100 following detailed planning.

Increasing parking capacity at these stations will also help to reduce traffic congestion on local streets by encouraging more people to use public transport.

The sites were chosen following an extensive audit of more than 200 suburban and regional stations to determine the current capacity, future demand, available land, and population growth of each area.

A series of community information sessions were held in 2016 to give local residents and passengers the chance to have their say and find out more about the car park concept designs.

The additional parking spaces will be completed by mid-2018. For more information about the project, please visit victrack.com.au.

the same colours as Public Transport Victoria's (PTV) live travel updates.

The map also combines the metropolitan and regional train networks for the first time, reflecting the increasing integration of Metro and V/Line services and removing the need for passengers to swap maps if travelling between Melbourne and regional Victoria.

The new map also includes a grid linked to an alphabetical index at the side, to help users locate unfamiliar stations. It is being progressively rolled out on all metropolitan trains and stations from 1 January 2017.

While the map is concise and easy to read not everyone is happy with the design. Border Rail Action Group convenor Bill Traill said the design reflected the city-centric approach of the government with the North East line to the NSW border squeezed into the top of the map after turning east from the northern Melbourne suburb of Craigieburn.

"We're lucky to make the map," he said. "It's a map that represents a system of neglect for distant lines. It's a very telling bit of schematic design."

The new map can be downloaded at: https://static.ptv.vic.gov.au/Maps/1482457134/PTV_Train-Network-Map_2017.pdf

Around Melbourne



On Thursday 8 December 2016, a rainbow appears over the Melbourne skyline, as the historical Allied Flour Mills at Kensington receives a Pacific National grain train led by XR558 (with its distinct noise cover), while XR557 (out of view) sits at the other end of the train. James Chuang

A Metro Trains X'trapolis Set departs from the newly-rebuilt Bayswater Station (see page 49 of this issue) on Sunday 18 December 2016 with the 1247 Belgrave to Camberwell service (terminating at Camberwell because of trackwork on the day). Bruce Payne



Environmental plan in place for the Metro Tunnel

Victorian Minister for Planning Richard Wynne signed off on the rigorous Environmental Effects Statement (EES) for the Metro Tunnel Project on Wednesday 21 December.

The \$10.9 billion Metro Tunnel will deliver two nine-kilometre rail tunnels from South Kensington to South Yarra via the Melbourne CBD. There will be five new underground stations, Arden, Parkville, CBD North, CBD South and Domain. The line will run from the north-west to the south-east and combine the Sunbury line with the Cranbourne/Pakenham line, freeing up space in the City Loop to run more trains, more often to the suburbs and regional Victoria.

There will be a number of major changes to manage and reduce project impacts including:

- realigning the western tunnel entrance in Kensington to reduce the number of properties that will be acquired from 22 to one,
- adopting changes that mean 119 trees will now no longer be impacted,
- no longer using Fawkner Park in South Yarra as a tunnelling support site, and
- confirmation the Metro Tunnel will travel underneath CityLink.

The Minister has also requested further action from the Melbourne Metro Rail Authority (MMRA) to minimise impacts on the community, businesses and surrounding heritage.

The MMRA is also required to set up new stakeholder groups along the alignment to work with communities during construction of the \$10.9 billion project. A business disruption plan, a traffic and transport

work group and new guidelines for construction noise levels have also been requested in the final EES.

The draft EES was released earlier this year for consultation and 379 submissions were received. Submissions focused on noise and vibration from tunnelling, changes to traffic and transport, loss of trees, impacts on open space, heritage and the impact on communities and businesses around the works.

An independent committee sat for 33 days between August and October 2016, hearing from 115 parties, before making recommendations to the minister.

The independent EES Panel assessed proposals to build a deeper Domain Station and determined that the shallow station provides the greatest benefit for the 40,000 passengers who will use it each day.

Now the EES has been finalised, planning controls can be put in place for the project to go ahead. The minister received the panel's report on 21 November 2016 and it was released within 25 business days, in line with the Environmental Effects Act.

"The Metro Tunnel is the biggest Victorian infrastructure project since the city loop was built in the 1980s and it will generate decades of benefit to public transport users", Minister Wynne said.

He concluded by saying, "While there will be significant impacts over the construction period, plans will be in place to minimise the disruptions and we will keep working with the community along the way"

The full assessment report is available to view on the Victorian Department of Land, Planning, Water and Environment website.

Fishermans Bend Redevelopment Stalls on Transport Access Problems

Melbourne real estate developers are eyeing off an old industrial area close to the CBD across the Yarra River from the Port of Melbourne and Docklands which they hope to transform into Melbourne's latest smart redevelopment precinct. However, it is a transport black-hole which seems to defy any easy solution. As well as challenges in providing urban transport links for residents, expansion of the adjacent container port at Webb Dock is generating an increasing volume of heavy vehicle traffic on the Fishermans Bend road network which cries out for a separate freight rail link to the container port.

The Metropolitan Planning Authority has been considering this major urban renewal project for some time and has considered a range of suitable transport links to serve this new development. Road access options from the existing Charles Grimes Bridge appear limited and conflict with existing busy traffic streams. Rail options also are not readily available. At one stage, it appeared that the Melbourne Metro project would be routed to swing around the western end of the Melbourne CBD to enable a station to be built to serve Fishermans Bend, but this now will not happen following the final selection of the Swanston Street Metro route.

The tramway option has its supporters but will require a new bridge across the river and extension of existing tramlines from the Docklands precinct. Dockland residents are vehemently opposed to a through tram route to disturb the quality of life of their enclave from any new through tram routes. At the recent Victorian elections, the Labor Party ruled out a new bridge at this location and Docklands residents thought the issue had gone away. However, the recent release of the final Fishermans Bend vision report by the Metropolitan Planning Authority has placed the issue back on the political agenda by pointing to the obvious conclusion that any development at Fishermans Bend will require transport links to the CBD and to the northern part of the city, which in both cases will involve routing traffic through the Docklands and the port area. There is also opposition to any new bridge from water users who fear that a low level tram and pedestrian bridge would restrict access to

the proposed Yarra Edge marina in the vicinity. The matter is further complicated by uncertainty regarding the future restoration of the rail link to serve port developments at Webb Dock, which also may require a separate rail bridge over the Yarra River near this location. The Port of Melbourne website is rather coy about future heavy road traffic implications from the planned expansion of container traffic, particularly from further development at Webb Dock. Material on the website clearly shows awareness of the increasing heavy road traffic volume through the Fishermans Bend district. While acknowledging the need for a solution, no mention is made of re-establishing the rail link that closed in the 1990s with the development of the Docklands residential precinct. It seems the need for a freight rail link is the 'elephant in the room', with public transit options a critical element of any Fishermans Bend redevelopment proposals.

The success of the proposed Fishermans Bend redevelopment will depend on the identification of feasible urban passenger and container freight transport options for the precinct. Another option has recently been raised in the Infrastructure Victoria Thirty Year Strategy draft report released recently (RD Nov 16, p.21). While noting a possible future Fishermans Bend tram link, it also suggests that the Melbourne suburban rail network will need construction of a new cross CBD route to provide additional capacity for the system to meet future demand. A new tunnel linking Newport and Clifton Hill servicing both the Fishermans Bend development and the Parkville University precinct is one option identified in the draft report. Given the troubled history of the Melbourne Metro, any future large scale tunnel project, however well justified as an essential capacity enhancement, is likely to be many years off and unlikely to provide any short term solution to the transport needs of the Fishermans Bend redevelopment. Chances are that the Docklands residents will have to man the barricades to stop the extension of tram routes through Docklands and drivers on the Westgate Freeway will continue to battle heavy container trucks headed for Webb Dock. *Ian Crellin*

Works to boost productivity and efficiency at the Dynon rail precinct

On Thursday 22 December VicTrack released a Request for Tender for an experienced construction firm to carry out hardstand, drainage and rail works to renew key rail freight infrastructure and increase throughput and performance at its Dynon Rail Freight Terminal in West Melbourne.

The planned works at the terminal include a new deep strength asphalt hardstand, drainage and other associated rail works. The multi-million project budget is expected to return investment back to VicTrack in under four years.

VicTrack's Dynon Rail Freight Terminal is an intermodal open-access freight terminal located four kilometres from Melbourne's CBD, and has been in operation since 2007. The terminal is operated 24 hours a day and seven days a week, and provides intermodal rail freight access for rail companies not having their own terminal arrangements. VicTrack has two tenants on site, Aurizon and QUBE Logistics.

The northern hardstand pavement is used by forklifts to load and unload containers to and from rail wagons and road transport. The current condition of the hardstand is adversely impacting the efficiency of operations, with wear and tear evident to its surface.

Works, anticipated to commence in early 2017, are expected to take up to nine weeks, and are timed to take advantage of the quieter period of operations and more favourable weather conditions.

The proposed schedule also minimises impacts on terminal operations, with works carried out in stages to ensure tenant stakeholders are unaffected.

The Request for Tender closed on 25 January.

Five finalists vie to shape new Frankston station

Frankston is one step closer to its new-look station, with five architects chosen to present their vision for its transformation.

Victorian Minister for Public Transport Jacinta Allan and Member for Frankston Paul Edbrooke joined the finalists on Tuesday 13 December at the Frankston Revitalisation Hub to view their designs.

The Frankston Station design competition has generated considerable interest, with a total of 39 architects submitting their vision for the new precinct.

A jury chaired by Victorian Government Architect Jill Garner selected five architects from this group to now work with experts to produce a more detailed design concept.

The finalists include:

- Luke Farrugia and Andrew Shaper – both young practitioners on the central coast of New South Wales
- Grimshaw – a large international practice with a Melbourne office
- Genton – a mid-sized Melbourne practice
- Cullinan Ivanov – a mid-sized Sydney practice
- Supermanouvre – a young international architecture and innovation practice based in Sydney.

"We're rebuilding Frankston Station to make it bigger and better than ever before – and we're doing it with the help of the local community and the best architectural minds from across the country", Minister Allan said. "I want to congratulate the finalists for making it this far, and wish them luck for the final stage of this exciting competition."



14.2 kilometres from Southern Cross, Williamstown is the terminus of a branch line that once continued on to a busy port area. Now, the line ends just beyond the platform and weeds grow in the former goods yard. At 1452 on Thursday 8 December, an Xtrapolis Set departs Williamstown on a direct service to Flinders Street Station. From there, it will continue east, forming the 1524 service to Frankston. Bruce Payne



On Saturday 10 December 2016, E6015, operating the Route 96 tram service, is about to depart the newly-built Acland Street Plaza platform at St Kilda, heading to East Brunswick. Bruce Payne

The winner and preferred design will be announced in March, with construction starting in late 2017. The successful architect will be assigned the role of Project Architect for the station rebuild.

Rebuilding Frankston station is at the heart of the Victorian Government's \$63 million transformation of the Frankston station precinct.

Work is already underway to give Young Street, which runs parallel to the front of the station, a much-needed facelift, creating safer and easier access for local residents and pedestrians to the station. These improvement works are expected to be complete by April.

Locals can see the five designs on display at the Frankston Project Hub on the corner of Young and Balmoral streets, opposite the station, and online at www.transport.vic.gov.au/frankston-station-precinct-redevelopment.

Shortlist for more than \$1 billion in crossing removals

Some of Australia's biggest construction companies have been shortlisted as bidders to remove a further 11 level crossings in Melbourne as part of the Victorian Government's Level Crossing Removal Program.

On Monday 12 December Victorian Minister for Public Transport Jacinta Allan announced the shortlisted bidders for two massive packages of level crossing removals, valued at more than a billion dollars.

A joint venture of John Holland and KBR, and a joint venture of CPB Contractors and Aurecon, have been short-listed for the North West Program Alliance.

The successful bidder will remove dangerous and congested level crossings at Camp Road in Campbellfield (Upfield line) and Buckley Street in Essendon (Craigieburn line), with work to start this year.

Under the Program Alliance model, if these removals are delivered well, the successful bidder will retain the contract to remove further crossings at Glenroy Road in Glenroy (Craigieburn line), Bell Street in Coburg (Upfield line) and Moreland Road in Brunswick (Upfield Line).

A joint venture of McConnell Dowell, Arup and Mott McDonald, and a joint venture of Coleman Rail, Seymour Whyte and Arcadis Australia have been short-listed for the Western Program Alliance.

This Alliance will remove the Abbots Road level crossing in Dandenong South (Cranbourne line) and the Kororoit Creek Road crossing in Williamstown North (Altona Loop), as well as duplicating part of the Altona Loop to boost the reliability of services.

If these projects are delivered effectively, the successful bidder will also remove the Aviation Road level crossing in Laverton (Werribee line), Ferguson Street crossing in Williamstown (Williamstown line), and Cherry and Werribee Street crossings in Werribee (Werribee line).

The Program Alliance model – where successful bidders must meet strict performance measures to remove the other crossings – reduces procurement time, meaning the crossings are removed sooner.

It also provides a pipeline of work that enables constructors to build and maintain skilled workforces, better supporting local jobs and opportunities for apprentices, trainees and cadets. "Construction on six of these level crossing removals will begin next year (2017) and by late 2018, the removal of 37 of Victoria's most dangerous and congested crossings will be finished or underway", Ms Allan said.

For more information about this project, visit levelcrossings.vic.gov.au.

To read *Railway Digest* on your PC, Mac, Mobile, Tablet and more, visit
www.pocketmags.com



Cycling facilities improved at suburban Perth railway stations

Facilities for Perth rail commuters who cycle to their local station are improving, with bicycle shelter upgrades being completed at nine suburban stations.

On Friday 9 December WA Transport Minister Bill Marmion said a \$330,000 investment has provided 242 extra bike parking spaces on the Mandurah, Armadale, Midland and Fremantle lines.

“Passenger demand for bike parking facilities has been increasing for some time and I’m an advocate for integrating bike facilities with public transport services,” Mr Marmion said. “We know the availability of bike shelters is a great motivator for cyclists to get on their bikes and ride along the many principal shared paths that link to our stations.

“The State Government is committed to making life easier and safer for commuters to get around this great city - investing in cycling facilities for our passengers is a win-win.”

A further 13 station upgrades have either begun or will commence

in the next few months, resulting in the addition of a further 302 bicycle parking bays across the suburban network, and bringing the total number of bays to more than 3,100.

“With Transperth integrating its electronic SmartRider system with the bike shelters, we can see how often the shelters are used and any constraints on their capacity, which means we can make upgrades and improvements where they will have the greatest benefit,” the Minister said. “I urge all passengers who are considering cycling as part of their commute to check out the facilities available at their local station, and register online at the Transperth website to take advantage of these excellent upgrades.

Access to bike shelters is free, but requires a SmartRider card which has been registered for a designated shelter. To register, or for more information about Transperth services, visit - <http://www.transperth.wa.gov.au>.

Above: Transperth A Sets 48 and 17 depart East Perth with a service to Midland, on Tuesday 20 December 2016. Evan Jasper
Right: A Transperth suburban evening peak hour service arrives at Fremantle on Tuesday 6 December 2016 with the cruise ship *Ovation of the Seas* looking on. The cruise ship, on her maiden voyage to Australian waters, arrived in Sydney on the morning of Thursday 15 December in heavy rain, conditions which were the exact opposite to those experienced at Fremantle. Graham Barnes





Above: On a sunny Thursday morning 29 December 2016, 5AP8 the Indian Pacific from Sydney to Perth, powered by Goninan/GE units NR25 and NR20, approaches Guildford Station in Perth's outer suburbs, as it nears the end of its long journey across the continent. Jay Stavert
Below: Clyde/EMD unit Q4012 is at the head of a train loading nickel at Redmine, around 55km south of Kalgoorlie, on Monday 19 December 2016. Walter Rowe





The current and former motive power of the 'Crawfords' (4190) service crossed each other in familiar territory at the site of Hanbury Junction coal road dive on Sunday 11 December 2016. The Clyde/EMD C Class units, which formerly worked the Crawfords train, are now engaged moving grain for SSR, while the intermodal freight ex-Sandgate continues to roll behind the freight company's own UGL/GE locomotives PHC 001 *Carrot* and PHC 002 *Spud*. Stephen Preston





Left: UGL/GE units CF4408 and CF4402 are reflected in a puddle from a recent shower, as they sit stabled on a Wee Waa cotton train at Narrabri on Sunday 23 October 2016. John Scott

Below: Invicta Mill's Walkers 610mm gauge B-B DH *Piralko* leads its empty train past a cornfield not far south of the town of Giru, home of the sugar mill, on Tuesday 6 September 2016. *Piralko* began life in 1971 as standard-gauge New South Wales Government Railways locomotive 7318. It was rebuilt and re-gauged for sugar mill service in 1995 by Bundaberg Foundry Engineers Ltd, and in 2005 was fitted with remote control shunting unit equipment. Ken Date





Above: The Up Dubbo to Sydney XPT service, rolls across Falconbridge level crossing on the Blue Mountains line at 6.30pm on Tuesday evening 8 November 2016. Matthew Bourke

Below: Having dropped 30 wagons at Cummins on their way north, 1204, 1203, 851 and 905 are doing it easy on the return run at Tooligie, between Lock and Cummins, with 1,600 tonnes (or 34 vehicles) behind the drawgear. As the days lengthen, a near head-on evening sun pierces the tree cover at several places along this section of South Australia's Eyre Peninsula Railway, on Wednesday 23 November 2016. Malcolm Holdsworth





Left: On Thursday 27 October 2016, a northbound ballast train, headed by Clyde/EMD DQ Class units 2012 and 2011, passes the cemetery at Campania heading through the Tasmanian Midlands. Bruce Tilley

Below: Callington's Kanmantoo copper mine looms in the background as the Adelaide-bound *Overland*, powered by Goninan/GE unit NR34, rolls along between Petwood and Balyarta, South Australia, on Sunday 4 December 2016. James Chuang





In praise of water

Max Michell

Water is the most ubiquitous material on the surface of the planet. It is everywhere – as a liquid in the oceans and rivers, as a gas in the atmosphere in varying degrees and as a solid in vast ice banks and snow fields. It is essential for sustaining life as we know it.

Railways have a love – hate relationship with water. For 150 years water was the fundamental source of power on rail, and still is in a less obvious way for most of the electrified railways of today. Water carved landforms over eons of time have provided manageable passages through rough country that allowed railways to access far places. It has provided the essential ingredient for the formation of population clusters, as well as the development of agrarian societies with their grazing and cropping to provide foodstuffs for these clusters, both of which engender the need for mass transportation which railways are so good at.

Water on the other hand requires high cost structures to cross, and in some cases long and circuitous routes to get around. Even notionally solid ground can be enfeebled with an excess of water such as can be found in swamps and bogs. Extreme wet weather events such as storms and cyclones are among the most destructive natural forces, causing serious damage to railway infrastructure; washing it away, drowning it or even just weakening it to the point where running of trains is compromised.

I well remember the Trans being washed out at Goddards Creek (210km east of Kalgoorlie) in the 1970s at a place that had been a dry watercourse for as long as the railway had been there. Extraordinary rainfall well away from the line up north resulted in a flow in the creek that washed out the line and required the skills of Westrail to build a bridge where one had never been required before. A couple of decades later a similar event a bit further west created in a lake over the line where there never previously been a lake, requiring the track bed to be lifted and a significantly long drainage channel to be dug in order to restore the railway to trafficable condition. Savage events on the Toowoomba Range and in the lower Hunter south of Dungog in the last few years are further evidence of the catastrophic impact that water can have, and will continue to have, on the railway structure.

For all this the railway and water peacefully co-exist most of the time. In some places they get quite close up and personal such as on the sand dunes of the Victor Harbor or the now-closed Wonthaggi line, at Circular

Above: OSCAR set H3 meanders along the waterfront on its all-stations way from Sydney to Hamilton-Newcastle. This train left Sydney at 08.45 and will arrive at its destination almost three hours later. The four cars are only just adequate for the traffic offering between Sydney and the Central Coast, even at that time of the morning on a counter-peak service. Max Michell

Quay or Stoney Creek, through the Molonglo, Avon or King River Gorges or circumventing the risen waters of numerous dams and water storages. But there is only one place where the railway and a permanent body of water are so enticingly close together over a reasonable distance as along the estuarine waters of Hawkesbury River north of the station of the same name.

For seven or so kilometres the railway is only a metre or two above high water level and not much more laterally from the shore line. A quartet of causeways carries the line across inlets while a couple of overgrown cuttings and quarries are discernible as the source of rock for these works. Both the railway and waterway are surrounded by high wooded ridges and cliff lines with only a scattering of remote shacks to spoil the near wilderness experience. The wonderfully inaccessible Wondabyne station, barely half a carriage long at best, lies hidden in the northern reaches of this section with its only access by train, tinnies or foot. The most obvious scar in this delightful valley is not the railway, which over the 130 years of its existence has blended somewhat into the landscape, but the abandoned oyster racks out in the water, slowly rotting away but a visual blight for the time being.

For the six years from 2010 this piece of railway was part of my domain – in my reasonably frequent travels down to Sydney this section was the midpoint – the place that separated ‘up here’ from ‘down there’. Beyond this place we were into the second half of the journey, but for those precious eight minutes or so that we took to traverse the waterside section there was little thought of what lay ahead or even what had already passed behind. The place has a serenity and calm about it that inevitably became a feature of every trip.

One of the fascinating aspects was that no two trips were ever the same – one day the water would be dark and wild, lashed by southerly winds, and the next totally calm with an almost perfect reflection of the surrounding hills. No two days were alike and more often than not the return journey had a quite different ambience than that of earlier in the day.



Above: Intercity EMU Set V10 heads a Down Newcastle-bound service mid-afternoon on Friday 4 September 2009, passing Wondabyne with its short platform visible on the far left and the siding into the sandstone quarry visible under the front of the train. Phil Vergison

Below: Passengers heading for the drier climate of Northern and North Western NSW on Thursday 17 March 2016, hopefully appreciate the surfeit of water as they trundle along toward Wondabyne, early in their journey on the Moree/Northern Tablelands DMU service. Max Michell

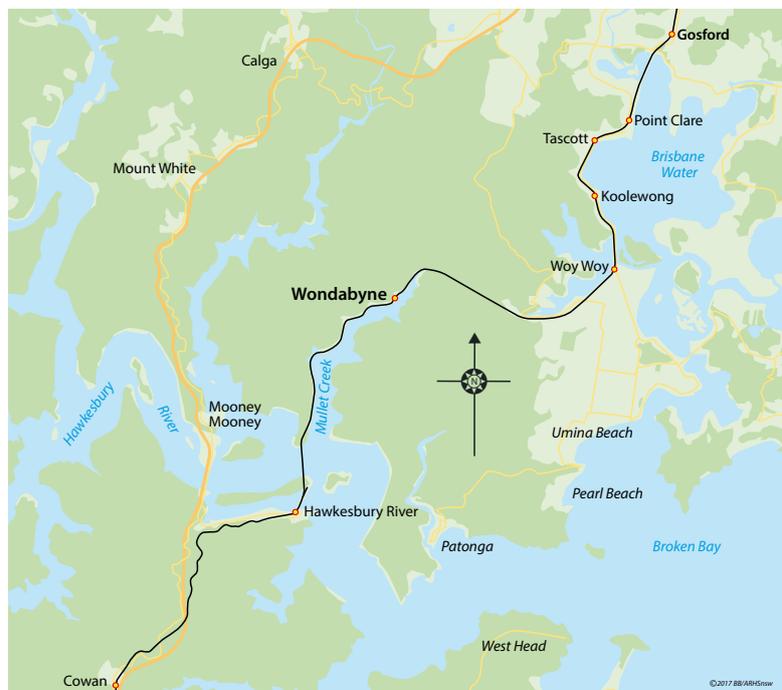


The most mysterious times were winter mornings when we would pass through before the sun was high enough to penetrate the depths of the valley – in some cases a fog would hang over the valley just high enough to clear the train and its trappings so that we were in a five metre slice of clear air sandwiched between cloud pressing down from above and water lapping at our wheels. On these days it was not uncommon for quite a number of the work bound masses to be distracted from their electronic gadgets long enough to soak up the beauty and serenity of what notionally was just a journey to work. Trips home in the dark were not common but if there was a moon on such a trip the reflected shimmer on the waters was visible despite the interior lighting of the train. Dusk reflections of a blazing sunset were another of the fleeting memories.

The latter day timetable has opposing EMU trains meeting along the waterfront, and in most cases the opposing train could be seen coming for quite a few minutes before we slithered past each other. On several occasions we followed a northbound freight from Hawkesbury River which could be seen in the distance several bays ahead. The longer freight trains wrapped themselves very visibly around more than one bay at the one time while a four car EMU could scuttle from bay to bay largely hidden from view.

The valley acted as something of a sounding board – not loud but still reflecting the distinctive sounds of an approaching train. The former Victorian C Class, with their sonorous thrumming, could be heard coming south well before they could be seen, while even the quiet EMU trains have a distinctive rustle that precedes them – for there is little other than the bird calls and lapping wavelets to mask it.

While my recent travels were almost entirely in EMU trains there are more distant memories of trains and places now long gone – of a utilitarian 46 on the afternoon Brisbane Express (the real one that ran via Wallangarra) with a trio of empty TRC reefers ahead of the modest six passenger car consist wending its way north past absolutely calm waters that shimmered at our passing; of 32 Class on tired (or at least dusty) LUB sets charging around the curves in an era before conformity and regulation become the mantra of the day; the non air-conditioned Brisbane Limited in the fading dusk as the single 44 Class locomotive did its best to keep the caravan of a dozen or more illuminated cars moving at an appropriate pace; a trio of NR's with 1500 metres of freight trailing along behind, where the rear end of the train might as well have been on the moon – in 8 hours of journeying the rear end was sighted just three times, one of which was along the shores toward Wondabyne; sitting on rocks near the water line watching the trains weaving their way in and out of the bays as they approached from the south, of early spring time when the railway was yellow-lined with blossoming wattles. These are the things that I hold as memories of what I regard as a bit of



railway paradise. I will miss all that now that I am no longer a local.

This waterside line is a busy section of track with two EMU trains each way per hour during the day, as well as reasonably frequent freight trains in the intervening gaps. Peak periods are the preserve of EMU trains and there are several times where trains follow at three or four minute intervals through this place. All of which makes this wonderful piece of railway all the more remarkable – a wonderland of peace and tranquillity despite well north of 100 trains ambling through it every day.

Wondabyne Station can easily be accessed by the hourly all stations train (as long as you let the guard know and exit through the rear door, or as often as not the guard's door), and is fully equipped with Opal readers and more CCTV cameras (or at least camera mounts) than any station deserves. You can't (legally) wander far from the miniscule platforms but there is no need to. You are in the midst of paradise so why would you want to wander away, although if you must there is a foot track climbing away to the Great North Walk which will take you (in time) to either Sydney or Newcastle – but so will the train due within the hour. The pedestrian crossing will whinny advanced warning of approaching trains so it is easy to relax between train events and just enjoy life. You only need to bring something to sustain yourself and a water bottle for a great day out.

OSCAR EMU Set H49 passes through Wondabyne on Saturday, 13 August 2011. This station is located on Mullet Creek, a tributary of the Hawkesbury River and is noted for having its own wharf for local residents who travel to and from the station by boat. John Hoyle





Around the Silver City

Images by John Hoyle, Larry Zanker and Bob Grant

Situated in the far west of New South Wales, Broken Hill (aka *The Silver City*) is home to the world's largest silver, lead and zinc mine, established by Broken Hill Proprietary Company Limited (now BHP Billiton). Charles Rasp, a boundary rider at Mount Gibbs station, was the first to note the mineral potential of Broken Hill after he and two friends pegged out a mineral lease at a rocky outcrop known as 'the broken hill'. Rasp was part of a syndicate of seven people that formed BHP in 1885. Nowadays, with its once-vast mining activities in decline, the city has become known for its thriving arts community and access to 'outback adventure' tourism.

The first rail link to Broken Hill was from South Australia (completed in 1888). As interstate rivalry prevented the extension of the narrow-gauge link across the border from South Australia, the privately owned Silverton Tramway Company constructed a 56 kilometre link from Cockburn in South Australia to Broken Hill to enable the transport of ore from the Broken Hill mines to the smelters at Port Pirie in South Australia; and to allow the transportation of materials from South Australia for use at the mines in Broken Hill. The original station for the Silverton Tramway was located in Sulphide Street in Broken Hill and is now in use as a museum.

On 15 July 1919, a standard-gauge railway constructed by the NSW Public Works Department was opened from Broken Hill to Menindee, on the Darling River. The rolling stock and building supplies for the line all had to be transported by sea to South Australia, then over the South Australian Railways and Silverton Tramway tracks to Broken Hill.

As Broken Hill did not have a reliable water supply for the town and mines, the new line was initially used primarily for the haulage of water

tankers from the Darling River at Menindee, until a water pipeline was put in service in 1960. During the drought years of 1944-46, 1085 rail journeys were made between Broken Hill and Menindee.

The railway station serving the standard-gauge line was located at Crystal Street, around a kilometre away from the Silverton Tramway's Sulphide Street Station.

The single line from Ivanhoe to Menindee opened on 7 November 1927, finally completing the Sydney to Broken Hill rail link, with Orange to Broken Hill becoming the longest 'branch line' in the state.

From September 1937 until November 1989 the city was served by the first air-conditioned train in the British Empire, the *Silver City Comet*, which ran the 680 kilometres to Broken Hill from Parkes, where it connected with the *Western Mail* service from Sydney.

On 29 May 1957 a new Broken Hill Station, featuring a large brick building backing on to Crystal Street, was opened at a new location 450 metres west of the 1919 Station. This station building underwent a series of alterations in 1969 to coincide with the inauguration of the standard-gauge transcontinental rail link, which opened from Broken Hill to Port Pirie on 17 January 1970. Today, it serves the weekly *Xplorer* railcar service from Sydney and is a stopping point for the *Indian Pacific* on its regular journey from Sydney to Perth and return.

Broken Hill is 1125 kilometres from Sydney by rail, 531 kilometres on the standard gauge via Crystal Brook and was 537 kilometres from Adelaide via the former route from Adelaide to Terowie (broad gauge) and Terowie, Peterborough and Silverton (narrow gauge).

Broken Hill's current population is 18,500, though in the early 1960s it peaked at around 30,000.



Left (page 38): UGL/GE units NR59 and NR101 bring Pacific National 3SP7 Sydney-Perth intermodal freight around the curves at Tara Tank, around 20km east of Broken Hill, on Wednesday 13 July 2016. Bob Grant

Above: Genesee & Wyoming Australia's Clyde/EMD units, 2214 and CLP 16 wait at the front of an ARTC ballast train comprising 41 AHWX wagons plus two AZZX plough wagons being loaded at Broken Hill's ballast siding located on the edge of the city, on Wednesday 16 November 2016. The train was being loaded as part of a ballasting program between Broken Hill and Matakana (near Roto). Both locomotives once performed much more glamorous duties, 2214, as a member of the NSW 422 Class, often hauled trains like the *Southern Aurora*, while the CLP once powered the *Indian Pacific*. The main line to Sydney is on the left. John Hoyle

Below: A general view of Pacific National's locomotive and rolling stock servicing centre at Broken Hill on Thursday, 17 November 2016 with, from left, Comeng/MLW units 8039 and 8033 (used as shunting units by PN at Broken Hill) mingling with Ecofab-covered wagons used on Broken Hill – Port Pirie mineral concentrates services. In the centre is Clyde/EMD unit G 530, which had operated the previous day's empty mineral concentrates train from Port Pirie with NR 119 (see lower photo, page 45), while on the right UGL/GE NR 27 and Clyde/EMD 8124 depart with SA8 *Indian Pacific* after a two hour 20 minute break, which allowed passengers to join a bus tour of the city or just stretch their legs. John Hoyle





NR39 passes the old Crystal Street Station at Broken Hill with NY3 Newcastle–Whyalla steel train on Tuesday 4 October 2016. The station is a good example of pre-cast concrete slab construction once used in New South Wales and Queensland for railway buildings. Larry Zanker

Notwithstanding the city's decline as a mining centre, there is plenty of activity to interest the rail enthusiast and, even now, quite a bit of mining activity in the district.

Current mining operations around Broken Hill are:

Perilya Limited

Based in Perth, Perilya Limited acquired Pasminco Limited's Broken Hill South operations in 2002. The mine is served by a siding from the western end of Broken Hill yard. Its operations produce zinc and lead concentrate which is railed by Pacific National to Nyrstar's Port Pirie smelter (see lower photo, page 45). The company manages 1,042 square kilometres of prospective terrain which has the potential to extend the life of mining activity in the Broken Hill area. In 2009 Shenzhen Zhongjin Nonfemet, China's third largest zinc producer, acquired a 50.1 per cent interest in Perilya and in 2013 increased its ownership to 100 per cent. Following a loss of \$30 million, around 100 people were made redundant from its workforce of 460 in the first half of 2016 in response to falling zinc and lead prices. The company reported that it returned to profit in the second quarter of 2016 after the staff layoffs. Perilya has received approval from the NSW Government to reopen the North Mine which has been dormant since 1993. Some rehabilitation and set-up work is underway although it may be two to three years before full production is reached. Perilya says the North Mine could have a life up to 2030, once full production commences. The North Mine is served by a siding from the eastern end of Broken Hill yard near the old Crystal Street station.

CBH Resources Limited

CBH Resources operates the Rasp Mine at Broken Hill (named after the aforementioned Charles Rasp). The company was taken over by Japanese company Toho Zinc Co Ltd in 2010 and development

of the Rasp Mine, located in the Line of Lode original mining area, commenced. The mine officially opened in 2012. It produces zinc and lead concentrate plus silver, which is incorporated into the lead concentrate. The mine's life is expected to be around 15 years. CBH also operates a ship loader at Carrington, Newcastle and the Endeavour Mine at Cobar. Pacific National currently holds the contract to rail Rasp Mine output in containers to Newcastle (see lower photo, page 40).

Cristal Mining

Broken Hill has been heavily reliant on its traditional mining activity associated with silver, lead and zinc but the city's economy has received some welcome diversification in recent years through another commodity – mineral sands. Cristal Mining, under its former name of Bemax Resources, was incorporated in Australia in 1987 and in 2008 all its shares were acquired in an off-market takeover by Cristal Australia Pty Ltd. Headquartered in Jeddah, Saudi Arabia, Cristal is the world's second largest producer of titanium dioxide. In 2006 Cristal commissioned a mineral separation plant on the western outskirts of Broken Hill near Kanandah loop. It is supplied by road haulage with mineral sands from two mines, Gingko and Snapper, both located around 130 kilometres north of Mildura and around 220 kilometres south of Broken Hill. Following processing, the containerised products, including ilmenite, rutile and zircon, are railed using Bowmans Rail (Pacific National held the contract until early 2016) to the Port of Adelaide from where they are shipped to Bunbury, WA, for further processing and refinement into final products. In 2012 Bemax changed its name to Cristal Mining to bring it under the Cristal corporate banner.

During 2016, *Railway Digest* regulars John Hoyle, Larry Zanker and Bob Grant visited Broken Hill, and recorded some typical scenes of regular operations around this remote but important rail centre.



As the late afternoon shadows lengthen on Thursday, 17 November 2016, Pacific National's intermodal train 3BA6, headed by UGL/GE NR Class units 117 and 9, is just a few minutes from Broken Hill yard where, after a crew change, the train will continue to Adelaide. Part of the ballast siding featured in the upper photograph on page 41 can be seen beside the locomotives. John Hoyle





Above: 'Streamliner' CLP 16 *Murunitja* and fellow Clyde/EMD unit 2214 power the ARTC ballast train which had been loaded two days earlier at Broken Hill (see upper photo page 41) across the interconnecting channel linking the Darling River with Lake Menindee in the background on Friday, 18 November 2016. The wagons are part of the ARTC maintenance fleet and the motive power and crews are provided by Genesee & Wyoming Australia (GWA). GWA does not operate any regular revenue services in the Broken Hill area. The train was depositing ballast between Broken Hill and Menindee. The water rushing out in to the lake on the left is the product of a relatively wet winter in the Darling River catchment in 2016. John Hoyle

Below: Pacific National's No. 4825 and 4827, plus the return loaded workings 8426 or 8428, the containerised mineral concentrates services running between Newcastle and Broken Hill, are regarded as the longest non-interstate NSW timetabled freight workings at 1,295 kilometres. These services connect CBH Resources Rasp Mine at Broken Hill with the company's ship loader at Carrington, Newcastle and travel via Gulgong, Dubbo and Parkes. In this Thursday, 14 July 2016 view, 8230 hauls No. 4825 on the outskirts of Broken Hill. After loading it will commence the long journey back to Newcastle. Lower zinc and lead prices in 2016 have reduced the frequency of these workings. Bob Grant





Above: One locomotive, NR 114, is adequate for Pacific National's steel train 3NY3 on its way from Newcastle to Whyalla on Wednesday, 16 November to take on another load of steel for the eastern states. It has just crossed from New South Wales into South Australia at Cockburn, interchange point in the narrow-gauge era to 1970 between South Australian Railways and the Silverton Tramway Company. The company's station, on the NSW side of the border, was known as Burns. John Hoyle

Below: Approaching Kanandah on the outskirts of Broken Hill, Pacific National's No. 4500S empty mineral concentrates train from Port Pirie is hauled by G 530 and NR 119 on Wednesday, 16 November. Generally the NR Class would be leading. The train comprises a mix of containers and open wagons, the latter equipped with Ecofab covers. Pacific National services Broken Hill's Perilya mine, producing zinc and lead. John Hoyle



Signalling & Infrastructure

Compiled by
David Campbell and
Graham Vincent



Having just crossed the Marquis Street level crossing (protected by flashing lights and boom half-barriers) an Xplorer railcar set, consisting of EC2523 and EA2501, forming NP44 Up Moree to Sydney passenger service, passes Down home signal GH3 departing Gunnedah on Sunday 23 October 2016. John Scott

New South Wales

Airly Loop Junction – Charbon Junction

– **Kandos** Commencing 21/12/2016, this line was temporarily booked out of use, with track patrols suspended, due to infrequent use. A STOP Block was installed adjacent to the Up Yard Limit Board for Airly Loop Junction at 213.768km. The Cooper Drive level crossing warning equipment at 241.270km (Clandulla) was booked out of use. Frame A points at Charbon Junction (which were locked and secured to lay for the balloon loop) were altered to lay for the Kandos line, and may now be operated in the normal manner.

The STOP Block installed at 244.690km (Charbon Junction, Kandos line) was removed. This line may be booked back into use if required, subject to 14 days notice.

Camurra – North Star This line was booked out of service on 08/11/2016. Frame A at Camurra was locked and secured to lay for the Weemelah line. The line was booked back into service on 28/11/2016, allowing normal train services to resume.

Ardlethan Wheat Siding (Temora – Griffith line). The Wheat Siding, which had been booked out of use on 30/04/2016 for the installation of overhead grain loading bins (see *RD* August 2016, page 41), was intended to be reinstated

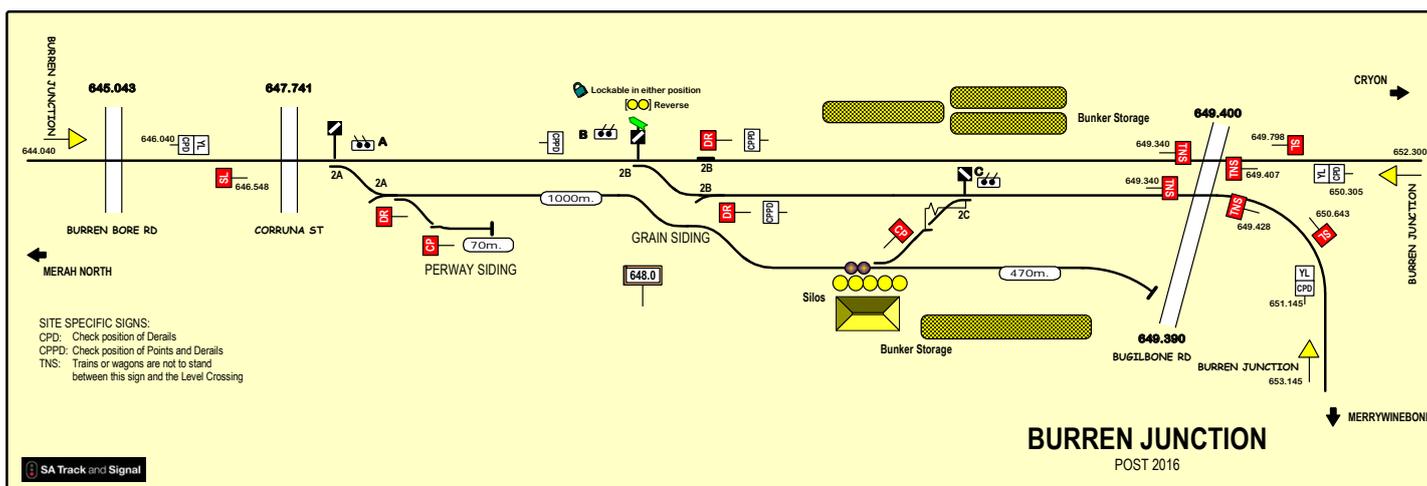
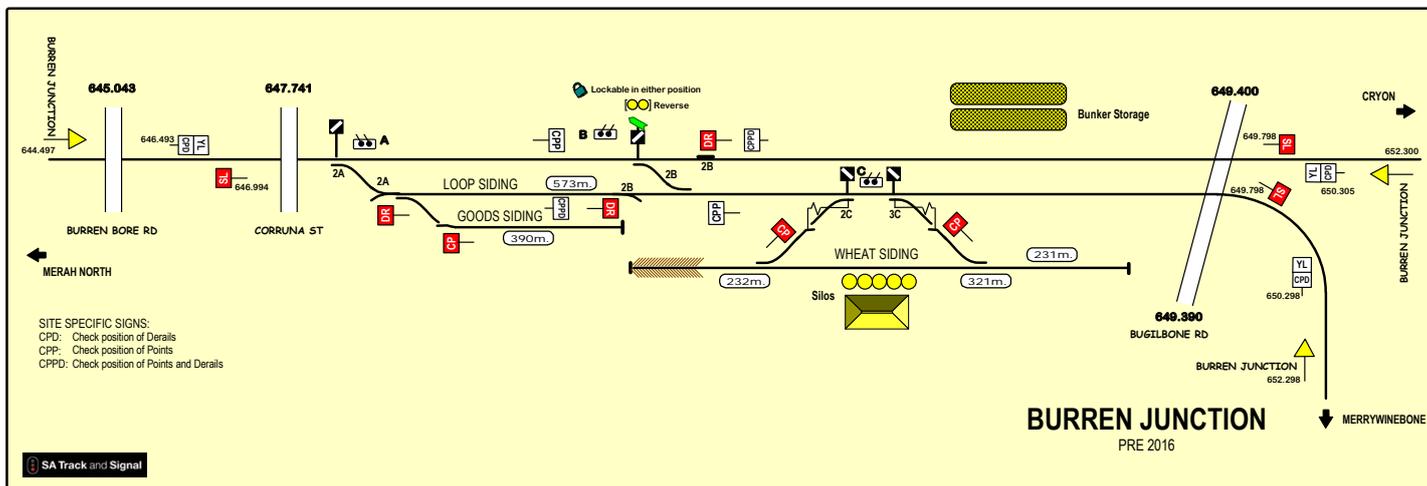
on 02/09/2016. The work was extended to 30/11/2016, with Frame E and F points then being booked back into use.

Artarmon (North Shore line). The existing Guards Indicator facing Up trains on platform 1 applicable to signal SH6.38 was upgraded to LED type from 21/01/2017. The Guards Indicator facing towards Sydney was removed, and a new LED type Guards Indicator facing Up trains provided, located 44m from the Up end of platform 1.

Burren Junction (Narrabri – Walgett line, junction for Merrywinebone branch). The track re-configuration works which commenced on 17/09/2016 (see November 2016, page 48) were completed and new arrangements brought into



The 53-kilometre Burren Junction to Merrywinebone line, in north west NSW, is only used by irregular grain trains serving the GrainCorp's Merrywinebone storage facility. One such grain train that visits Merrywinebone is Pacific National's feeder service to Manildra Group's Gunnedah flour mill which sources grain from various storage sites around north west NSW. In this Friday, 6 May view, Pacific National's 48101 and GrainCorp's 48213 and their train of 20 Manildra MHGX wagons are at Merrywinebone. The locomotives are about to shunt the lead wagon to the silo in the left background for loading while the remaining 19 wagons have been loaded at the silo on the right. In around 30 minutes the train will depart as No. 5538 for Gunnedah. The line once continued 16 kilometres to Pokataroo, 15 kilometres south of Collarenebri. John Hoyle



use from 09/10/2016. The Location, Yard Limit, and Shunt Limit signs for Down trains were relocated from 644.497km, 646.493km, and 649.798km (Branch) to 644.040km, 646.040km, and 650.643km respectively. The Location and Yard Limit signs (Branch) and the Shunt limit sign for Up trains were relocated from 652.298km, 650.298km, and 646.994km to 653.145km, 651.145km, and 646.548km respectively. The track arrangements were greatly simplified, as shown on the accompanying diagram. The Goods Siding was reduced in length from 390m to 70m, and re-named as the Perway Siding. The Wheat Siding was re-named as the Grain Siding, with the effective length increased from 560m to 1470m incorporating most of the alignment of the former Loop Line, and this siding is now a through siding, with the headshunt at the Down end extended to 470m. The previous arrangements necessitated that grain trains loading be divided into small sections with complex shunting requirements; under the new arrangements this has been substantially overcome, allowing 40 wagon trains to load with less need to divide and shunt. Previously this siding had incorporated trailing and facing crossovers from the Merrywinebone line, with dead-ends beyond at each end. The Bugilbone Road level crossing nearby at 649.390km remains a constraint to the site, with trains not permitted to stand on or close to the crossing, this now being the sole restriction preventing trains loading in one pass. 20-wagon trains can now load in one pass, 40-wagon trains needing to divide.

Calleen (Wyalong – Lake Cargelligo line). The new Calleen Wheat Siding was commissioned for full use on 01/12/2016. This is a new siding located approximately 1600m on the Down side of the existing Grain Siding within the Calleen yard limits, as extended. The new siding is not a balloon loop, as previously mentioned elsewhere. The Up Location (at 579.572km) and Yard Limit (at 577.587km), and the Down Shunt Limit sign (at 577.085km) were relocated to 582.545km, 580.527km, and 580.005km respectively. New Frame C (right-hand diverge, facing Down trains, 577.864km) and Frame D (left-hand diverge, facing Up trains, 578.294km) provide access to the Siding. Mechanical Point Indicators are provided for Frames C and D. As the siding is only 390m long, occupancy of the main line is required for 'one pass' loading. The Wheat Siding is privately owned, with access by negotiation with the Owner.

East Hills Points 31 and 32 were upgraded from 26/11/2016. Points 31E (Down East Hills line), 31W (Up East Hills line), 32E (Up East Hills line) and 32W (Turnback Road) were re-numbered as 31A, 31B, 32A and 32B respectively.

Harris Park – Pendle Hill (West). Signals M16.4, S16.4, M16.8, S16.8, M17.2 and S17.2 were upgraded to LED type from 14/01/2017.

Hurstville (Illawarra). Crossover points 980A and B (Down and Up Illawarra Main lines) were renewed and upgraded from 07/01/2017. Points

980A were relocated 5m in an Up direction.

Killara (North Shore line). The Guards Indicator on platform 1, acting in conjunction with signal SH9.82, facing in a Down direction, was upgraded to LED type from 16/01/2017, while the Guards Indicator for this signal facing in an Up direction was removed.

Kooragang Island Commencing 21/11/2016, a new holding road was provided adjacent to the Down Kooragang Branch line, allowing up to 6 trains of 1543m length to await discharge at the dump stations. Points 103 (Down Kooragang Branch to Weighbridge Road at 174.510km) were removed. A new turnout 103 (left-hand diverge, facing incoming trains) was installed on the Down Kooragang Branch line at 173.695km, and the Down Kooragang Branch line from there to 175.384km (incorporating a realignment between 174.500km and 174.640km) was re-named as Holding Road A. New points 103 provide access to the new Holding Road B, which runs parallel to Holding Road A. 101C catch points (at 173.550km) were removed.

Arrival Road 3 was re-named as Arrival Road 1, accessing Dump Station 1. Arrival Road 1 was re-named as Arrival Road 3, accessing Dump Station 3 (these changes mean that all Arrival Roads access the Dump Station of the same number). Holding Road A allows access to Arrival Roads 1 and 2; Holding Road B allows access to Arrival Roads 3 and 4, also to the Walsh Point line.

Down signal K7 at 172.220km Up Branch) was renamed as K3. Pre-existing signal K3 (at 173.458km) was removed. Signal K5 at 173.458km was relocated to 172.800km (Down Branch). Existing Down signal K9 (at 174.501km) was relocated to 173.485km (Down Branch, opposite new Down signal K11 on Up Branch). Signal K10 at 174.180km was removed. The gantry supporting Up signals K6 and K8 at 173.640km was removed, with the signals relocated to 173.644km (K6, Up Branch) and 173.940km (K8, from new Up Holding Road B). New Down signals K13 (Holding Road B) and K15 (Holding Road A) were installed on a new gantry at 174.180km. Pre-existing Down signal K13 (Holding Road A, at 174.934km) was re-named as K19. Pre-existing Down signal K15 (Walsh Point line at 176.620km) was re-named as K85. Pre-existing Down signal K11 (Holding Road B prior to 107 points at 174.982km) was re-named as K17. Up signal K14 (from Walsh Point line at 175.402km) was relocated onto a new gantry at 175.384km; this gantry is shared with Down signals K27, K25, K23 and K21 (Arrival Roads 1 – 4 respectively).

Lindfield (North Shore). The two Guards Indicators on platform 2 (applicable to signal LD4) were upgraded to LED type from 16/01/2017. The Guards Indicator on platform 3 applicable to signal SH9.15, facing in an Up direction, was upgraded to LED type, while the Guards Indicator facing in a Down direction was removed.

Maitland Commencing 21/11/2016, crossover points 413 and points 414 on the Down side of Maitland station were renewed and upgraded. 413A points (trailing, Up Coal line) were relocated 3m in an Up direction to 192.771km; 413B points (trailing, Down Main line) were relocated 6m in a Down direction to 192.839km, and points 414 (facing, Up Main to Up Local or Up Coal line) were relocated 10m in a Down direction to 192.858km.

Murrumbidgee (Junee – Griffith line). The siding, which had been booked out of use for re-conditioning works since 13/07/2016, was reinstated for use from 10/12/2016.

Nevertire (Narromine – Cobar line, junction for Warren line). The Wheat Siding, which had been booked out of use on 30/04/2016 for the installation of overhead grain loading bins (see RD August 2016, page 44), was intended to be reinstated on 02/09/2016. The work was extended to 23/12/2016, with Frame H and J points then being booked back into use.

Roseville (North Shore). The Guards Indicator on platform 2, applicable to signal SH8.33 (facing in a Down direction), also the Guards Indicator on platform 1, applicable to signal SH8.20 (facing in an Up direction), were removed from 16/01/2017. The Guards Indicator on platform 1 for signal SH8.20 (facing in a Down direction) was upgraded to LED type.

Sefton Park (Central Inner West). Points 203 at Sefton East Junction were renewed and upgraded from 03/12/2016. The points were relocated 11m in an Up direction.

Sydenham (Illawarra). Crossover points 745 were renewed and upgraded from 07/01/2017. 745A points (Up Illawarra Main) were relocated 5m in a Down direction, and 745B points (Up Illawarra Local) were relocated 4m in an Up direction.

Sydney Central Signals SY57, SY68, SY95, SY97 and SY119 were upgraded to LED type from 29/10/2016.

The 1500v overhead traction wiring was removed from the Regent Street Platform Road, also from the Mortuary Siding from 19/11/2016. Points 625 were renewed and upgraded from 26/11/2016. Points 625A (Down Illawarra Local) were relocated 4m in an Up direction, and points 625B (Down Airport line) were relocated 1m in a Down direction.

Tarago (Goulburn – Canberra line). Works have commenced to convert Tarago from a Crossing Location to a Siding Location. Commencing 12/11/2016, catch points were installed at the Down end of the loop siding. The catch points are locked and secured pending commissioning. The Down end main line points into the loop siding (worked from Frame E) were temporarily booked out of use on 22/12/2016.

Tempe (Illawarra). The Guards indicators on platforms 2 and 4 were upgraded to LED type, with minor adjustments. The Guards Indicator on platform 4 facing Up trains was altered to face Down trains.

Thornton (Newcastle – Maitland line). Crossover points 107 were renewed and upgraded from 21/11/2016. Points 107A (facing, Down Coal road) were relocated 18m in an Up direction, to 183.323km, and 107B points (facing, Up Coal road) were relocated 8m in an Up direction to 183.393km.

Unanderra (Illawarra). Points 1105A (Up Main) and 1105B (Down Main) were renewed and upgraded from 10/12/2016. Points 1105A were relocated 1m in an Up direction.

Victoria

General Commencing 19/11/2016, X'trapolis trains are now permitted to operate revenue services via the Caulfield Underground Loop, the Northern Underground Loop, platform 5 at Flinders Street, and on the Werribee and Williamstown lines.

Albion – Sydenham (Sunshine – Bendigo line). New track arrangements came into use on 31/10/2016. The main lines were splayed to the west via trenches through the Ginifer and St Albans stations, with the tracks lowered to pass beneath Furlong Road (formerly a level crossing at 15.827km), Mulhall Drive (formerly a pedestrian crossing at 16.098km), Main Road (formerly a level crossing at 17.914km) and Ruth Street (formerly a pedestrian crossing at 18.508km). The main lines returned to the original alignment for a short distance between Ginifer and St Albans stations before slewing back to the west for the following station area. New stations were provided at Ginifer and St Albans, located at a similar distance from

Melbourne, but below ground level. The new platforms are each 164m length, which will facilitate future longer train consists, and are located at 15.968km (Ginifer) and 17.835km (St Albans). Additional new pedestrian footbridges were provided at St Albans, named as 'Station Precinct' (17.745km) and 'Inner Circus' (18.138km).

Existing Down Automatic signals M573, M603, M619, M655 and M675, also Up Automatic signals M734, M704, M678, M650, M622, M602 and M578 were abolished. Existing Down Automatic signal M637 was replaced with a new signal of the same number in the trench at the Down end of St Albans station. New Down Automatic signals M577 (16.140km), M605 (17.005km), and M659 (18.651km), also Up Automatic signals M722 (20.531km), M688 (19.528km), M660 (18.673km), M628 (17.683km), M606 (17.023km), and M568 (15.866km) were provided. All new and relocated signals, also existing Down Automatic signals ALB443 and M539, were provided with TPWS equipment. All signals are LED type.

Barnawartha (Seymour – Albury line). New points and signals for the new siding for SCT at the Wodonga Logic Centre were commissioned from 27/11/2016. The alterations to the main line are confined to the West line (the former broad-gauge line). New points 1U (left-hand diverge facing Down trains) and Motorised derailer/wheel crowder 1D (SCT Siding) were installed at 282.030km and 282.127km respectively. The siding precinct comprises a long loop track through, with a second loop siding commencing from the first siding approximately 500m inside the precinct; this siding continues through a short shed area, then after passing over a trailing crossover from the first siding reaches another set of facing points, these leading to a hard stand area (approximately 280m long). The third siding returns to the second siding, and thence to the first siding. The first siding (nearer the main line), which has continued throughout, then heads back to the main line, via catch points 7U (284.608km) and trailing points 7D (right hand diverge, facing Up trains) at 284.710km. Points 1U, 1D, 7U and 7D are motorised, with hand points provided within the siding precinct. All points and signals are controlled from the Main South C Board at NCCS (Junee).

Additional aspects were provided for Down Automatic signal EES2773 (277.265km), and new Down Home signals were provided at 281.840km (BAW18) and 284.310km (BAW30), all on the West line. New Down Home signal BAW32 was provided for Down trains exiting the SCT siding at 284.603km.

New Up Automatic signal EES2884 (288.502km), and new Up Home signals BAW24 (284.914km) and BAW10 (282.440km) were provided on the West line. New Up Home signal BAW12 is provided at 282.132km for Up trains exiting the SCT siding. New crossover points between the West and East lines were installed from 06/01/2017. The

crossover is designed to bring Up trains leaving the SCT terminal onto the East line, or Down trains on the East line to access the terminal. The points on the East line are at 277.496km, left hand diverge facing Down trains. The points on the West line are at 277.656km, left hand diverge facing Up trains. The points are locked and secured pending future commissioning.

Bayswater (Ringwood – Belgrave line). In conjunction with level crossing removal works at both ends of the station (Mountain Highway at 30.656km, and Scoresby Road at 31.132km), the station was lowered with the existing station buildings and platforms replaced with a new island platform located at 30.842km. The new platforms are 161m length, and are accessed from a footbridge at the Up end. The Bayswater Sidings track arrangements remained unchanged, although the trailable point machines and driver-operated control panels were replaced with dual control point machines, with all moves fully signalled and controlled from Ringwood signal box. The Geographic Interlocking, controlled from Ringwood, was replaced with a Westrace CBI. All signals between 29km and 32km were

abolished, with new signals provided. On the Down line, Down Home signals BAY302 (29.599km), BAY304 (30.304km), BAY310 (30.943km), and Down Automatic signal BAY210 (31.583km), also Up Home signal BAY307 (30.742km, Up end of platform 2) were provided. On the Up line, Up Home signals BAY311 (31.599km), BAY309 (30.742km, Up end of platform 1), Up Automatic signals BAY209 (30.248km) and L926 (29.795km), also Down Dwarf signal BAY306 (24.810km, allowing access to sidings or to Down line) were provided. In the Sidings precinct, Up Home signal BAY305 at 30.772km admits trains from the yard via the Down line onto the Up line. Down Dwarf signals BAY324 (3 North siding) and BAY322 (4 North siding), both at 30.759km, and Up Dwarf signals BAY321 (3 Siding), BAY323 (4 Siding), both at 30.860km, BAY325 (5 Siding), BAY327 (6 Siding), both at 30.899km, and BAY329 (7 Siding at 30.878km) were provided. Key switches were provided for sidings 3 – 7 inclusive, allowing these tracks to be “locked out” (inhibiting signals into the applicable tracks) by train maintenance personnel as required.

Bendigo Commencing 04/10/2016, the rodded connections to the derails and wheel crowders operating from points 5 (Up end, Goods Yard), points 13 (Down end of independent track) and 15 (Down end of Goods Yard) were removed. Individual point machines in lieu of the rodded connections for the main line turnouts were provided for the derails and wheel crowders (points 5 and 15), and for points 13, where the derail/wheel crowder was replaced with a catch point. Number 4 road (Goods Yard) was booked out of use between 10/11/2016 and 24/11/2016 due to track condition.

Burnley (Melbourne – Ringwood line, junction for Glen Waverley). Down Automatic signal BLY312 (Down Burnley Local line) was upgraded to LED type from 17/12/2016.

California Gully (Bendigo – Swan Hill line). The sidings were booked out of use on 24/10/2016. The main line points were locked and secured (these are disused oil sidings, located between North Bendigo and Eaglehawk).

Clayton (Melbourne – Dandenong line). Down Automatic signal D625 was relocated 5m in an Up direction from 12/11/2016.



Bayswater on Christmas Eve 2016, viewed from the Mountain Highway overbridge, looking in a Down direction. The track nearest is the Up line. The points from the Down line and the lead climbing steeply into the maintenance facility and yard is visible at lower left. The dead-end track nearest the camera is Siding 3 north; the X'trapolis train with 943M is in Siding 4 north. The X'trapolis train in centre background is beside the maintenance workshops. The main lines climb at around a 1:50 grade from beneath Mountain Highway to the platforms, then drops again to pass beneath Scoresby Road (a couple of hundred metres past the station). The grey building to the right (still under construction) contains the station offices, with a wide footbridge passing over the Up line providing access to the platforms. David Campbell

The Down and Up tracks in the vicinity of Clayton Road level crossing (approx 21.300km) were slewed in a southerly direction to new alignments from 06/01/2017, with the new Down line being on the alignment of the former Up line, and the Up line being relocated accordingly. Down Home signal WTL724 and Up Automatic signal D650 were relocated to align with the relocated tracks, remaining at the same distances. This work is to provide space for level crossing removal works.

Deer Park West Junction (Sunshine – Ballarat line). In conjunction with track duplication works associated with the new Caroline Springs station, new points 7U were installed on the Up line at 20.731km from 03/12/2016. These points will allow Up trains operating on the future Up line through the station to merge onto the existing Up line, which commences at this point. The new points are locked and secured pending future commissioning.

Epsom Block Point (Bendigo – Echuca line). A new Train Order Block Point was provided in the North Bendigo – Echuca Train Order Single Line Section on 31/10/2016. The Block Point is located at 169.955km, and comprises white triangular signs with black text facing both Up and Down trains. Location Boards (yellow triangle with black text) are provided 2500m in the rear of the Block Point signs.

Flagstaff (Underground loop). Home signal 600 (Caulfield Underground Loop) was upgraded to LED type on 09/11/2016.

Flinders Street (Richmond Junction area). Down Automatic signals 262 (Down Burnley Through line), 290 (Down Burnley Local line), and Up Automatic signal 267 (Up Burnley Through line) were upgraded to LED type from 14/11/2016.

Commencing 11/12/2016, Up Home signals 333 (Up Burnley Through line), 343 (Up Burnley Local line), 341 (into platform 4 from the east), 575 (into platform 5 from the east), 587 (exiting the Northern Underground Loop into Flinders Street), also Down Home signals 576 (departing platform 5 to the east) and 463 (ramp into Northern Underground Loop) were upgraded to LED type. Commencing 19/12/2016, Up Home signal 345 (Up Burnley local line) and Down Automatic signal 282 (Down Burnley Local line) were upgraded to LED type.

Melbourne Goods Yard The North Canal Lead was booked out of service on 25/10/2016. Access to this track from the Dual Gauge Lead and from Holland's Loop was prevented by baulks being applied, while points 105 in the Reversing Loop were locked and secured Normal (preventing access to the North Canal Lead).

Mitiamo (Bendigo – Swan Hill line). The siding, which had been booked out of use

since 08/09/2016, was booked back into use on 07/12/2016.

North Melbourne Home signal 515 (Main Suburban ramp from Underground Loop) was upgraded to LED type from 10/11/2016.

Ouyen (Maryborough – Mildura line). No. 4 track was booked out of use on 18/10/2016 due to track condition.

Patterson (Caulfield – Frankston line). Down Automatic signals F535 (Down line) and FM535 (Centre line) were upgraded to LED type from 04/11/2016.

Rainbow (Dimboola – Yaapeet line). The Down end main line points were booked out of use on 09/11/2016 due to track condition. The points were secured to lay for the main line.

Ringwood (Junction between Belgrave and Lilydale lines). Commencing 25/11/2016, the Unit Lever signal control panel was replaced with a Westrace unit, incorporating a VDU based control panel.

Sunshine The Signal Box was de-commissioned on 23/10/2016. Control of all signalling functions was transferred to Metrol (Western Signal Control Panel). The existing in-field equipment (points, signals, etc) is unchanged.

Warrnambool The turntable road was booked out of use on 24/10/2016 to facilitate track reconstruction works in 3 road.

Level crossing news

New South Wales

Nundah (Maitland – Muswellbrook line). Middle Falbrook Road level crossing at 251.492km. Flashing lights and boom barriers were provided from 21/11/2016 (previously passive).

Scarborough (Illawarra). Clifton School Parade level crossing at 61.850km (also known as Church Street). The existing flashing lights were upgraded with the provision of boom barriers from 07/01/2017.

Whittingham (Maitland – Muswellbrook line). Cemetery Lane level crossing at 236.372km. Flashing lights and boom barriers were provided from 21/11/2016 (previously passive).

Victoria

Bayswater (Ringwood – Belgrave line). Scoresby Road level crossing at 31.138km. In conjunction with level crossing removal works at the Mountain Highway and the Scoresby Road level crossings, Scoresby Road was closed as a level crossing on 02/11/2016. Following the lowering of the railway, Scoresby Road was re-opened to road traffic as an overline bridge, located at 31.132km, on 12/12/2016.

Mountain Highway level crossing at 30.683km. This level crossing was replaced with an overline bridge located at 30.656km on 12/12/2016. The pedestrian crossing on the Up side of the level crossing was replaced with a new footbridge located at 30.550km.

Carnegie (Caulfield – Dandenong line). Cosy Gum Road pedestrian crossing at 12.839km, also Blackwood Street pedestrian crossing at 13.654km. These pedestrian crossings were permanently closed on 26/10/2016 to facilitate construction works (grade separation works between Caulfield and Oakleigh).

Glenhuntly (Caulfield – Frankston line). Glenhuntly Road level crossing at 13.371km. The existing pedestrian emergency exit gates

were upgraded with the provision of electro-magnetic latched emergency exit gates on 05/11/2016.

Kilmore East (Melbourne – Seymour line). Station Access pedestrian crossing at 63.553km. The existing pedestrian emergency exit gates were upgraded with the provision of electro-magnetic latched emergency exit gates on 18/10/2016.

Lilydale "Down End of Platform 1" pedestrian crossing at 39.172km. Motorised pedestrian gates with electro-magnetic latched emergency exit gates, were provided from 28/11/2016 (previously passive).

Murrumbeena (Caulfield – Dandenong line). Murrumbeena Road level crossing at 14.338km. Electro-magnetic latched emergency exit pedestrian gates were provided on 20/12/2016.

Nunawading (Melbourne – Ringwood line). King Street and Oliver Avenue pedestrian crossing at 19.905km. This passive-protected pedestrian crossing was permanently closed from 15/11/2016 in conjunction with grade separation works at Blackburn. Barriers preventing pedestrian access were erected. A pedestrian bridge will be provided after completion of level crossing removal works (date to be confirmed).

Ringwood (Belgrave line). Bedford Road level crossing at 26.641km. Road traffic light co-ordination for the Bedford Road / Great Ryrie Street intersection and the adjacent level crossing was commissioned from 25/11/2016.

St Albans (Melbourne – Bendigo line). Willis Street pedestrian crossing at 16.853km. Automatic pedestrian gates were provided from 31/10/2016 (previously passive).

Wandong (Melbourne – Seymour line). Wandong Station Pedestrian Crossing at 55.246km. Motorised pedestrian gates, with electro-magnetically latched emergency exit gates, were provided across all tracks (broad gauge Down and Up tracks, also the ARTC standard gauge track) from 16/11/2016 (previously passive).

Right: On Tuesday, 10 January ARTC commenced installing a turnout for the siding which will serve SCT Logistics new terminal at Bromelton, south of Brisbane. In this view on that day a section of the dual-gauge mainline track has been removed and the road bed for the turnout is being prepared. The first train to serve the new terminal was due to arrive at Bromelton from Melbourne on 23 January. A Down Distant signal and a Down Home signal have been installed in association with the turnout. Two-and-a-half kilometres south of the new turnout the former siding in to the Bromelton quarry is being reconnected to the main line. This quarry previously supplied rock for reclamation work in association with the expansion of the Port of Brisbane at Fisherman Islands. It was transported by Pacific National to the port area. John Hoyle

Below: A trio of 31 Class railmotors, led by 3130, approaches the soon to be altered Torrens Junction, Adelaide, on Wednesday 16 November 2016. Larry Zanker





Opening of the South Australian Light Railway Centre

Light railways were small, low cost tramways which were installed to do a specific job at a selected location. They included short railways in mines, agriculture, construction sites, salt pans, jetties, quarries, etc. There used to be around seven hundred light railways in South Australia before road transport became dominant. Now only eight remain, all of them amusement railways except for the 5km electric underground line at Olympic Dam.

Sixteen years ago, the Milang Railway Museum purchased a kilometre of light railway track, a locomotive, four wagons and some sets of points. These were all 2ft gauge and came from the recently-closed Smithfield magazine railway. During the Second World War, in 1942, an extensive explosives magazine had been built north of Adelaide to store the munitions manufactured nearby. The railway had 45 kilometres of track and some of the 85 buildings it served still exist today. After purchase, the track and rolling stock were placed in storage in Milang for many years.

Two years ago the Milang Railway Museum volunteers decided that it was time for the Smithfield rolling stock to begin a second life and to play their part in celebrating the history of light railways. A new building was erected at the Milang railway station for the purpose of telling the story. Named the South Australian Light Railway Centre, the first stage of its development was completed with its opening to the public on Wednesday 14 December 2016.

In the morning, a crowd of around sixty gathered for the opening of the new display. Museum secretary, Peter Lucas, explained what it was all about and Museum president, Allan McInnes, thanked the donors and volunteers. Les Howard, from the Light Railway Research Society of Australia, told the gathering about light railways and the role they played. He was followed by the guest of honour, Bob Sampson OAM, who described his contacts with the Milang Railway Museum over the past thirty years.

The Light Railway Centre was then officially opened by Bob Sampson driving the Smithfield munitions train out of the Centre through a ribbon. Passengers were Adrian Pederick, the State member for Hammond and Pauline Cockrill from History SA, one of the Museum's major supporters. Visitors were then able to inspect the new displays which include a map

of the state showing the locations of the light railways, a presentation of the twelve major roles that light railways played and a visitor-operated model light railway. A jetty tractor, which originally came from Port Price on the Yorke Peninsula, was started and visitors were able to inspect the Smithfield rolling stock.

The Milang Railway Museum is open each Saturday and Sunday afternoon, from noon to 4pm.

Top: Bob Sampson OAM drives the former Smithfield munitions train, with Adrian Pederick, the State member for Hammond, and Pauline Cockrill, from History SA, as passengers. Andrew Emmett
Below: Museum Secretary, Peter Lucas, addresses the crowd. Behind him is an ex-South Australian Harbors Board Malcolm Moore/Fordson 4wPM locomotive and a four-wheel jetty wagon. Andrew Emmett





Above: At the Sydney Tramway Museum, at Loftus in Sydney's southern suburbs, on Sunday 11 December 2016, a coupled set of O Class tramcars (O1111 and O805) waits beside the combined waiting shed and signal cabin that once stood in Railway Square, near Sydney's Central Station. O1111 was built in 1912 and is in the later green and cream livery, while O805 (on loan from the Powerhouse Museum) was built in 1909 and is in the original colours of the period. Bruce Belbin

Below: Members of the Zig Zag Railway, Lithgow NSW, replacing and painting exterior timber cladding on the Clarence Station shop on Saturday 7 January. Work parties have become a regular weekend activity on many sites along the railway as work ramps up to prepare the railway for re-opening. Shane O'Neil





The Ida Bay Railway, Tasmania

Text and images by Philip Vergison

Proudly proclaimed as ‘the last operating bush tramway in Tasmania’ and ‘the most southerly railway in Australia’, the Ida Bay Railway in south-eastern Tasmania provides passengers with an educative and entertaining glimpse of narrow-gauge operations in the island state.

It was built to a gauge of 610mm and opened in 1922 to transport crushed limestone in purpose-designed, 4-wheel wagons, from quarries near Lune River to a transshipping wharf on the shores of Ida Bay and eventual dispatch to the facilities at the Electrona Carbide works on the nearby D’Entrecasteaux Channel. The limestone was used in the chemical industry for synthetic rubber and plastic making and in the production of calcium carbide, necessary for the making of acetylene gas in the steel industry.

The workshops, engine sheds, company offices and staff quarters that now comprise the railway’s terminal facilities were built after World War II and five Army surplus Malcolm Moore petrol-powered locomotives were purchased in 1948 to replace the steam locomotives originally used.

Following the siltation of the Lune River in the vicinity of the wharf at Brick Point, the line was extended a further five kilometres to Deep Hole, next to Elliot’s Beach. The last limestone train ran in June 1975 and tourist

operations commenced on 20 December 1977 following purchase of the railway by the state government.

Summertime operations on the railway in 2017 comprise a two-hour, 14 kilometre return trip through waterside native vegetation and past numerous historic aboriginal and company remnants. Balloon loops at the station and the terminus adjacent to the remains of a jetty/siding at Deep Hole preclude the need for the locomotive ‘run around’.

The diesel-mechanical locomotives currently in use are powered by an Isuzu diesel engine driving through the first three gears in the gearbox and a differential to chains and sprockets to each of the two axles. The train comprises two open carriages and an enclosed ‘saloon’.

There’s a confident and positive mood amongst the local staff that run the train and the café. A full time mechanic has recently been appointed and there are plans to upgrade the visitors’ facilities at Ida Bay Station and to return other locomotives and the quaint ‘Silver Streak’ railcar to operating condition.

The Ida Bay Railway has an undisputed geographical description in the history of railways in Australia. ‘Quaint’ and ‘quirky’ are equally appropriate.



Above: On Saturday 31 December 2016, the train waits at the Deep Hole platform before its return run to Ida Bay, **Left:** The *Silver Streak* railmotor is currently out of service and stored at the railway’s depot at Ida Bay township. This railmotor dates from the tourist railway era, and should not be confused with the historic 1945 Chevrolet railmotor (see *RD* March 2016, page 56).



Above: The train waits on the loop at Deep Hole. In the foreground is a remnant of the line to the former jetty where the limestone was loaded on to the sailing ketch for transport to Electrona.



Left: A passenger's-eye view as the train proceeds towards Deep Hole.

Below: The train, headed by one of the line's Malcolm Moore 4wDM locomotives, is seen at Ida Bay township, where the depot, cafe and workshop are located.





On Friday 9 December 2016, the AK Cars visited the erstwhile Picton-Mittagong Loop Line, when Pacific National units 48138 and 48164 brought the cars from Picton up to the limit of working, at Buxton. Train SK84 (AK Cars Buxton–Sydney) is seen in the platform at Thirlmere. Earlier, at Moss Vale, 48164 had to be remarshalled long-end leading, due to a non-working headlight. Ben Chatwin



Pichi Richi Railway's Coffeepot – a Kitson-built engine unit coupled with a passenger coach built by Metropolitan Amalgamated Railway Carriage and Wagon Co. of Birmingham in 1905, seen in the shed at Quorn on Wednesday 7 August 2016. It is used on special occasions, and since its initial restoration in 1984, it has undergone another restoration/repair in more recent times. Shane O'Neil

Emanuel Hornibrook's name

Regarding John Knowles' comment relating to Emanuel Hornibrook's name being Manuel, and not Emanuel (letters, page 58, January *RD*, Redcliffe Railway), his birth was registered as Emanuel but he was known as Manuel throughout his life.

Irrespective of his given name he was a significant figure in Australian construction history, culminating in one of the world's greatest engineering accomplishments of its day, the construction of the Sydney Opera House roof shells and interior structure by the Hornibrook Group.

*John Hoyle
via email*

Australia's two largest cities deserve a much better rail link

I was disheartened to read, in the December 2016 *Digest*, about this corridor's declining share of tonnage, (which is now about 8%), and that is after all the promises of the ARTC hoping to obtain 30% of the business.

After millions of dollars badly misspent on a

substandard right of way, the future of our major cities having an effective rail corridor seems impossible to obtain for many economic reasons.

I was watching a show on 'Future' technologies that actually exist 'Now'. One of the coming technologies is driverless trucks. The commentator even noted that one day in the near future, we may see one lane or even an extra lane constructed on the Hume highway totally devoted to driverless trucks.

It's a simple fact, that business in its ever ending pursuit to minimise costs, will see great advantage in this scenario.

The thought occurred to me that the railway in its current physical form will simply not be able to compete with ever-faster changing technologies, and I do not think that driverless trains are the answer.

The only way for this railway corridor to be competitive is obvious to all, there must be the political will to rebuild the steam age alignment and construct the track to the highest standard to come close to competing with what is surely to come.

*Tony Sedawie
Bendigo Vic*

Shorter transit times on the Short North

In response to the letter by Alan Templeton in *RD* December 2016 relating to comments that I made in a previous issue of *Digest*, I would like to stress that I thoroughly agree with Mr Templeton's statement about the Wentworth Deviation. My previous suggestion for the resurrection of the original alignment of the Main Southern Line grew out of my frustration in relation to excuses by the government regarding funding for the rail network. All too often they utter spin such as "not economically feasible"; accordingly, I suggested the alternative because I presume it would be far cheaper to restore an abandoned alignment than building an entirely new route. Unfortunately, as Alan implied, they are convinced that railways are unprofitable and cannot provide the same level of efficiency as trucking.

The precedence for this paradigm is entrenched in the capitalist philosophy known as neoliberalism or economic rationalism. It was introduced in the 1980s during the Thatcher and Reagan eras and concepts like free-markets,

individualism and self-reliance are central to its ideology. It was responsible for the cutbacks that were recommended by the Booz-Allen Report and the subsequent segregation and privatisation of railways. It favours the trucking industry, because they are not dependant on fixed infrastructure and they can be owned and operated by individuals. It encourages investment on projects where profits will be produced quickly; which is why the Hunter Valley has attracted considerable investment. Meanwhile, projects like the Wentworth Deviation are completely ignored, because it would be several years before financiers would receive any significant return on their investment. It fiercely discourages governments from going into debt, which is why it is complicated to borrow money for railway construction. However, has anyone considered why it is okay for an individual to go into debt to purchase a house or car, yet governments are heavily criticised?

Most logistics companies send their goods by both road and rail; if it becomes more feasible to use the rail network then they will choose.

Conversely, if it becomes uneconomical or burdensome to use railways, then they will revert to road haulage as discussed (in *RD* Dec 2016). Most prominent logistics companies are also significant donors to political parties. However, because 90% of their goods is sent by truck as implied by Dr Laird (*RD* Dec 2016), the majority of funding for infrastructure is spent on highways, because that is where their interests are focused. Furthermore, unlike rail operators, the ARTC doesn't necessarily benefit from improvements to track alignment to the same extent as operators. Consequently, any projects that are designed to improve train performance are approved with caution to keep costs to a minimum.

I have no ideological inhibitions against trucking; trucks play an important role in the transport and distribution of goods. In addition, I am a former heavy-vehicle driver myself. However, it seems a bit absurd to move 2000 truckloads by road and only 200 by rail, particularly when trains are three times more fuel efficient and require fewer materials like tyres. To make better use of resources, would not it make more sense to send 2000 truckloads by rail and 200 by road? Lastly, I harbour no ideologically against private enterprise, I just believe that railways are natural monopolies and function better as integrated networks as they are in North America. Therefore, might I suggest that a reputable organisation like Genesee and Wyoming take control of main lines and branch lines be sold to short-line operators as suggested in *RD* December 2016? Sadly, it is not just another Billy Wentworth that we need, but another Jack Lang and a Dr Bradfield,

*Stephen Miller
Rutherford, NSW*

Newcastle light rail

Recently I was listening to an interview with NSW Transport Minister Andrew Constance on Newcastle ABC radio. Announcements had been made

that morning, one announcing who was the successful tenderer for Newcastle's buses, ferries and light rail. The other announcement was that the University of Newcastle would be purchasing land that is part of the rail corridor. The interview was about these announcements. The interviewer asked about getting into and out of the city. This led to the question of the light rail along Hunter Street. Andrew Constance more or less refused to discuss the matter. The decision had been made. The issue was not on the table. I could understand someone like Andrew Constance or Mike Baird not wanting to talk to community groups like *Hunter Concerned Citizens, Save Our Rail or Keep Rail On the Corridor* (KROC), but I would have thought they would have had enough sense to listen to the experts like the engineers and planners. Sadly, there is no room for good sense in the New South Wales state government.

*Peter Sansom
via email*

Mud Holes

W Graham Claytor Jr, CEO of Southern Railway and later Amtrak, is reputed to have said that there are three important things in running a successful railroad: Drainage, drainage and drainage. A trip on Sydney Trains, or ARTC's Main South, would demonstrate either profound ignorance of drainage hydraulics, or indifference, on the part of the management of those bodies.

I am not an engineer (neither was Claytor) but it is obvious that unless water is not only able to drain from the roadbed, but prevented from draining back nearby, you are going to have problems. Digging a ditch beside the track is only step one: there must then be a continuous, downhill channel from there to the nearest culvert etc. How often the ditch ends at some point! Inevitably, the mud-hole will quickly re-appear.

I have heard the argument that ARTC lacks funds; this seems difficult to understand as ARTC operates what, for rail

traffic, is a monopoly toll road. Perhaps, as in so many railway operations in Australia, the issue is not a funding shortfall as a managerial talent shortfall; and the latter, in turn, seems impossible to overcome while ultimately, railways are operated as a direct part of the political system.

Just yesterday I noticed years of off-again/on-again restrictions are back on, near Shangri-la Road underbridge, between Penrose and Bundanoon on the Up line. Mud holes have been a feature here for years, supposedly fixed – only to re-appear a few months later. A 40km/hr restriction is once again located right at the start of the continuous grade from there to Exeter.

It is unrealistic to imagine that ARTC mainlines will ever be other than pox marked by permanently-reappearing "temporary" speed restrictions. The future does not differ from the past unless radical managerial changes are made.

*John Gerard Nestor
via email*

Driver-only operation

Regarding the story in the News Section of the November issue of *Railway Digest* (Page 8) about new intercity trains that are to be purchased being driver only, which will threaten the jobs of guards on the NSW network. I was an employee from 1969 until 1991 and this idea was raised by the Booz Allen Report of that period.

I would like to know if a passenger becomes ill or has a heart attack, what would the driver do? If a passenger is in a wheelchair would the driver leave his cab and place the ramp at the doorway to help the passenger disembark from the train?

There are a lot more questions that I could ask, but this is only a short letter.

*D. O'Brien
Cootamundra, NSW*

New V/Line services

I refer to January 2017 *RD*, Page 24. The Ovens Valley MLA. Tim McCurdy, complains about the passengers on the NE line

to Albury have not received any new passenger train services, from the recent State Government decision to provide an additional 80 weekly services over the country Victoria.

As for Mildura, we miss out on all passenger trains. The nearest passenger connection is at Swan Hill, which is a smaller city than Mildura and receives two passenger trains daily. Mildura is a similar size city to Wangaratta, and is the only large city in Victoria forced to endure an unpopular and uncomfortable three-hour bus trip to connect with the Swan Hill passenger service.

*Mike Saunders
Mildura, Vic*

Hobart Rail

No doubt that the Tassie government, with such a small tax base, is strapped for cash but fortunately there is a low cost solution to providing Hobart with a commuter railway. The track and basic infrastructure is already in place and since it was until recently carrying heavy freight traffic one can reasonably assume that it will not take much to make it trafficable once again. So what is needed are some trains and here the Queensland government can assist. QR are currently replacing their 'first generation' three-car electric sets and although somewhat tired and tatty with a moderate amount of sprucing up could be made to serve perhaps another ten years.

No need to electrify the Hobart line though. Just couple a set or three to suitable diesel locomotives to make push/pull rakes. The diesel can even supply the 'hotel' power to the trains for lighting, air-conditioning and door operation, etc. Perhaps best of all from a Tassie government perspective, these is no need to purchase the trains. Using the UK 'Rosco' (rolling stock leasing) model the trains and diesel locomotives could be purchased, modified and tarted-up by a suitable leasing company. So no major outlay until the concept is proven.

*Ron Brown
Lake Cathie, NSW*

Everything you ever wanted to know!

If the subject is Australian Railways, then the place to find out more is the ARHSnsw Railway Resource Centre. Located at 67 Renwick Street, Redfern NSW, not far from CityRail's Redfern Railway Station, the centre is open for research every Tuesday between 12.00 midday and 4.00pm, and every Saturday between 10.00am and 3.00pm (public holidays excepted).

The Railway Resource Centre holds a large collection of:

- Photographs and transparencies
- Drawings
- Diagrams
- Historic records
- Books
- Magazines

The wide range of items in the collection relate not only to the railways of New South Wales, but to all other states and territories of both Australia and New Zealand.



The Railway Resource Centre can help you with your research in most areas of railway history, especially:

- Locomotives
- Rolling stock
- Buildings
- Track and signalling
- Timetables
- Line histories

The ARHSnsw Railway Resource Centre's main research facility—The Mal Park Reading Room, features an intranet index database of research

material and personal service by trained volunteers. Photocopying facilities are available, and image duplication or scanning can be arranged. For railway modellers or amateur historians — the Railway Resource Centre has something for everyone.



email: resources@arhsnsw.com.au

NB: Research requests should be sent via email and are not taken over the phone

Railway Resource Centre

67 Renwick Street, Redfern, NSW 2016 — phone (02) 9699 2736

Visit our website at: www.arhsnsw.com.au

Please note: ARHSnsw is a non-profit organisation and Railway Resource Centre research services will attract a moderate fee to cover costs.

Shop online at www.arhsnsw.com.au

ARHS BOOKSHOP MAIL ORDER To: ARHSnsw Sales, 67 Renwick Street, REDFERN, NSW 2016

Have you a mail order enquiry? If so please call 02 9699 4595

Title:		\$
MAIL ORDER - HANDLING CHARGES	ARHSnsw MEMBER'S DISCOUNT	Plus postage & handling
<small>Sydney Area only ~ \$8.50 Rest of Australia ~ \$11.00 for first item plus \$1.00 for each additional item. Overseas consignments ~ handling fee plus actual postage cost by Airmail. PLEASE NOTE: Items are sent at consignee's risk. Insurance is available at \$5 plus \$2.00 per \$100 value.</small>	<small>Holders of current ARHSnsw Division membership cards are entitled to 10% discount on all items carrying * after the price. If claiming your ARHS/nsw Member's Discount, on your above purchases, please write your Member number in the box at right:</small>	TOTAL :
		<input type="text"/>
		<input type="text"/>

PAYMENT DETAILS

DELIVERY DETAILS:

Name

Postal Address

Town/Suburb State Postcode Phone No: Area Code () Ph No:

PAYMENT METHOD

My cheque/postal order for the above amount, payable to ARHSnsw is enclosed

Please debit the above amount from my MasterCard or VISA account number

Expiry date -

SIGNATURE:

Please sign here if ordering by Credit Card

ARHS_{nsw} Railway Bookshop

67 Renwick Street REDFERN NSW 2016

Monday to Friday 10am to 5pm

Saturday 9am to 4pm

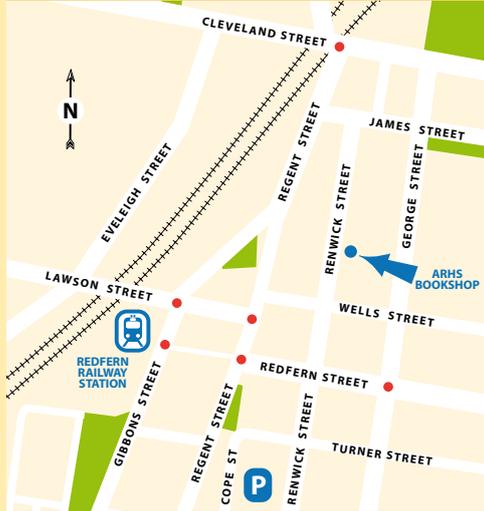
Shopping Cart: www.arhsnsw.com.au

Fast mail order service (use the order form)

Phone 029699 4595 or fax 029699 1714

MasterCard or Visa Accepted Only

ARHS_{nsw} Members receive 10% discount for items marked * after RRP.



LATEST AUSTRALIAN BOOK NEWS

- AMUSEMENT RAILWAYS OF AUSTRALIA.** Longworth. 244p \$65*
- Rr AUSTRALIAN TRAINS.** Trainspotting thru the years (Topmill). 120p \$45*
- ENGAGING THE GIANTS** Tas Southern Sawmills & Tramways (LLRSA) 240p. \$60*
- JUMBOS Early Years** RailmacMiniProfile#14. STA2000 Cars \$7.50*
- LENSES SOUTH.** Steam's last years around Sydney & NSW South. 192p. \$85*
- LOCOMOTIVE ENGINEERS OF TASMANIA.** Anchen. 184p col/bw \$50*
- RAILS ACROSS AUSTRALIA.** D Cable. (Pen&Sword) 258p. \$75*
- RAILWAY HOTELS OF AUSTRALIA Vol 1 - Vic.** SWhitaker. 260p \$77*
- N RAILWAY HOTELS OF AUSTRALIA Vol 2 - NSW.** SWhitaker. 296p \$77*
- SAVING STEAM:** RailmacMiniProfile#1. Early SAR Steam Preservation. \$7.50*
- STEAMING THRU THE PASS** RailmacMiniProfile#8. Queen to Woodshed \$7.50*
- STEAMING THRU THE PASS** RailmacMiniProfile#12. The Port to Woodshed \$7.50*
- STEAMTOWN 1977-2005:** RailmacMiniProfile#3. Steamtown history. \$7.50*
- STEAMTOWN** RailmacMiniProfile #9 Heritage Rail Centre. \$7.50*
- STEAMTOWN** RailmacMiniProfile#13 Locomotives & rollingstock. \$7.50*
- REBIRTH OF A RAILWAY:** RailmacMiniProfile#2 Pichi Ritchi Railway. \$7.50*
- RICHMOND VALE:** RailmacMiniProfile#11 Pictorial history. \$7.50*
- N SMELTERS HAVEN TO ARTIST'S REST.** LakeMacquariehotels. Tonks \$40*
- The RAILWAY HERITAGE OF GOULBURN.** S Sharp. (GLRPS) 96p. \$47*
- THE MAIN LINE.** Ipswich/Granchester/Toowoomba Line. 96p. \$40*
- The ROCK to OATLANDS.** John Reid. 56p. \$17*
- N TASMANIA RAILWAY PRESERVATION.** R Sweet. 36p. \$17*
- THROUGH THE LENS.** Cotterall & Ferguson. 240p. \$80*
- TO THE FERTILE PLAINS BEYOND.** CCSingleton. (ARHSnsw) 274p. \$48*
- N TROLLEYS EAST** RailmacMiniProfile#6. Adelaide Trolleybuses in East. \$7.50*
- YOUNG THEN & NOW 25 YEARS ON.** WallSEND/Edgeworth Hist41p. \$44*

LATEST AUSTRALIAN DVDS & CDs

- The ALEX GRUNBACH FILMS '60s NSW Steam** (ARHSnsw/Belbin) 57'...\$40
- 49 DOWN 50 UP CLASS.** The last steam service. 35'...\$30
- 42101 BACK ON THE TRACK** (Trainspotter) 45' DVD.....\$32
- CAB RIDE WORKING THE STREAMLINERS.** BernieBaker60' \$34
- N DIESEL DIARY SPECIAL STREAMLINERS 2016.** 77' BRonly \$49
- N DISAPPEARING STEAM.** NSW railways 1959 to mid 60s 68'...\$40
- N JUST SOUTH AUSTRALIAN TRAINS.** (HD). 72'.....\$29
- JUST WESTERN AUSTRALIAN TRAINS 2012.** (HD). 60'.....\$29
- NZ RAILSCENE 89.** Majik. Dec Qrt 2016 RM31, Silver Fern.....\$42
- PREMIER STATE C CLASS.** (AC Video) 140'.....\$45
- QUEBEC FREIGHT TRAINS.** NSW/Vic 2012/15 (Railtrax) 50' \$40
- N RAILFANNING THE SOUTH LINE.** Southern Tas (RailMedia) 60'...\$30
- RAILWAY REMINISCENCE VOLUME 3.** NSW 1973-75 55'.....\$39
- N RIDING WITH THE DRIVER.** G42, Abt, R711, (Channel 5) 52'...\$35
- SENSATIONAL STREAMLINERS.** Clyde/EMDs (AC Video) 62' \$40
- STEAM OUT OF CENTRAL.** 1960s service steam 67'.....\$40
- TASMANIA'S RAIL FREIGHT NETWORK Vol.1.** (RailMedia) 71' \$30
- THE WAY IT WAS Vol 9.** (Water Street) 53'.....\$44
- THE WESTERN LINE.** Pt1 Penrith/Bathurst (Trainspotter) DVD \$45 BR \$50
- TASMANIAN RAILWAYS "THE CHANGING RAIL SCENE".** 58' DVD.....\$30

NOTE: TRACKSIDE DVDS ARE LISTED ON LAST PAGE

KEY TO SYMBOLS			
N	New in store	Sp	Special
Rr	Back in stock/re-released	sc	soft cover
		hc	hard cover
		b&w	black and white
		p	page/pages
			mins (eg 60'=60 MINS)

ARHS_{nsw} PUBLICATIONS & DISTRIBUTION

- 46 CLASS REMEMBERED. All locos & liveries. Colour. 64p.....\$25*
- A CENTURY OF CENTRAL. McKillop, Ellsmore & Oakes. 160p.....\$49*
- A GUIDE TO AUSTRALASIAN LOCOMOTION. Walters/Baker/Peardon. \$30*
- Sp A RAILWAYMAN'S JOURNEY. Denny Ellis' NSW Career 448p.....\$10*
- AUSTRALIAN RAILWAY HERITAGE GUIDE 2010 ARHSnsw 320p...\$35*
- BOILERS, BEAUFORTS & BOGIES. Chullora history. Longworth. \$49*
- BONDI TO THE OPERA HOUSE. Budd/Wilson. Sydney's trams. ARHS...\$29*
- BRIDGES DOWN UNDER. Don Fraser. 2nd Edition.....\$38*
- Sp COAL, RAILWAYS & MINES OF J & A Brown. BRAndrews...\$50*
- Sp COAL, RAILWAYS & MINES OF NEWCASTLE. BRAndrews 2Vol set \$200*
- GOONDAH TO BURRINJUCK. 3rd Edit. 260p col/b&w HC.....\$30*
- Sp FROM GREASE TO GOLD BRAID. Ken Ames. NSWGR 76p. \$10*
- JUGGERNAUT! David Burke. Sydney's steam trams.....\$15*
- Sp MERCY TRAINS. J Harvey. Wartime ambulance trains. 280p...\$25*
- Sp NEW IDEAS FOR AUSTRALIA'S TRAINS: 1929 to 1973...\$5*
- Sp NO FEAR OF CHANGE or LEARNING TO LIVE WITH CHANGE. \$10*
- SOUTHERN AURORA. Chris Banger. 2nd Edit (ARHSnsw). 224p.....\$88*
- SYDNEY'S CENTRAL. 2012 Edition 64p.....\$20*
- SYDNEY'S FORGOTTEN CITY RAILWAYS. John Oakes 64p...\$20*
- SYDNEY'S FORGOTTEN GOODS RAILWAYS. J Oakes 112p \$25*
- SYDNEY'S FORGOTTEN ILLAWARRA RLWYS. J Oakes 88p...\$20*
- SYDNEY'S FORGOTTEN INDUSTRIAL RLWYS. J Oakes 208p. \$30*
- SYDNEY'S FORGOTTEN MILITARY RAILWAYS. J Oakes 112p \$25*
- SYDNEY'S FORGOTTEN PARK & RURAL RLWYS. J Oakes 128p \$25*
- SYDNEY'S FORGOTTEN QUARRY RAILWAYS. John Oakes. 80p. \$22*
- THE DAYLIGHT. Intercapital daylight Melb/Syd. (ARHSnsw). 352p.....\$115*
- Sp THE SHALE RAILWAYS OF NSW. 2015 edition. 256p.....\$62*
- TRIKING THE LENGTH. NSW Trikes. Jim Longworth ARHSnsw 240p...\$59*
- WOLFGANG VALLEY RAILWAY - ITS CONSTRUCTION. 32p...\$13*

OTHER PUBLISHERS

- 80 YEARS & MORE OF MOUNTAIN RAILWAY. Unanderra/MVale. \$20*
- A HISTORY OF SA RAILWAYS Vol.1. Early Years. (ARHSVic) 320p \$70*
- A RAILWAY TO CUDGEGA. Nick Anchen. 122p col/bw.....\$50*
- AN AUSTRALIAN LOCOMOTIVE GUIDE. 2nd Edition. Clark. 368p. \$35*
- AUSTRALIAN RAILWAY DISASTERS. Reprint.....\$43*
- BEHIND THE TIN FENCE. Ipswich Rly Workshops History...\$25*
- BUILT BY BALDWIN. (LLRSA) Wilson 160p sc b/w.....\$44*
- BUILT BY BUNDEBERG FOUNDRY. ANGRMS. 80p sc.....\$25*
- CHASING THE SUNSHINE David Burke 154p b&w/col SC.....\$38*
- COMENG Vol. 1. 1921-55 History. John Dunn. 318p. hc col...\$59*
- COMENG Vol. 3. 1966-77 History. John Dunn. 336p hc col...\$70*
- COMENG Vol. 4. 1977-85 History. John Dunn. 288p hc col...\$65*
- COMENG Vol. 5. 1985-90+ABB, Adranz & Bombardierco. 312p col...\$65*
- DESTINATION NEWCASTLE. Greg & Silvia Ray. Historic images. 76p \$39*
- DISTANT THUNDER. NRM. Outback rly action 64p SC \$35* hc...\$42*
- ENGINEERS OF THE VICTORIAN RLYS Vol 2. Anchen hc...\$50*
- EXPLORING QLD'S RAILWAYS. West/South Toowoomba. Webber. 160p \$38*
- GLEN DAVID A Shale Oil Ghost Town. Knapman. 270p hc b/w col...\$59*
- GREAT RAIL JOURNEYS OF AUSTRALIA. Avery. 220p HC \$30*
- H'LL NEVER STOP THAT TRAIN IN TIME. Brakes. Moffat. 427p. \$99*
- JOADJIA CREEK. A Shale Oil Ghost Town. Knapman. 176p b/w col \$38*
- LAHEY'S CANUNGRA TRAMWAY. Climax & Shay locos.....\$10*
- LIFE ON AUSTRALIAN LOCOMOTIVES. Barnett. Vic Steam 1960s. \$35*
- LIFE ON THE VICTORIAN RLYS. Railwaymen's roles. Anchen. 170p. \$50*
- MECHANICAL WEIGHING MACHINES No. 2 (ARHSv) 328p sc \$49*
- MY RAILWAY DAYS. John Dare Images from 1970 to 2007 160p \$75*
- NEWCASTLE SLIDE SHOW. Greg & Silvia Ray. Colour images.....\$49*
- ONE AMERICAN TOO MANY. Brisbane Trams. David Burke. 126p \$30*
- PANSY. Richmond to Kurrarajong Railway. 34p sc bw.....\$15*
- PENNY-A-SECTION, TUPPENEE-A-CASE. Irwin. 97p sc bw.....\$29*
- PENINSULA PIONEER REVISITED. Peter Knife. 382p col.....\$95*
- POWER TO THE RAILS. Vic. Diesel & Electric J Scott 224p hc col...\$75*
- PROCEED TO HAWKER. Evans (Railmac) 152p SC b&w/col.....\$30*
- PROCEED TO QUORN. Evans (Railmac) 176p SC b&w/col.....\$40*
- PROCEED TO WILMINGTON. (Railmac) 172p. HC.....\$40*
- RAILMOTORS, RAILCARS, EMUS, TILT TRAINS QLD. (ARHSQ) \$35*
- RAILS AROUND BROKEN HILL. (Railmac) 36p col/bw.....\$13*
- RAILWAY ELECTRIFICATION IN AUSTRALIA & NZ. 160p. \$20*
- RAILWAY PORTRAITS. B&R Wheatley. 112p. V1 \$55; V2/3. ea \$59*
- RAILWAYS OF TASMANIA'S WILD WEST. Anchen. 160p...\$50*
- RAILWAYS OF THE OVENS & KING. Beechworth etc N Anchen \$60*
- RICHES BENEATH THE FLAT. Captains Flat. Mainwaring. 104p...\$30*
- SALUTE TO THE HUDSWELLS. (ANGRMS) 140p. SC.....\$35*
- SAMPHIRE & STONE. Dry Creek to Stockdale NRM 184p sc b/w \$52*
- Sp SHOROT NORTH: The Railways of NSW in Steam. Preston. 80p. \$15*
- SIMSVILLE & THE JARRAH MILL. Myall River NSW. McNeil (LLRSA) 96p...\$29*
- SINGLE DECKERS FROM NEWCASTLE. Howarth/Ryan 178p...\$65*
- TALL TIMBER & TRAMLINES. Queensland. Kerr (LLRSIA) 104p. \$30*
- THE APRICOT MAIL. Rogan's Hill Railway. Irwin. 96p. b/w.....\$29*
- THE END OF AN ERA. Single-deck suburbans. Ryan. 80p hc col \$45*
- THE INNISFAIL TRAMWAY. (LLRSA). 2nd edit..... hc \$38* sc \$30*
- THE LANDERS. QR AC Cars. (ARHSQ) 152p col sc.....\$40*
- THE LEDES FORGE CARS. Suburban Cars. (Bow River) 152p col.....\$49*
- THE McVOR TIMBER & FIREWOOD COMPANY. (LLRSA) Stamford \$30*
- THE MAPLETON TRAMWAY. John Knowles 92p b/w SC.....\$28*
- THE RIGHT WAY, THE WRONG WAY & THE RAILWAY. N Anchen \$35*
- THE RAILWAYS AT WORK Vol. 3 Mackey Official NSWGR Photos. \$35*
- THE RLWYS OF CABOOLTURE, WOODFORD & KILCOY Webber \$16*
- THE SOUTH COAST RAILWAY Gold Coast Rly (Water Street).....\$39*

TRAIN HOBBY BOOKS

- ALL-COLOUR, BIG A4 PICTURE 48-56 PAGE ALBUMS.
- COALS TO NEWCASTLE Part 1 - The Steam Era. 56p.....\$42
- COALS TO NEWCASTLE Part 2 - The Diesel Era.....\$42
- COALS TO THE ILLAWARRA. 40 years of haulage.....\$42
- SYDNEY TERMINAL. The Steam Station.....\$42
- NSW 30 CLASS 4-6-4 Tank.....\$42
- NSW 30T CLASS 4-6-0 Tender.....\$42
- NSW 35 CLASS 4-6-0 Tender.....\$42
- NSW 38 CLASS 4-6-2 EXPRESS LOCOMOTIVE 56p.....\$42
- NSW 38 CLASS 4-6-2 EXPRESS LOCOMOTIVE Part 2 56p. \$42
- NSW 40 CLASS. Canadian Diesel-Electric.....\$42
- NSW 421 CLASS Clyde-Gm Diesel Electric.....\$42
- NSW 43 CLASS Goninian Alco Diesel Electric.....\$42
- NSW 44 or 80 CLASS.....ea \$42
- NSW 48 CLASS MARK 1 & 2 Vol 1 NSW LOCO PROFILE \$42
- NSW 50 OR 53 CLASS 2-8-0 LOCOMOTIVE. Each.....ea \$42
- NSW 59 CLASS LOCOMOTIVE PROFILE.....\$42
- OLD CANEFIELDS STEAM.....\$42
- VANTAGE POINT TED PAYNE. Victorian Photos. 160p.....\$72
- VR C Class DIESELS Vol 2.....\$42
- VR T Class Bo-Bo DIESEL (First Series).....\$42
- VR X Class DIESEL Vol 1.....\$42
- VR R Class 4-6-4.....\$42
- VR G CLASS GARRATTS V1, 2 or 3.....ea \$42
- UNDER THE WIRES PART 2 Interurbans.....\$42
- UNDER THE WIRES PART 3 45 (7100) & 46 Class.....\$42
- UNDER THE WIRES PART 4 85 & 86 Class.....\$42
- UNDER THE WIRES PART 6 E Class Electrics.....\$42
- COUNTRY BRANCHLINES NSW PART 4 Boorowa, Crookwell, Yass...\$42
- COUNTRY BRANCHLINES NSW PART 5 Vol1 Blaney to Harden.....\$42
- COUNTRY BRANCHLINES NSW PART 5 Vol2 Blaney to Harden.....\$42
- COUNTRY RAILWAY STATIONS-NSW. Parts 4 or 6.....ea \$42
- COUNTRY BRANCHLINES VICTORIA Parts 5 or 7.....ea \$42
- COUNTRY BRANCHLINES VIC Pt9 Echuca, Deniliquin, Balranald...\$42
- COUNTRY BRANCHLINES VIC P10 Patchewollock/Yaapeet/Yanac...\$42*
- MELBOURNE'S INDUSTRIAL & SUBURBAN SIDINGS.....\$42
- MELBOURNE'S SUBURBAN RAILWAY STATIONS.....\$42
- RAIL SCENE 9 TANGERINE ERA. VR & V/line. 97p.....\$49
- WESTERN AUSTRALIAN STEAM, South West Cnr 56p...\$42

EVELEIGH PRESS PUBLICATIONS

- 44-WORLD DOWN UNDER. R Preston. 184p. hc b&w/col.....\$65*
- A HISTORY OF THE SOUTH AUSTRALIAN RLWYS Vol 5. 240p \$70*
- A HISTORY OF SA RAILWAYS Vol 6. Locomotives. 340p hc.....\$70*
- ALCO DL541 - The NSW 45 & SAR 600 Classes. 176p.. \$40*
- BYWAYS OF STEAM 30. Griffith/Barry Tulloch tribute/Roving TO 171p. \$45*
- BYWAYS OF STEAM: 29. Western Line/Captains Flat/Al Byways index...\$45*
- BYWAYS OF STEAM: 28. Narrabri West/Moree Loco.....\$45*
- BYWAYS OF STEAM: 27. Port Waratah, Richmond.....\$45*
- BYWAYS OF STEAM: 26 West Wallsend, Far West, Loco details \$40*
- BYWAYS OF STEAM: 25. History six suburban steam depots \$40*
- BYWAYS OF STEAM: 22, 23 or 24.....each \$40*
- BYWAYS OF STEAM: 21. Camden Issue.....\$38*
- BYWAYS OF STEAM: 20. Blayney, Short North, etc.....\$40*
- BYWAYS OF STEAM: 19. Nyngan, Short Nth. Master Fitter, 57s \$38*
- BYWAYS OF STEAM 18. The Tweed Railway.....\$40*
- BYWAYS OF STEAM Encore. (With index to vols 1 to 14).....\$35*
- BYWAYS OF STEAM 16. 53 Class \$38* 17 Binnaway Cooima. \$38*
- BYWAYS OF STEAM 8 & 9 ea \$28* 10, 11, 12, 13, 14 & 15 ea \$35*
- CENTRAL WEST EXPRESS. (Eveleigh Press) 164p Col.....\$22*
- COACHING STOCK NSW RAILWAYS Vol 1. Wood cars. 260p. \$99*
- COACHING STOCK NSW RAILWAYS Vol 2. FOs, steel cars \$120*
- COACHING STOCK NSW RAILWAYS Vol 3. Electric cars \$110*
- CONQUERING THE BLUE MOUNTAINS. Mark Langdon.....\$50*
- DAY OF THE GOODS TRAIN. Preston. Early to modern times \$60*
- DIESEL SCENE 3: 421CIS30, DS4:400 CI \$33*, DS5: Eveleigh \$40*
- DIESEL SPECTRUM Vols 3, 5 & 7.....each \$17*
- ESSAYS IN STEAM. Ron Preston. Various steam stories. 184pb/w \$16*
- GERALD DEE. Life & Times. J Fowler. 161p.....\$60*
- GREEN DIESELS of the NSWGR. Preston 40841 Class. 112p. \$45*
- INDIAN PACIFIC GREAT AUSTRALIAN TRAINS. Attenborough. \$20*
- IRONWORK HORSES. B Macdonald. (Eveleigh) 176p. hc b&w/col...\$54*
- NEWCASTLE EXPRESS. P Attenborough. 96p sc Col.....\$20*
- PORTRAIT OF A CLASSIC. 46 Class history. 192p col b/w \$70*
- RAY LOVE'S DAYS OF STEAM. 112p Col hc.....\$50*
- SOUTH AUSTRALIAN STEAM MEMORIES. 136p.....\$65*
- SOUTH MAITLAND RAILWAYS. Attenborough. 128p hc.....\$45*
- SOUTHERN HIGHLANDS EXPRESS. Attenborough. 64p Col \$22*
- SPIRIT OF PROGRESS. 64p A5 sc col b/w.....\$20*
- STANDARDS IN STEAM - 53 & 55 Class. Ron Preston. sc. \$48*
- SYDNEY SUBURBAN STEAM. John Ward. 72p hc b/w.....\$30*
- TIME OF THE PASSENGER TRAIN. Preston Vol 1, 2 or 3. ea \$60*
- TULLOCH. A History. (Eveleigh Press). 296p.....\$85*

Prices are correct as at press time. Overseas items sold and out of stock following press time will vary in price due to currency fluctuations.

USA PUBLISHERS - GENERAL

AMTRAK - AN AMERICAN STORY (Amtrak) 140pp sc col..... \$31*
 DAYLIGHT REFLECTIONS V1.Nils Huxtable.132p hc col/bw.....\$58*
 GUIDE TO NORTH AMERICAN STEAM LOCOS.(Trains) 335p...\$55*
 NEW HAVEN COLOUR PICTORIAL Vol3 The East End...\$92*
 PENN CENT POWER. Yanosey.(MorningSun) Collector's edition248p \$115*
 PENNSY R/R DIESEL LOCO PICTORIAL V10 EMD. Withers80p\$30*
 RAILS AROUND LAKE TAHOE Ferrell 256p hc b/w.....\$75*
 RIO GRANDE DIESELS, A COLOUR PICTORIAL V3Strapac112p \$45*
 Rocky Mountain SUNRISE.Nils Huxtable.112p hc col/bw.....\$58*
 SP HISTORIC DIESELS V17 THE SD40 FAMILY(Strapac)144p \$48*
 SP PASSENGER CARS V4:DINING.SPH&TS.576p hc col/bw..\$200*
 SP PASSENGER CARS V5:DOME&PARLOR.SPH&TS.576p...\$200*
 STEAM'S LAST SEASON. Grate Rail. 296p hc col/bw.....\$160*
 THE CALL OF TRAINS.Jim Shaughnessy. 220p hc bw.....\$80*
 THE CONTEMPORARY DIESEL SPOTTERS GUIDE 2008.Withers\$40*
 THE ELEVATED RAILWAYS OF MANHATTAN (.ERA 2ndEd) 363p \$125*
 THE LAKE SHORE ELECTRIC RAILWAY STORY.IndUni.297p..\$135*
 THE MALBONE STREET WRECK. FordhamUniPress.120p bw.....\$55*
 THE METROLINERS. Goldberg & Warner. (Whitiver) 124p.....\$100*
 THE RAILWAY PHOTOGRAPHY OF JACK DELANO. 186p.....\$90*
 THE ROUTES NOT TAKEN. Raskin.323p hc bw.....\$55*
 THE WESTERN MARYLAND RAILWAY.Paulis165p sc col/bw....\$45*
 TOURIST TRAINS GUIDEBOOK 5TH EDIT (Kalmbach) 354p....\$27*
 WHEAT LINES & SUPERFREIGHTS (McMillan) 240p hc col.....\$125*

MORNING SUN (USA)

If your desired title is not listed, we will try to get it for you.

NAC&Y and A&B BELT.....\$99*
 NAGLOMA CENTRAL.....\$99*
 AMTRAK POWER Vol 2.....\$99*
 NAPPALACHIAN Vol 3.....\$99*
 ATLANTIC COAST LINE.....\$95*
 NBOSTON & MAINE V3.....\$96*
 NBUFFALO,ROCH,PITT V5\$99*
 CBQ FACILITIES. V2.....\$99*
 NCBQ FACILITIES. V3.....\$111*
 C&NW POWER 63-95 V1.....\$99*
 N&C&NW POWER 63-95 V3.....\$99*
 N&C&NW POWER 63-95 V4.....\$99*
 C&O FACILITIES V1\$50*V2\$80*
 CONRAIL ATLANTIC V1.....\$99*
 CONRAIL PWRV1(1000-3999)\$99*
 NCR CENTRAL REGION V3\$99*
 NCR CENTRAL REGION V4\$105*
 NCONRAIL WEST REGION V1\$99*
 NCP GUIDE FREIGHT&PASSV2\$99*
 CRITTERS VOL 4 or 5 ea.\$99*
 NCSAO CR SHARED ASSET \$105*
 ERIE LACK POWER V1 \$115*
 ERIE LACK POWER V2.....\$95*
 ERIE LACKAWANNA V8.\$85*
 NERIE LACKAWANNA V9.\$99*
 NERIE WESTERN.....\$105*
 FLORIDA EAST COAST.....\$99*
 NILLINOIS CENTRAL Thru Pass\$105*
 INDUSTRIAL RR Vol 1.....\$85*
 INDUSTRIAL RR Vol 2.....\$90*
 JERSEY CENTRAL POW V1 \$99*
 N JERSEY CENTRAL POW V2 \$99*
 JERSEY CENTRAL LINES V4 \$95*
 JERSEY CENTRAL FAC V1\$95*
 LAKE SUPERIOR & ISHP'G V1\$99*
 N LAKE SUPERIOR & ISHP'G V2\$99*
 N LONG ISLAND POWER 52-155\$105*
 N METRO-NORTH.....\$105*
 LEHIGH & NEW ENG.....\$99*
 MILW POWER V2 FINAL \$99*
 NYC POWER V1#20-4940 \$111*
 N NYC POWER V2 4000-9820 \$105*

USA - HEIMBURGER HOUSE: Great Prices!

AMERICA'S GREATEST CIRCUS TRAIN. 208p col hc.....\$110*
 Sp AC GILBERT'S FAMOUS AMERICAN FLYER. 200p col hc \$59*
 Sp AMERICA'S RAIL PICTORIAL. 152p col hc.....\$59*
 Sp AMERICAN STREAMLINER POSTWAR YEARS. 200p col hc \$59*
 Sp AMERICAN STREAMLINER PREWAR YEARS. 176p col hc.....\$59*
 Sp CHASING TRAINS. US Narrow Gauge.Richardson.432p col hc.....\$89*
 Sp CHICAGO & NORTHWESTERN-MILWAUKEE. 78p col hc.....\$45*
 Sp CLASSIC VINTAGE CRAWLERS & DOZERS. Vol1188p col hc\$69*
 Sp DESERT RAILROADING. Steve Schmollinger. 172p col sc.....\$59*
 Sp THE LAST OF STEAM. Joe Collias. 268p b/w sc.....\$59*
 Sp MASON STEAM LOCOMOTIVES. Wallace. 192p col sc.....\$69*
 Sp MILWAUKEE ROAD 1928-1985. Scribbins. 312p col hc.....\$79*
 Sp NARROW GAUGE COUNTRY. Mal Ferrell. 372p col hc.....\$85*
 Sp NEVADA CENTRAL SAGEBRUSH NARROW.Ferrell.204p col hc.\$59*
 Sp NEVADA COUNTY NARROW GAUGE. G Best. 224p col hc\$59*
 Sp ROBERT W. RICHARDSON'S RIO GRANDE.V3208pcol hc\$79*
 Sp THE SEARCH FOR STEAM. Joe Collias. 360p b/w sc.....\$59*
 Sp TRAINS OF AMERICA. Don Heimburger. 204p col hc.....\$59*
 Sp WEST SIDE PICTORIAL. Mal Ferrell. 312p col hc.....\$69*

UNITED KINGDOM & IRELAND

N APT The Untold Story. D Clough.(IanAllan) 144p HC col.....\$60*
 BARRY: YARD HISTORY & LOCOMOTIVES.(IanAllan)256p col/bw\$80*
 BR COACHING STOCK 2014.PocketBkPlatform5.110p sc col.....\$16*
 BR LOCOS & COACHING STOCK 2014.Platform5.5p hc bw/col\$35*
 BR LOCOMOTIVES 2014.PocketBook.Platform5.95p sc col\$16*
 BRANCH LINES OF STRATHENAR.TouristsTatties&Trains.296p\$30*
 N BRITISH RAIL CLASS 60 LOCOMOTIVES. EGleed.192p.....\$70*
 N BRITISH RAIL DIESELS. Early lives. Hymans.160p.....\$50*
 N BRITISH RAIL CLASS 20 LOCOMOTIVES. Dunn.208p.....\$85*
 N BRITISH STEAM LOCOMOTIVE BUILDERS.Lowe.704p.....\$90*
 N CASTLES THE FINAL YEARS 1954-1965. (Allan). 128p.....\$50*
 N COMMUTERS. British commuting history. Pen&Sword. 150p.....\$40*
 N DISCOVERING LONDON RAILWAY STATIONS.Green.PocketBk104p \$15*
 DIESEL & ELECTRIC LOCOMOTIVES FOR SCRAP(OPC)240p.....\$85*
 DMU COMPENDIUM. Boccock. (Allan). 128p.....\$40*
 EAST OF EASTBOURNE. WEST OF WATERLOO. 102p sc bw\$30*
 ENGLISH ELECTRIC CLASS 40,50 & 55. (Amberley).128p\$50*
 N ENGLAND'S HISTORIC CHURCHES BY TRAIN. HC 214p.....\$75*
 N FLYING SCOTSMAN. Famous loco(HistoryPress)Baldwin.120p..\$38*
 N FROM CLERK TO CONTROLLER. (Pen&Sword) Fowkes.248p..\$75*
 GLASGOW SUBWAY ALBUM. (Watson). col sc.....\$39*
 N GRADIENTS OF THE BRITISH MAINLINE RLWYS.(IanAllan)95p...\$40*
 GREAT NORTHERN ATLANTICS. Baldwin (Pen/Sword).128p\$60*
 GRESLEY'S CLASS P2 LOCOMOTIVES. (IanAllan).128p.....\$55*
 N GW MOGULS & PRAIRIES LOCO PORTFOLIO(Pen&Swd)248p\$90*
 N GWR GOODS TRAIN WORKING VOL1. (Creycy) Atkins.136p.....\$70*
 HWR A STEAM LOCOMOTIVE WORKS (IanAllan) 112p col.....\$57*
 N IN THE TRACKS OF THE BOURNEMOUTH BELLE.(Creycy).128p \$33*
 N ISLE OF WIGHT RAILWAYS. A new history (IanAllan) 96p.....\$50*
 LMS HANDBOOK. Wragg. 1st Edition. 256p hc bw.....\$55*
 N THE LMS HANDBOOK. Wragg. 2016 Edition. 256p sc bw.....\$50*
 N LOCOMOTIVES WE HAVE LOST (OPC/IanAllan) 260p.....\$85*
 LONDON UNDERGROUND.JGlover 12th Ed (Allan) 192p.....\$60*
 LONDON UNDERGROUND STEAM.(IanAllan) 80p hc col.....\$35*
 LONDON'S DOCK RAILWAYS Part 1 Marden 110p sc b/w/\$37*
 PRESERVED LOCOS OF BRITISH RAIL. Platform 5 160p sc col\$32*
 PRINCIPLES OF RAILWAY OPERATION. (IanAllan) 160p sc col\$50*
 RAILS TO GLYN CEIRIOG.Ceiriog Press.308p hc bw/col.....\$99*
 RAILWAY BREAKDOWN CRANES V1. (NoddleBks) 256p.....\$80*
 RAILWAY WORKSHOPS (Shire Books) 86p s/c col/bw.....\$15*
 N RAILWAYS OF AYSHIRE. G Thompson. 160p s/c col/bw.....\$50*
 RAILWAYS OF BRITAIN:NORFOLK&SUFFOLK.(Allan)112p.....\$48*
 N RAILWAYS IN THE LANDSCAPE. (Pen&Sword) Biddle.216p....\$75*
 N RAILWAYS & INDUSTRY IN THE WESTERN VALLEY. 254p.....\$75*
 RAILWAYS OF THE ISLE OF WIGHT. (Amberley)PAllen.94p \$38*
 N REGIONAL TRAMWAYS SCOTLAND. Pen&Sword.Waller.144p\$75*
 SCOTTISH STEAM - A CELEBRATION. Langston 240p.....\$60*
 SHROPSHIRE RAILWAYS.(Crowood) Cryer 160p sc col.....\$55*
 SOMERSET AND DORSET SWANSONG.(WildSwan) 97p....\$45*
 N SOUTHERN STEAM.Buckley Photos.(HistoryPress)Dickson.96p\$50*
 N STEAM TODAY. BR Heritage Rail (HistoryPress) Swaine.118p.....\$50*
 N SWINDON WORKS. The Legend.(HistoryPress)Matheson.192p..\$35*
 THE ANATOMY METROPOLITAN RLY 4-4-0 TANK Manning\$40*
 THE BOOK OF THE LORD NELSON 4-6-0s Derry. (Irwell).....\$55*
 THE GWR Vol 1. Paddington to Bristol. (Amberley).128p.....\$43*
 THE GWR EXPOSED. Swindon in days of Collett/Hawksworth.....\$75*
 N THE GWR HANDBOOK. 1923-47 (HistoryPress) Wragg.248p.....\$50*
 N THE DEFINITIVE GUIDE TO TRAMS.Gordon.245p sc bw.....\$48*
 THE LYNNTON & BARNSTAPLE RLWY MEASURED & DRAWN \$150*
 N THE ROYAL ARSENAL RAILWAYS. Pen&Sword Smithers. 212p\$90*
 THE SOUTH WALES DIRECT LINE. Rendall.208p sc col.....\$65*
 THE SOUTHERN WAY. ISSUE 10. 100p sc bw.....\$15*
 THE STAFFORD & UTOXETER RAILWAY. 240p HC bw.....\$85*
 N TRAIN DOCTOR.Diesel/electric troubleshooting.Pen&Sword.214p\$70*
 UNDER GROUND STEAM. World Subways & Metros 208p.....\$45*
 N VISIONS OF BARRY. J Grayey Photos. (Creycy)Pt.120p.....\$40*

OAKWOOD PRESS (UK)

AYRSHIRE'S FORGOTTEN RAILWAYS. 200p sc col/bw.....\$45*
 FIFTY YEARS OF NEWPORT 1900-49. 160p sc col/bw.....\$45*
 NTH NORTHUMBERLAND'S MINOR RLWYS Vol 3 160p.....\$26*
 NTH NORTHUMBERLAND MINOR RLYS Vol 4 136p b/w.....\$30*
 OAKWOOD PRESS THE FIRST 80 YEARS Mullarky120p sc col\$24*
 STEAM DIESELS & ON-TRACK MACHINES. 240p sc bw.....\$40*
 N THE AXMINSTER & LYME REGIS RAILWAY.144p sc col/bw\$40*
 THE BRISTOL-RADSTOCK-FROME LINE 240p sc b/w.....\$35*
 THE DAVINGTON LIGHT RAILWAY. 48p sc b/w.....\$25*
 THE ELY & ST IVES RAILWAY. 176p sc b/w.....\$45*
 THE EAST FIFE CENTRAL RAILWAY. Lochty Line 104p bw.....\$33*
 THE LEVEN & EAST OF FIFE RAILWAY.320p sc col/bw.....\$53*
 THE LYNN & HUNSTANTON RAILWAY. 192p sc bw.....\$32*
 THE NEWTON ABBOT TO KINGWEAR RAILWAY.352p sc b/w\$50*
 THE REDDITCH & EVESHAM LINE. 224p sc b/w.....\$45*

CAPITAL TRANSPORT (UK)

THE BAKER STREET LINE or DISTRICT LINE. 80p sc col b/w/ea\$18*
 THE CENTRAL LINE or CIRCLE LINE. 80p sc col b/w.....each\$15*
 THE JUBILEE LINE. 80p sc col b/w.....\$18*
 THE METROPOLITAN LINE. 96p sc col/bw.....\$18*
 THE NORTHERN LINE. 80p sc col b/w.....\$18*
 THE PICCADILLY TUBE. Horne. 144p hc col b/w.....\$78*
 THE VICTORIA LINE. 80p sc col b/w.....\$15*

WORLD TRANSPORT BOOKS

Rr NARROW GAUGE RAILWAYS OF SOVIET UNION. 224p HC.....\$99*
 AUTOCARS, AUTOBUS, TROLLEYBUS de FRANCE.1950/80.\$99*
 HEATHROW AIRPORT. 1929 onwards. Ops Manual 188p...\$40*
 CAMELS & CADILLACS. SAR 25 ClassCondensers & 25NC 4-8-4s..\$90*
 COAL, STEEL & COMFORT. Loco141R568 & SwissClassicTrain \$42*
 N CZECH & SLOVAK RAILWAYS 1st Edit.Platform 5.256p....\$60*
 FRENCH RAILWAYS 5th Edit.Platform 5.223p.....\$43*
 HIGH SPEED TRAINS. Peter Clark. 192p hc colour.....\$40*
 N ON TRACK. H Gittins - Railway pioneer Sam & Canada. 151p.....\$25*
 IRISH RAILWAYS-LOCOS, MUs & TRAMS V7.Platform5.95p....\$42*
 LITTLE TRAINS TO FARAWAY PLACES.(Indiana).209p.....\$76*
 N RAILS ACROSS EUROPE. Eastern&Southern. Cable. (P&S) 258p...\$75
 N RAILS ACROSS EUROPE. Northern&Western. Cable. (P&S) 245p \$75*
 N RO-RO HANDBOOK. Guide to roll-on/roll-off cargo ships.151p.....\$60*
 SEASONS OF STEAM. Steamscenics. 104p. All colour.....\$59*
 N STEAM LOCOMOTIVES OF EAST AFRICAN RAILWAYS 216p\$99*
 N SWISS RAILWAYS 4th Edit.Platform 5.225p.....\$60*
 THE GREAT INDIAN RAILWAY ATLAS.Roychoudhury104pcol..\$45*
 N THE NG RAILWAYS OF BOSNIA-HERCEGOVINA.Chester 416p..\$90*
 N THE RAILWAYS OF MONTENEGRO.K Chester 232p HC col/bw..\$90*
 THE RAILWAY ATLAS OF THAILAND, LAOS & CAMBODIA 212p \$75*
 THE RAILWAYS OF THAILAND. R.Ramaer. 212p sc col/bw.....\$80*
 THE RAILWAYS & TRAMWAYS OF VIETNAM. Dooling. 398p.....\$85*

NEW ZEALAND BOOKS

A WEST COAST ENGINEMAN. (NZ) Tibbles 252p sc.....\$70*
 NZ RAILWAYS' 4-6-0 LOCOMOTIVES. Sean Millar.42p.....\$19*
 NZ RAILWAYS STAND ALONE MECH SIGNAL BOXES. 271p\$79*
 RAILS TO ROXBURGH NZ. Otago provincial rlyCowan.256p..\$75*
 RAILWAY ELECTRIFICATION IN AUSTRALIA & NZ. 160p....\$20*
 SIGNALLING & INTERLOCKING AT FRANKTON Junc. 1897/1987.132p..\$25*

GENERAL INTEREST BOOKS

CITY OF ADELAIDE. RailmacMiniProfile#10. Historic clipper ship.....\$8*
 HAWKESBURY RIVER BOATS AND PEOPLE. 138p.....\$20*
 Sp INTO THE GOLDEN WEST. Bob McKillop. 286p.....\$44*
 MORRIS 25 ON THE RAILS RailmacMiniProfile#5 SA Inspection Cars.....\$8*
 UNION JACK. Jack O'Leary & the RTBU.214p.....\$25*
 SHIPS FROM THE DEPTHS.Deepwater Archaeology. 182p \$68*
 SWIFT TO DESTROY. History 77 Squadron RAAF. 113p.....\$25*
 VOYAGE TO THE END OF THE WORLD. David Burke.200p..\$25

TRAM BOOKS

AUSTRALIAN TRAMS THROUGH THE AGES. McKelly 320p HC.....\$55*
 AUSTRALIAN TRAMS THROUGH THE AGES. McKelly Pt1 160p sc..\$25*
 AUSTRALIAN TRAMS THROUGH THE AGES. McKelly Pt2 160p sc..\$25*
 BRISBANE TRAMWAYS THE LAST DECADE (Transit Press)60p.....\$21*
 DESTINATION WATERFRONT CITY. Wilson/Budd. Melb trams.76p \$60*
 JUGGERNAUT! David Burke. Sydney's steam trams.....\$15*
 JUST TRAMS IN MELBOURNE 1972-2013. GregTravers. DVD170'..\$40
 STEAMING DOWN ARGENT STREET. Broken Hill 90p hcbw..\$13*
 LAUNCESTON MUNICIPAL TRANSPORT 1911-1955.170p. \$55*
 MELBOURNE'S COLOURFUL TRAMS 1970s Clark (TH) 56p..\$39*
 MIND THE CURVE. A history of cable trams. Keating. 155p \$28*
 MORE TRAM IMAGES with bonus DVD.Aust & NZ.Balment.140p.....\$60*
 PRAHRAN & MALVERN TRAMWAYS TRUST.Ian Brady. 96p \$59*
 N RAILS IN THE ROAD.Britain & Ireland tram history. 269p.....\$90*
 SYDNEY TRAMWAY MUSEUM. Souvenir Guide. 48p.....\$10*
 THE EASTERN LINES. David Keenan. 82p. sc.....\$30*
 THE MANLY LINES. David Keenan.72p. sc.....\$25*
 THE NORTH SYDNEY LINES. David Keenan. Reprint.....\$29*
 THE ROCKDALE & ENFIELD LINES. David Keenan.....\$20*
 THE SYDNEY TRAM. Clark. A pictorial review.....\$15*
 THE SOUTH-WESTERN LINES. David Keenan.....\$25*
 THE WESTERN LINES. David Keenan.....\$25*
 THE GOLDEN CITY AND ITS TRAMS. Bradley.144p col/bw.....\$35*
 TRAM IMAGES. Australia & NZ. Balment. (Transit) 120p sc col.....\$40*
 TRAMWAYS OF NEWCASTLE. David Keenan.138p hc.....\$55*
 TRAMWAYS OF SYDNEY. David Keenan.89p hc.....\$27*
 TROLLEYS WEST:RailmacMiniProfile#4 Adelaide trolleys in the West.....\$75*
 TRACING TRAMS THROUGH SYDNEY. Jim Longworth.72p. col/bw.....\$50*

ROBERT SCHWANDL TRAM/SUBWAY LIGHT RAIL

SUBWAYS & LIGHT RAIL IN THE USA 1-EAST COAST. 160p ...\$40*
 SUBWAYS & LIGHT RAIL IN THE USA 2-THE WEST. 160p.....\$40*

TRAM DVDS

AUSTRALIAN TRAM MUSEUMS P1- SA & VIC.DVD.Tramalan 86'\$34
 BLACKPOOL TRAMS V3 Body & paint shops.DVD.Tramalan.....\$20
 BLACKPOOL TRAMS V4 Rebuild of Car 736.DVD.Tramalan.....\$20
 GERMAN TRAMS 1.DVD. Frankfurt Mainz Koin 67'.....\$34
 LIGHT RAIL PART 1- Sydney Inner West. (Trackside) 104'.....\$36
 LIGHT RAIL PART 2- Gold Coast. (Trackside) 90'.....\$36
 SHOOTING THROUGH-SYDNEY TRAMS. DVD. 165'.....\$35
 SYDNEY TRAMS TODAY.Glenelg trams.DVD.(Railstuff).....\$30
 TRAMS AROUND THE WORLD Vol3.DVD.(Tramalan).130'.....\$44
 TRANSPORT POTPOURRI.DVD.(Tramalan).130'.....\$44

AUDIO CDS

DIESEL CENTRAL Central Vic & NSW (Loco Records) 74'.....\$28
 STEAM ON THE 5' 3" Victorian Steam 1960s.....\$25
 NIGHT SHIFT NSW Steam 1960s.....\$25
 STEAM POWER. NSW & Vic Steam (Loco Records) 73'.....\$29
 VINTAGE DIESEL. GM Diesel Sounds (Loco Records) 73'.....\$28
 900 CLASS DIESELS IN SOUTH AUSTRALIA Vol 1 & 2 (NRM).....\$15

COLLECTORS CORNER (RARE/PRE-READ BOOKS)

125 YEARS OF SYDNEY TO PARRAMATTA RAILWAY. Preston. 152p.\$55
 21 YEARS OF TOURS. (ARHSnsw 1968). 103p.....\$35
 36. John B Thompson. (1988). 168p. Excel cond.....\$245
 38. John B Thompson. 1992 edition. 277p. Excel cond.....\$55
 3801 A LEGEND IN STEAM. RG Preston. 104p. Excel cond.....\$55
 700. The 700 Series of SAR. John B Thompson. 42p. Fair cond. \$15
 A CENTURY OF LOCOMOTIVES 1855-1955. (NSWGR).....\$55
 A CENTURY OF SERVICE 1865-1965. (QR).\$35
 A CENTURY PLUS OF LOCOs 1855-1955. (NSWGR).\$75
 A CENTURY OF NSW TRAMCARS V1 1890-1903.....\$55
 A CENTURY OF NSW TRAMCARS V2 1903-1908.....\$55
 A COMPENDIUM OF NSW STEAM LOCOMOTIVES. (ARHS).\$75
 A GUIDE TO THE RAILWAYS OF NSW. S Sharp.185p.....\$55
 ACROSS AUSTRALIA BY INDIAN PACIFIC. Patsy Adam-Smith\$20
 ADAMSTOWN VIA FERNLEIGH. Ed Tonks.116p. Excel cond. \$75
 ALL ABOARD.Trains of Australia Steam. Patsy Adam-Smith\$25
 AMONG THEIR FAVOURITES.1989. Jean Campbell.144p.....\$20
 BALLOON STACKS AND SUGAR CANE. CSR FUJ 1961.104p.....\$35
 BELLBRACKS, BULLOCKS & BUSHMAN.1987.McCarthy.104p.....\$24
 BHP TRAMWAYS CENTENARY HISTORY.1985.Griffiths. 88p.....\$45
 BOGIE FREIGHT WAGONS OF VICTORIA P3. 1979/99. 253p.....\$55
 BRIDGING SYDNEY. SHB HISTORY.Historic Houses Trust. 288p.....\$75
 BYWAYS OF STEAM 1. Rare copy. Excellent condition.....\$99
 BYWAYS OF STEAM 2. Rare copy. Excellent condition.....\$89
 BYWAYS OF STEAM 3. Rare copy. Excellent condition.....\$79
 BYWAYS OF STEAM 4. Rare copy. Excellent condition.....\$79
 BYWAYS OF STEAM 5. Rare copy. Excellent condition.....\$79
 BYWAYS OF STEAM 6. Rare copy. Excellent condition.....\$79
 BYWAYS OF STEAM 7. Rare copy. Excellent condition.....\$69
 COACHING STOCK OF THE NSW RAILWAYS V1. 258p.....\$79
 DIARY OF THE BICENTENNIAL TRAIN. Gogarty/Preston.112p.\$55
 FAMOUS LAST LINES. Holdsworth (1963). 128p. HC.....\$45
 FLASHLIGHTS ON STEAM. Whalley. 64p. HC.....\$45
 FLYER. (1970). Steam locomotion on Newcastle Exp.75p.....\$35
 FLYING SCOTSMAN ON TOUR in Australia. (1990).\$45
 FOUR DECADES OF RAILWAY PHOTOGRAPHY.Saxon.96p.\$55
 FULL STEAM ACROSS THE MOUNTAINS. Belbin/Bourke.HC. \$25
 GAZETTEER OF INDUSTRIAL STEAM LOCOS. Illawarra.115/25
 GOING PLACES. NSW transport history. 104p.....\$55
 GOODS BRAKE VANS & ACCIDENT CRANES.SRA Official..\$55
 GONE ON THE GHAN. Whitecock. 186p.....\$25
 GREAT STEAM TRAINS OF AUSTRALIA. David Burke.160p \$15
 GREAT RAIL NON-JOURNEYS OF AUSTRALIA.Taylor.233p \$35
 GREEN DIESELS. NSW 40 & 41 Classes Preston.184p.....\$35
 HOBART TRAMWAYS. ICooper. Centenary Review. 65p. VGC...\$45
 HOOKED ON TRAINS. The Keith Roberts Story. 120p. VGC.....\$30
 HOPPER COAL WAGONS. SRA Official.....\$35
 ILLAWARRA 100 YEARS. (NSWRM). 108p. Excel cond.....\$55
 JEAN & GEOFF CAMPBELL PHOTOGRAPHER PROFILE.....\$68
 JOADJA CREEK. Shale oil town and its people. Knapman.....\$35
 KINGS OF THE IRON HORSE. Smith & Shea. David Burke.248p...\$25
 LANDMARKS IN PUBLIC WORKS. NSW Engineers 1884/1914...\$49
 LAST OF THE HUDSWELLS. Ian Stocks. (1982 Ed).\$15
 LINES TO THE LACHLAN.L Ryan. Revised. (1993 Ed).....\$75
 LOCOMOTIVES OF THE NSW RLWYS. 1855-1980. V1 120p...\$39
 LOCOMOTIVES OF THE COMMONWEALTH RLYS (1972) 69p\$39
 LOCOMOTIVES OF THE S.A.R. (1972) 60p.....\$39
 LONELY RAILS IN THE GULF COUNTRY. J.Knowles.62p.....\$45
 LOOK OUT FOR TRAIN. (ARHS Qld1971) 56p.....\$25
 MAITLAND TRAMWAY VENTURES.(65) Willson/McCarthy.....\$45
 MAKING THE RAILWAYS. David Burke. 261p. HV VG Cond...\$25
 MAKING TRACKS. RJ Fitch. 76p. sc VG Cond.....\$30
 MELBOURNE'S MARVELOUS TRAMS. (1998) Budd/Wilson..\$25
 MODERN RAIL PORTFOLIOS No. 1 NSW. (1994) 68p.....\$25
 MOTIVE POWER. Oberg. Modern Aust Locos (1995) 140p....\$45
 NORTH OF THE HARBOUR. LA Clark. 188p Good cond.....\$55
 NORTHERNBERLAND - Newstan 1887-1987. EdTonks.96p \$35
 N.S.W.G.R. IN STEAM. RG Preston. 150p. VG cond.....\$55
 OUR REGION, OUR RAILWAY. McKillop (ARHSNSW) 224p.....\$75
 P CLASS. M Morahan (NSWRM) (2000 Ed) . 224p.....\$109
 PENNY-A-SECTION TUPPENCE-A-CASE. Castley-Hill Tramway.93p \$25
 PHOENIX TO THE WORLD. Clyde Eng.History (1992). 243p.....\$55
 POWELLTOWN. Stamford/Stuckey/Maynard. (LRRSA). 151p.....\$45
 POWELLTOWN TRAMWAY CENTENARY 1913-2013. 32p.....\$25
 RAILWAY FREIGHT WAGONS OF NSW. JBeckhaus (1970).....\$25
 RAILWAY HISTORY IN ILLAWARRA. CC Singleton (1964) 40p...\$45
 RAILWAY STATIONS OF AUSTRALIA. Ellis/Ward (1982). 86p...\$25
 RAILWAYS AT WAR. NSWGR Official. 72p.....\$25
 RAIL SCENE VICTORIA.(1991) Train Hobby. 64p.....\$65
 RAIL SCENE VICTORIA.Vol 2 Broadgauge Steam in mid30s.81p \$65
 RAIL SCENE VICTORIA.Vol 5 Lindsay Crow Gippsland.105p.....\$75
 RAIL SCENE VICTORIA.Vol 6 Lindsay Crow Nth Central.210p...\$75
 RAIL SCENE VICTORIA.Vol 7 Lindsay Crow West Region.312p...\$85
 RAILS IN TRANSITION NSW STEAM TO DIESEL. 128p.....\$45
 RAILS TO THE TABLELANDS. Cairns Railway Hist. 72p.....\$25
 RAILS TO THE WESTERN PLAINS. Rail hist. in Dubbo.96p...\$25
 RAILS TO WEALTH. Silvertown Tramway hist. 286p.....\$85
 REFLECTIONS OF AN ENGINEER. Ken Ames.160p. HC.....\$75
 REMEMBER WHEN. NSW 1950s plus. D Rogers.112pHC \$75
 REMEMBER WHEN II. NSW 1960-66. D Rogers.112pHC. \$75
 ROAD THROUGH THE WIDERNESS. Transcontinental Rly. 280p...\$55
 SKETCHES FROM BESIDE THE LINE. Ken Bowen.128p.HC \$55

COLLECTORS CORNER (RARE/PRE-READ BOOKS)

SEASONS OF STEAM. L Anderson. 114p. HC Good Con.\$55
 SHOOTING THROUGH. Sydney by Tram. 128p.HC.GoodCon. \$25
 SIGNIFICANT SITES. Public works in NSW .192p.HC.ExCon...\$55
 SOUTH COAST LIMITED. Kim Bird. Victor Harbour Line 81p.....\$35
 SOUTH MAITLAND RAILWAYS. Attenborough. 128p.....\$45
 STANDARDS IN STEAM.The 30 CLASS.Preston. sc Excel \$159
 STANDARDS IN STEAM.The 32 CLASS.Preston. sc Excel \$159
 STANDARDS IN STEAM.The 50 CLASS.Preston. sc Excel \$149
 STEAM DAYS ON THE NORTH COAST OF NSW.Butcher.80p. \$45
 STEAM LOCOMOTIVES OF VICTORIAN RLWYS. V1. 176p.....\$55
 STEAM IN THE SIXTIES. (NSWRM). 152p.....\$99
 STEAM ON THE DOWNGRADE. Declining Aus steam (1967)\$25
 STEAM ON THE ILLAWARRA. (NSWRM). 60p.....\$15
 STEAM UP. Final years of WA steam.....\$15
 SUBURBAN TICKETS OF THE VICTORIAN RAILWAYS.246p.\$55
 SYDNEY'S WOODEN ELECTRICS. Kerry (Transit Pubs).64p. \$49
 SWANSONG OF STEAM. (NSWRM). 60p.....\$15
 THE 34 & 35 CLASS. M Morahan (NSWRM) (2000 Ed) . 224p.\$125
 THE 59 CLASS. H Wright.NSWR 2-8-2s. 224p.....\$275
 THE 60 CLASS. Groves,Wright&Morahan.NSWR Garratts.226p. \$275
 THE ABT RAILWAY ON TASMANIA'S WEST COAST. Rae.88Edit \$25
 THE BANKSTOWN LINE. Sydenham to Belmore 1895 28p.....\$25
 THE BIG ENGINE. KT Groves.NSWR 57&58 Class. 258p.....\$275
 THE DORRIGO STEAM RAILWAY & MUSEUM. Kramer. 72p.....\$55
 THE EVELEIGH RAILWAY WORKSHOPS.DMoore photos120p. \$65
 THE GLENREAGH TO DORRIGO BRANCH RAILWAY. Paull. 72p. \$55
 THE GOLDEN CITY & ITS TRAMWAYS. Ballarat's trams 144p\$43
 THE GREAT NORTHERN RAILWAY. Newcastle to Maitland 112p. \$75
 THE GREATEST PUBLIC WORK. NSW 1848 to 1889. 184p.....\$75
 THE INNISFAIL TRAMWAY. JArmstrong. (LRRSA) 128p.....\$35
 THE RAILWAY AGE IN AUSTRALIA.R Bromby. 194p.....\$55
 THE RAILWAY CAME TO KU-RING-GAL.Local history.468p.HC. \$75
 THE RAILWAYS OF NSW 1855-1955.(NSWGR Official)304p. \$55
 THE RAILWAYS OF NSW - In Steam Short North. Preston. \$15
 THE RAILWAYS OF J & A BROWN.(1969) Eardley.161p.....\$85
 THE RAILWAYS OF SMR COALFIELDS.(1969) Eardley.161p. \$85
 THE RICHMOND VALE RAILWAY. (NSWRM) Preston.112p...\$75
 THE SHALE RAILWAYS OF NSW. Eardley/Stevens.(ARHS).2000edit. \$99
 THE SHALE RAILWAYS OF NSW. Eardley/Stevens.(ARHS).1974edit. \$99
 THE STORY OF THE SYDENHAM TO BOTANY RAILWAY.Pollard\$25
 THE UNREASONABLE MAN. The JJC Bradford story. 153p...\$75
 TENDER INTO TANK. RG Preston. (ARHS) 320p.1st Edition..\$75
 TO CESSNOCK AND BEYOND. (ARHSnsw 1976). 64p.....\$25
 TRACKSIDE. (NSWRM). 128p.....\$45
 TRAIN TIMES: PASS TRAINS OD AUST & NZ. 2003.Isaacs \$11
 TRAINS UNLIMITED IN THE 21st CENTURY. Tim Fischer...\$35
 TRANSCONTINENTAL TRAIN ODYSSEY. Tim Fischer.217p. \$25
 TRANSPORTING THE BLACK DIAMOND. (1968). 79p.....\$55
 UNIFORM RAILWAY GAUGE. Eric Harding. (1958).....\$45
 UNITS IN FOCUS. Mead Cottler Renton. (1980).....\$55
 VR GENERAL APPENDIX Book of Rules and Regulations 1953. \$25

COLLECTORS CORNER (RARE NSWGR GAS W/T MANUALS)

Working Timetable Metropolitan Part 1 1968 x 3.....\$10 - \$55
 Working Timetable Metropolitan Part 1 1971 x 3.....\$10
 Working Timetable Metropolitan Part 1 1975 x 5.....\$15
 Working Timetable Metropolitan Part 1 1976 x 3.....\$10 - \$15
 Working Timetable Metropolitan Part 1 1978 x 6v.....\$10 - \$15
 Working Timetable Metropolitan Part 1 1979 x 1.....\$10 - \$15
 Working Timetable Metropolitan Part 2 1973 x 1.....\$15
 Working Timetable Metropolitan Part 2 1975 x 9.....\$15 - \$20
 Working Timetable Metropolitan Part 2 1975 x 1.....\$20
 Working Timetable Metropolitan Part 2 1976 x 5.....\$15 - \$20
 Working Timetable Metropolitan Part 2 1978 x 5.....\$15
 Working Timetable Metropolitan Part 2 1979 x 4.....\$15
 Working Timetable Newcastle 1962 x 2.....\$15 - \$25
 Working Timetable Loads for trains 1964 x 1.....\$25
 Working Timetable Loads for trains 1965 x 2.....\$25
 Working Timetable Loads for trains 1968 x 2.....\$25
 Working Timetable - Addenda (General Instruction) All 1971 x 1515
 Working Timetable - Local Appendix Metropolitan 1934 x 1.....\$55
 Working Timetable - Local Appendix Metropolitan 1964 x 14.....\$25
 Working Timetable - Local Appendix Metropolitan 1975 x 17.....\$25
 Working Timetable - Local Appendix Northern 1977 x 4.....\$20
 Working Timetable - Local Appendix Illawarra 1961 x 1.....\$25
 Working Timetable - Local Appendix Illawarra 1973 x 7.....\$25
 Working Timetable - Local Appendix Southern 1967 x 2.....\$20
 Working Timetable - Local Appendix Southern 1973 x 14.....\$10
 Working Timetable - Local Appendix Western 1944.....\$50
 Book of Rules and Regulations-General Appendix Pt 1 1935.....\$20
 Book of Rules and Regulations-General Appendix Pt 1 1945.....\$55
 Book of Rules and Regulations-General Appendix Pt 1 1969 x 4\$15/20
 Book of Rules and Regulations-General Appendix Pt 1 1973 x1\$8/10
 Book of Rules and Regulations-General Appendix Pt 2 1944/49 x 2\$20
 Book of Rules and Regulations-General Appendix Pt 2 1944/52\$20
 Book of Rules and Regulations-General Appendix Pt 2 1967 x 5\$55
 Engine Load Tables for All Trains 1924.....\$55
 Main Southern Line Maps 1967.....\$55
 Working of Electric Trains 1943 x 1.....\$25
 Working of Electric Trains 1965 x 9.....\$20
 Working of Electric Trains 1974 x 17.....\$20 - \$25
 Sydney Yard Working 1968,1971,1974,1975,1976,1979,1980ea. \$25
 Sydney Yard Working 1985 x 1.....\$25

MAGAZINE BINDERS

Quality binders hold 12 issues of our own Australian magazines.
 ARH/BULLETIN A4 binders, red with white lettering. \$17
 RAILWAY DIGEST A4 binders, silver with red lettering \$17
 and plain (unlettered) A4 binders in blue or green \$14

ARHSnsw ARCHIVAL DVDS

CURVE AND GRADIENT DIAGRAMS 1894, 1907 & 1932. \$59*
 NSW 1894,1907&1932 CURVE & GRADIENT DGMS.(CD)\$59*
 NSW GENERAL APPENDICES Pre-1955. (CD).....\$45*
 NSW LOCAL APPENDICES Pre-1955. (CD).....\$45*
 NSW WEEKLY NOTICES 1889-1955(Each CD 5 years).ea\$45*
 NSW RAILWAY BUDGET Vol 1-26 1893-1917 on DVD.....\$55*
 NSW RLWY & TRAMWAY MAGAZINE Vol 1-6 1917-23 on DVD...\$45*
 NSW TRACK & SIGNAL DIAGRAMS.(Version 3 Adobe/DVD) \$79*
 THE STAFF NSW RLWY & TRAMWAY Pub Vol 1-7 1924-30 on DVD \$55*
 RAILWAY DIGEST 1963-1973 on DVD. (ARHSnsw).....\$25*
 RAILWAY DIGEST 1973-1982 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1937-1950 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1950-1959 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1960-1969 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1970-1979 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1980-1989 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN 1990-1999 on DVD. (ARHSnsw).....\$25*
 ARHS BULLETIN/ARH 2000-2009 on DVD. (ARHSnsw).....\$25*
 RAILWAY TRANSPORTATION 1951-1974 (4 DVD set)ARHSnsw \$45*
 THE RAILWAY NEWS 1956-2006 on DVD. (NSWSRCA).....\$35*

"HO", "O" & "G" SCALE MODELS

BERGS SYDNEY WOODEN ELECTRIC 2 CAR SET Tuscan...\$295
 BERGS SYDNEY WOODEN ELECTRIC 2 CAR SET TuscanBuff \$295
 BERGS SYDNEY WOODEN ELECTRIC 2 CAR SET TuscanNavy\$295
 PSM BRSS N CLASS V/LINE LIVERY N462 never used \$1,250
 TRAINORAMA GM CLASS AN Green/Gold GM1.....\$285

MODELLING

NSW GOODS WAGONS 1855-1905. DataSheets 7mmscale..ea\$6.60
 AMRM Volumes 1 to 17 in stock. Each CD covers 12 issues...ea \$25
 BRITAIN'S MODEL TRAINS. COMPLETE 2015 GUIDE 226p\$20.50*
 DATA SHEETS by G Edwards.NSW Locos/rolling stock/infrastructure ea \$6.60
 GARDEN RAILWAY BASICS (Garden Railways/Kalmbach) 96p\$31*
 GET STARTED IN GARDEN RAILROADING (Kalmbach) 19p sc col \$12*
 GORGEOUS GARDEN RAILWAYS (Kalmbach) 144p sc col S/H.....\$40*
 GREAT MODEL RAILROADS 2015 (Kalmbach) 98p sc col.....\$14*
 HORNBY 2016 MAGAZINE YEARBOOK.No 8. 128p.....\$45*
 MODELLING THE RAILWAYS OF SA CONVENTIONS.1 to 10 DVD\$58*
 MODELLING THE RAILWAYS OF SA CONVENTIONS 11 to 15 DVD\$28*
 MODELLING PORTS AND INLAND WATERWAYS. DWright 192p. \$55*
 NG&S GAZETTE 50-YEAR COLLECTION (Benchmark)Twin DVD\$189*
 SCRATCHBUILDING MODEL RLWY TANK LOCOS.Tilbury442\$60*

BUSES/TROLLEYBUSES/TRUCKS BOOKS/DVDS

N BEDFORD BUSES AND COACHES. Furness. 224p HC col/bw.....\$90*
 BLUE BUSES OF FOREST ROAD.John Birchmeier. 94p sc col/bw.....\$35*
 N GONE BUT NOT FORGOTTEN. Australia's touring coaches. 548p. \$99*
 GONE BUT NOT FORGOTTEN. Aust bus/coach all over advertising. 268p\$85*
 JUST AUSTRALIAN BUSES. (DVD) Greg Travers. 74'.....\$30
 N KEMBLA KEIRA & AROUND THE LAKE (Rutt's Buses) Birchmeier.....\$42*
 N RYLEWY. How horse buses transformed Sydney MacAuslan.128p\$59*
 SAINTS OF PEAKHURST. John Birchmeier. 85p sc col/bw.....\$33*
 THE TRUCKIE WHO LOVED TRAINS. TNT History. 294p.....\$35*
 TASMANIA'S TROLLEY BUSES. Cooper. 208p col sc.....\$69*
 TROLLEY BUSES IN HOBART. (and other cities) Greenwood.90'. \$30
 THE BIG RED BUS:RailmacMiniProfile#7 Bristol Lodekka.....\$7.50*
 N THE LONDON BENDY BUS. Wharmby. Pen&Sword.112p.....\$60*
 WHISPERING DEATH Brisbane Trolleybus DVD.(WaterStreet)52'. \$39

CHILDREN'S BOOKS (UK)

ALL ABOARD THE FISHING TRAIN.Wondabyne sc 32p col. \$16*
 RODNEY THE ROUTEMASTER. Saves the Day.....\$14*
 PETER'S RAILWAY AND THE MOONLIGHT EXPRESS Vine\$32*
 PETER'S RAILWAY TO THE RESCUE. Vine.....\$32*

PICTORIAL HISTORIES FROM KINGSCLEAR BOOKS

Big picture black & white archival heritage albums. \$25* each:
 •BALMAIN TO GLEBE•BLUE MOUNTAINS•CAMDEN & DISTRICT•
 •CANADA BAY•CANTERBURY BANKSTOWN•CITY OF SYDNEY•
 •CRONULLA•EASTERN SUBURBS•HOLYROYD•
 •HORNSBY SHIRE•HUNTERS HILL•MANLY•KINGS CROSS•
 •NEWTOWN•LAVENDER BAY TO THE SPIT•
 •LIVERPOOL & DISTRICT•PARRAMATTA & DISTRICT•
 •PENRITH & ST MARYS•PITTWATER•RANDWICK•
 •SOUTHERN HIGHLANDS•ST GEORGE•SUTHERLAND SHIRE•
 •The HILLS•WILLOUGHBY•WOLLONGONG•

2017 CALENDARS

AMRM. Double sided Steam/Diesel/Electric.....\$18
 GREAT TRAINS (Bartel). Heritage & modern. Small format. \$8
 IMAGES 2017. World Steam in Camera. M Holdsworth.....\$20
 McMILLAN. SantaFe.....\$25
 TRAINS (Bartel). World Heritage & modern.Large format.....\$20
 TRAINS OF THE FERNLEIGH TRACK. BelmontLine. EdTonks\$15

Prices are correct as at press time. Overseas items sold and out of stock following press time will vary in price due to currency fluctuations.

AUSTRALIAN DVD TITLES	
ALCO'S ON THE SMR. AlCo DL531 70'.....	\$30
CAB RIDE II The 'AK' Cars. Bernie Baker.75'.	\$37
CATHEDRALS OF STEAM.(RossRail).Locosheds 82'.	\$36
CLOSED BUT NOT FORGOTTEN.VR Branches. 70'	\$39
DAYS OF STEAM 1 or 2 Belbin NSWVR.60' each.	\$40
N DIESEL DIARY USA-P3.Special (Wall).108'.....	\$50
DIESEL REVIVAL. (Belbin).60'.....	\$40
FILM NIGHT:STEAM IN NSW (Belbin) 60'.....	\$40
FILMS FROM THE ARCHIVES. (JPowe). 70'.....	\$32
FORGOTTEN FILMS Aust Steam 40s & 60s (Belbin).	\$40
FULL STEAM AHEAD II. NSWRTM 1994-2013.....	\$25
HERITAGE STEAM IN NSW. (BrockVideo) 82'.....	\$35
JUST AUSTRALIAN TRAINS. Nat Film&Sound.141'.....	\$25
N JUST NSW TRAINS. Travers.74'. DVD \$30/BR.....	\$35
JUST PILBARA TRAINS 2013. Travers.100'.....	\$40
JUST QLD SUGAR TRAIN HIGHLIGHTS.140'.....	\$39
IN STEAM 5711.(Visions of Steam)60'.....	\$32
MELBOURNE'S TRAMS (Highball) 80' BluRay.....	\$38
MEMORIES OF A RAILFAN. NSWVR 57-63.Powe.64'.....	\$32
MOSS VALE TRAIN. Jim Powe. C38 footage.....	\$32
NSW IN STEAM 2013(Fotoz) 2-Disk set(215')BR.....	\$85
R PHANTOM STEAM. (T/P Archive/Rollingstock).55'.....	\$35
PIONEERS OF FILM. (Belbin) NSWGR. 70'.....	\$40
POWER OF THE GARRATTS 1,2 or 3 World.70' ea.	\$40
PUFFING BILLY RLY SUMMER OF 1988. (SteamArt)	\$35
RAILMOTOR JOURNEYS OVER LOST VR LINES.47'.....	\$35
RAILMOTORS ACROSS VICTORIA 50s-60s 104'.....	\$38
SIGHT & SOUND OF STEAM (Belbin) b&w 55'.....	\$40
SINGLE DECK SUBURBAN or INTERURBAN 60' ea.	\$20
SIXTIES IN STEAM-NSW.(C5).Films KAtkinson.74'.....	\$39
STEAM IN THE HUNTER. (RossRail). 60'.....	\$40
STEAM ACTION 3. AC Videos. 54/62'.....	\$3
STEAM HIGHLIGHTS.(Belbin).60'.....	\$40
STEAM IN NSW Parts 1 & 2 Combo 126'.....	\$40
STEAM IN NSW Parts 3/4/5 (Ross Rail) each	\$40
STEAM IN VICTORIA Part 3 (RRV).....	\$40
STEAM ON 16MM IN THE SIXTIES. NSWGR 50'.....	\$39
STEAM TIMES 5. Aust & Overseas 50s to 70s.....	\$38
STORIES OF STEAM Vol. 12 or 13. (Wall) 60' ea.....	\$34
N STORIES OF STEAM HD Vol. 2. (Wall) 103'.....	\$50
SYDNEY'S COLORFUL TRAINS.(Hball)(2004)105'.....	\$38
THE CENTRAL COAST LINE.Cowan/Newcastle BluR	\$45
THE GASLIGHT FILMS NORM WADESON.Vic60'.....	\$30
The LAST FLYING BOATS. Ansett Norfolk Is Service.	\$35
THE SAVANNAHLANDER The Home Movie 45' \$25	\$25
TRAS RLWYS "TRASRAIL'S" TR CLASS 74'. DVD.....	\$30
TRAINS AROUND ADELAIDE.Nth & Sth V31 68'.....	\$22
TRAINS AROUND ADELAIDE. Redhens V26 32'.....	\$16
TRAINS AROUND ADELAIDE. Nth&Sth V37. 66'.....	\$22
TRACKS IN SUN/DOWN ARD BEAUDESERT.TwinPack	\$60
TRAIN TIME STH AUST. 1995 Vol1 113'.....	\$39
TRAIN TIME STH AUST. 2009 or 2010 70' ea.	\$30
TRAIN TIME VICTORIA.1985/88or 2010 70' ea.	\$30

TRACKSIDE DVDS (Australia)

46, 85 & 86 CLASS ELECTRICS. 104'.....	\$36
AIS-BHP PORT KEMBLA DIESELISATION.95'.....	\$36
ALCO'S C/M 636 CENTURY LOCOS. 104'.....	\$36
ALCO'S DL500&541.NSW44/45 SAR930/600 02'.....	\$36
ALCO'S DL 500G. NSW 42/SAR700 101'.....	\$36
ALCO'S DL 531.NSW48/SAR830/STC 105'.....	\$36
CHARBON REVISTED 2014. 92'.....	\$36
CLYDE GM 49 CLASS. 2 disks=143'.....	\$36
N CLYDE GM'S 81 CLASS. Pr1 Early Years 159'.....	\$36
CLYDE GM G CLASS. 101'.....	\$36
CLYDE GM T CLASS. 101'.....	\$36
CLYDE GM X CLASS. 104'.....	\$36
CLYDE GM'S LATE BULLDOGS. 105'.....	\$36
CLYDE GM'S MODEL GT26C. 102'.....	\$36
CLYDE GM'S MODEL J26C422,228DC.136'.....	\$36
N CLYDE/EMD'S MODEL J42C 82.GMLRClass.104'.....	\$36
N CLYDE/EMD'S 90 CLASS. Model GT46CWM 104'.....	\$36
COMENG ALCO'S CE615. NSW 80 Class140'.....	\$36
COMENG'S XPT. 105'.....	\$36
GONINAN'S 47 CLASS. 90'.....	\$36
GONINAN'S GL CLASS. CFCLA Rebuilt 442C100'.....	\$36
IN MEMORY OF AUSTRAC. 84'.....	\$36
ILLAWARRA LINE P1 to Olford P2 (to Nowra) 82' ea.....	\$36
MAIN SOUTH LINE Parts 1,2,3,4,5 or 6 80' ea.....	\$36
NATIONAL RAIL: THE EARLY YEARS. 102'.....	\$36
NATIONAL RAIL: THE LATER YEARS. 92'.....	\$36
NOHAB'S MZ CLASS. Danish Delights! 75'.....	\$36
NORTHERN COAL 2013 Pts 1, 2 or 3 95' ea.....	\$36
NORTHERN COAL 2013 Pt 4 or 5 ea.....	\$36
ORANGE to BROKEN HILL 1, 2 or 3 ea.....	\$36
QR NATIONAL STANDARD GAUGE (2disks)130'.....	\$36
QR NATIONAL'S SLANDER.....	\$36
SPIRIT OF THE OUTBACK.Bris. to Longreach 97'.....	\$36
TRAINS IN TROUBLE 1, 2 or 3. 68' ea.....	\$36
THE MAIN WEST LINE. Parts 1, 2 or 3. 58' ea.....	\$36
THE NORTH COAST LINE. Parts 1 or 2. 58' ea.....	\$36
THE SHORT NORTH PARTS 1 or 2. 58' ea.....	\$36
THE SOUTHERN LINE P2-MossVale/Goulburn90'.....	\$48
WERRIS CREEK PARTS 1, 2 or 3. 58' ea.....	\$36
WERRIS CREEK LINE REVIEW P1or 2.95'each.....	\$36

UK DVD TITLES	
925 CHELTENHAM SCHOOLS CL.Kingfisher 42'.....	\$25
CARRY ON CLAGGING 7 (DVD) 93'.....	\$47
CONNEX EXPRESS 03 (DVD).....	\$23
DIDCOT STATION 2012.REOS IMAGE.63'.....	\$31
DUKE OF GLOUCESTER TheRecordBreaker (DVD)85'.....	\$33
BLUEBELL RLY into East Grinstead.(GWP)75'(BRay)	\$48
BLUEBELL RLY into East Grinstead.(GWP)75'(DVD).	\$44
FFESTINIOW RAILWAY 2010.(GWP)80'(BluRay).....	\$39
HOW TO DRIVE STEAM LOCOS (GWP) 60'.....	\$44
GLASGOW-LONDON PENDOLINO CAB RIDE.240'.....	\$55
ISLE OF MAN STEAM RAILWAY. (HB) (DVD).....	\$40
MAINLINE STEAM 2012 V1 or 2 (BluRay)150'.....	\$50
MAINLINE STEAM 2013 V2 (BluRay)130'.....	\$65
MAINLINE STEAM 2014 V1 \$60 (Std&BluRay)135'.....	\$60
MAINLINE STEAM 2014 V2 (Std&BluRay)135'.....	\$58
MAINLINE STEAM 2015 V1 \$60 (Std&BluRay)140'.....	\$60
MAINLINE STEAM 2015 V2 (Std&BluRay)140'.....	\$60
MAINLINE STEAM 2016 V1 \$60 (Std&BluRay)160'.....	\$55
MINIATURE RAILWAYS 2 (BluRay) GWP.90'.....	\$43
NARROW GAUGE STORY 1 or 2.(GWP)120'ea.....	\$44
PITS & POWER STATIONS Jon Marsh Cine 78'.....	\$30
RAILWAY ROUND-UP.No.5 Kingfisher.120'.....	\$22
REVENGLASS & ESKDALE RAILWAY.(GWP)95'(BR.).....	\$39
RETURN OF A PACIFIC. 4472 Flying Scotsman.40'.....	\$34
STEAM VIDEO #124 (TVP) (Std&BluRay)145'.....	\$32
STEAMING THROUGH WESSEX.Kingfisher. 90'.....	\$46
TALYLLYN RAILWAY 2014.(GWP)79' (BluRay).....	\$40
THE GLORY DAYS OF STEAM. (1961-65) V1 74 90'.....	\$42
THE GREAT LITTLE TRAINS OF WALES.(GWP)60'.....	\$35
THE ROMNEY HYTHE & DYMCHURCH 2011105'BR.....	\$32
THE VALE RHEIDOL RAILWAY BR (BluRay) 95'.....	\$55
TRACKSIDE BRITAIN NORTHEAST (Hball)120'BRay.....	\$33
TRACTION 2011 Pt 2 Locomaster 100'.....	\$39
TRACTION 2012 Pt 2 Locomaster 100'.....	\$36
WELSH HIGHLAND RAILWAY RE-BORN.150'.....	\$38
WELSH HIGHLAND RLWY.360Interactivejourney.103'.....	\$66
WELSH HIGHLAND RLWY.Completejourney.103'.....	\$44
WELSH STEAM 2.Talyllyn Rlyw(Highball)100'.....	\$40

VIDEO 125 - DRIVERS EYE VIEW

N ABERDEEN TO INVERNESS. 158' DVD.....	\$34
N BELFAST TO LONDONDERRY. 130' DVD.....	\$44
C2C Shoeburyness Fenchurch (DVD) 116'.....	\$32
CENTRAL LINE - Std.110'.....	\$39
CONNEX EXPRESS (DVD) 52'.....	\$23
COTSWOLDS & MALVERN LINE.DVD\$44.(BluRay)	\$54
DUBLIN TO CORK (DVD) 110'.....	\$34
EAST COAST & MARCHLINK. 115' (DVD).....	\$44
EUROSTAR DRIVERS EYE VIEW DVD\$40 (BluRay).....	\$44
EXETER TO BASINGSTOKE. 131'.BR\$54 DVD.....	\$44
HAMERSMITH & CIRCLE.98' DVD.....	\$45
JUBILEE LINE. 85'.....	\$35
LICKEY VOYAGER.107' DVD.....	\$34
LIVERPOOL & MANCHESTER. (DVD).....	\$39
N MANCHESTER TO CLEETHORPES.DVD\$44.(BluRay)	\$54
MARSILLE TO PARIS. 107'.....	\$32
MILAN TRAMS. 74' DVD.....	\$39
N NORTH WALES COAST.Crewe/HolydDVD\$44.(BR)	\$54
PICCADILLY. 105' London Tube.....	\$34
NORFOLK BRANCHES. Std DVD 93'.....	\$29
READING TO WATERLOO. 76 DVD \$44 /BluRay.....	\$54
STRASBOURG TO PARIS (ALSO BluRay\$35)103'.....	\$39
THE DOWN FISHGUARD. 118' DVD.....	\$35
THE FLYING SCOTSMAN.190'.....	\$44
THE ISLE OF WIGHT DRIVER'S VIEW\$35/BR.....	\$38
THE JACOBITE. FWilliam/Mallaig. DVD.....	\$44
THE ROYAL SCOT Parts 1 & 2.189'.....	\$39
THE WEST HIGHLAND. 96' DVD.....	\$34
N THE WESTERN CORRIDOR.155' DVD \$44/BR.....	\$54
THE WIRRAL LINE. 100' DVD.....	\$44
TGV ITALY FRANCE.Turin/Chambery.123DVD \$44/BR.	\$54
THAMES BRANCHES. 72' DVD \$44 /BluRay.....	\$54
VICTORIA LINE. 110' DVD.....	\$34
WELSH MARCHES.Std & BluRay 115'.....	\$39
WESSEX Weymouth to Waterloo. 134'. DVD.....	\$34
WEYMOUTH TO BRIGHTON. 117'. DVD.....	\$44

FFESTINIOW RAILWAY UK

A YEAR IN THE LIFE OF THE F&WHR 2013. (BluRay)	\$54
A YEAR IN THE LIFE OF THE F&WHR 2013.DVD	\$50
A YEAR IN THE LIFE OF THE F&WHR 2014 DVD.....	\$50
2011-2014 YEAR F&WHR HIGHLIGHTS.255'(BR).....	\$35
A TRAVELLER'S VIEW OF THE FFEISTINIOW RAILWAY & THE WELSH HIGHLAND RAILWAY 105'(BluRay)	\$55
THE WELSH HIGHLAND RLWY-A Traveller's View.DVD	\$30
HARBOUR STATION - The Whole Story!146'(BluRay)	\$55
THE GREASERS' EXPRESS 2011. 76' (DVD).....	\$35
LVD - A NEW LOCOMOTIVE 60' (DVD).....	\$35
QUARRYPOWER. 60' (DVD).....	\$35
FRED HOWES-The Permanent Way Man P1 74'(BR).....	\$40
FRED HOWES-The Permanent Way Man P2 74'(BR).....	\$40

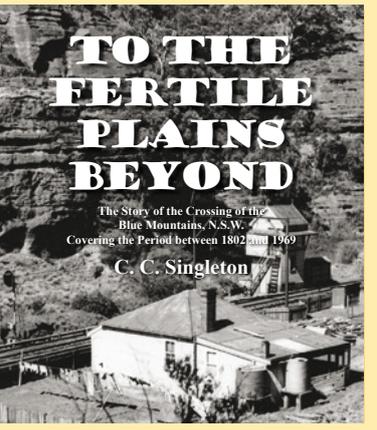
NTH AMERICAN DVD TITLES	
315 & THE MUDHEN (Highball) (std/bluray) 105'.....	\$38
R ACROSS ARIZONA P1 Needles/Williams (7idea) 108'.....	\$36
R ACROSS ARIZONA P2 Williams/Lupton (7idea) 89'.....	\$36
ACROSS UTAH DESERT-UP GREEN RIVER DVD/BR \$36	\$36
ALONG THE HUDSON DIVISION COMBO (Pentrex) \$44	\$44
ARKANSAS ALCOS. (Greg Scholl). 68'.....	\$44
BEST OF 1991 (Pentrex) 120'.....	\$38
BNSF GALOPING THRU GALLUP (Highball) 105'.....	\$39
BNSF'S NEW MEXICO Sub.(7idea). (std/bluray) 105'.....	\$35
BNSF STAPLES EAST BluRay.CVision.120'.....	\$32
EAST TO SPOKANE.BNSFLakeside DVD135'.....	\$36
C420 ALCOS ON THE A&A&MISSOURI (Highball) 60'.....	\$32
CAJON PASS (7idea).120' DVD.....	\$36
CINCY DIESELS.(Greg Scholl) 88'.....	\$44
CLASSIC TRAINS Galesburg/Cameron CVision.71'.....	\$35
S COAL SMOKE OVER CUMBRES(Hball)std/bluray.....	\$15
COLUMBIA RIV GORGE Ptl UP (DVD) (7idea).....	\$36
COLUMBIA RIV GORGE Ptl 2 BNSF(dvd) (7idea).....	\$32
DRESHLER OHIO-CSX CROSSROADS(Bluray) GF.....	\$36
EAST TO SPOKANE.BNSFLakeside DVD135'.....	\$36
GEARS IN THE WOODS Shays at Cass (Hball) 105'.....	\$33
GULDFORD ON THE B&M. (Highball) 105'.....	\$36
S HOTSPOTS 27 POINT OF ROCKS. (bluray) 100'.....	\$15
HOTSPOTS 28 LOGAN HILL (Highball) 135'.....	\$30
S HOTSPOTS 29 DOLTON. (Highball) (std/bluray) 120'.....	\$15
S HOTSPOTS 32 BAYVIEW JUNC.(Hhbl)70'(BluRay).....	\$19
ILLINOIS JOINT LINE (Highball) CSX/UP105'.....	\$44
INTO THE FEATHER RIVER CANYON (Idea) 110'.....	\$28
JUCE ELECTRIC INTERURBAN FREIGHT SURVIVORS.....	\$30
KICKING HORSE PASS (7idea) std/bluray) 94'.....	\$35
MINNESOTA TRAIN ACTION V1 CVision.DVD/BR.....	\$25
MINNESOTA TRAIN ACTION V7 CVision.DVD.....	\$21
MINNESOTA TRAIN ACTION V9 CVision.DVD.....	\$27
MRL MONTANA MAIN LINE Part 1 (7idea)116'.....	\$36
MRL MONTANA MAIN LINE Part 2 (7idea)124'.....	\$36
NORFOLK SOUTHERN Vol 5 GreenFrog 95'.....	\$28
NORFOLK SOUTHERN, RAILFANNING OHIO V1 400'.....	\$35
NORTHEAST SAMPLER (Pentrex) 95'.....	\$35

EUROPEAN (TICKET TO RIDE)

BTL16 SPRING 2013 - BluRay 80'.....	\$29
BTL17 SUMMER 2013-BluRay 65'.....	\$38
TTR26 Out and About Cologne DVD 65'.....	\$36
TTR119 Railways of SWEDEN Pr2 95'DVD/BRay.....	\$40
TTR138 Railways of SWEDEN Pr3 DVD/BRay.....	\$40
TTR139 Railways of SWEDEN Pr4 BRay.....	\$51
TTR141 RLYS OF HUNGARY Pr 1.....	\$36
TTR142 OUT & ABOUT BUDAPEST. 65'.....	\$42
TTR148 OVER THE ALPS WITH MIGROS BluRay.....	\$36
TTR150 LAST YRS OF OLD GOTTHRD P12B/R.....	\$45
TTR153 OUT & ABOUT BODENSEETBRay60'.....	\$34
TTR161/162 RLYS CZECH REPUB Pr 1or2 (std/blu).....	\$41
TTR170 CZECH REPUBLIC Pr 3 80' (BluRay).80'.....	\$39
TTR183 CZECH REPUBLIC Pr 5 OSTRAVA 80'.....	\$50
TTR187/HAMEENLINNA/TAMPERE DVD/BRay.....	\$42
TTR190 Railways South Africa Ptl BRay 60'.....	\$47
TTR191 Railways South Africa Pt2DVD/BRay 60'.....	\$47
TTR194 Joensuu to Simpele DVD/BRay 85'.....	\$42
TTR195 Simpele to Kouvola DVD/BRay 90'.....	\$40
TTR196 Kouvola to Helsinki DVD/BRay 85'.....	\$42
TTR 200 Railways of Germany Pt9 BRay 60'.....	\$50
TTR 201 Railways of Germany Pt10 DVD 80'.....	\$50
TTR 202 Railways of Czech Rep Pt6DVD/BRay 80'.....	\$50
TTR 204 OUT & ABOUT DRESDEN. BRay 72'.....	\$50
205 OUT & ABOUT SAXON SWITZERLAND.52'.....	\$50
207 Railways of Austria Pt9 Brenner BR 65'.....	\$50
N 211 Malmo to Hassleholm DVD 50'.....	\$45
N 212 Hassleholm to Alvesta DVD 45'.....	\$45
N 213 Alvesta to Linkoping DVD 98'.....	\$50
N 214 Linkoping to Stockholm DVD 98'.....	\$118

EUROPEAN CABRIDE DVDS

BERNINABAHN. (Swiss Cabride#1).....	\$32
ORSIERES,MARTINGNY,CHAMONIX (Sw#10).....	\$36
JUNGFRAU 1 (Swiss Cabride#11).....	\$25



N NORTHERN MEXICO RAILS (Pentrex) 105'.....	\$35
N NORTHWEST HERITAGE RLYS(7idea)(std/bluray) 24'.....	\$40
NS HERITAGE FLEET VOL.1 (std/bluray)119'.....	\$40
PAN AM/NS PATRIOTCORRIDOR(Hball)\$32/BluR \$34	\$34
S PENNSYLVANIA STEAM STORIES(Yard)90'.....	\$18
POWDER RIVER POWER (CVision) 85'.....	\$32
ROGERS PASS(CP/MountainSub)std DVD/7idea.....	\$36
RUNNING THE HIGH LINE BNSF(Pentrex)107'.....	\$35
SANTA FE ODYSSEY V.2 GF101'DVD\$30/BluRay \$35	\$35
SOLDIER SUMMIT 7idea 131' BluRay.....	\$36
SOUTHERN CALIFORNIA RAIL JOURNAL 2008.....	\$28
SOUTHERN CALIFORNIA RAIL JOURNAL 2010.....	\$34
SOUTH BALTIMORE (MARC '92) (Highball). 60'.....	\$30
SOUTHERN HISTORICAL Assoc.4discset#1.DVD.....	\$44
SOUTHERN HISTORICAL Assoc.4discset#2.DVD.....	\$48
STEAM SPECIALS IN THE HEATLANDS(Yardgt).....	\$34
THE BEST OF SOO Vol1. (CVision) 100'.....	\$32
THE FUNNEL(BNSFSpokaneSub)(std/bluray)7idea.....	\$36
THE MOFFAT ROAD PART 1(7idea Prod) 108'.....	\$36
THE MOFFAT ROAD PART 2 (7idea Prod) 136'.....	\$28
THE POKEY-ELKHORN GRADE (Highball) 105'.....	\$30
THE RATHOLE (NS) (Highball) (std/bluray) 110'.....	\$37
THE RATHOLE COMBO DFD (Pentrex) 148'.....	\$32
THE RETURN OF STAMPEDE PASS (Mofl) 70'.....	\$34
N THE WASATCH GRADE. UP (7idea) 165' DVD/BR.....	\$38
TENNESSEE PASS CAB RIDE. (Highball).110'.....	\$34
THROUGH OREGON CASCADES P1 (7idea) 155'.....	\$38
THROUGH OREGON CASCADES P2 (7idea) 142'.....	\$38
THRU SHADOW MT SHASTA (7idea)155'DVD/BR.....	\$38
UNION PACIFIC ODYSSEY V2 108' DVD Set.....	\$27
S UNION PACIFIC'S ARIZONA MAINLINE 90BluRay\$16	\$16
UNION PACIFIC'S BAILEY YARD (Highball).110'.....	\$45
N UNION PACIFIC 844 RETURNS (HB)70' DVD/BR.....	\$55
UP'S CASCADE SUB PARTS 1&2 (7idea) std 180'.....	\$43
UTAH RLY OVER SOLDIER SUMMIT(Hball).102'.....	\$45
WISCONSIN & SOUTHERN RRD V1 Northern.....	\$35
WISCONSIN & SOUTHERN RRD V2 Southern.....	\$35
WINTER ON MARIAS PASS (Highball) 105'.....	\$42

WORLD DVDS

N AUSTRIAN EXPLORER. (TeleRail) 80'. dvd.....	\$45
BATTLEFIELD HEROS P1 Xingyao Brickworks rly 90'.....	\$38
BATTLEFIELD HEROS P2 Ynghao coal rly 100'.....	\$38
N CHILE'S COLORFULL NG MINING RR.(HB)132'.....	\$55
COAL IN THE HILLS. Huanan. 60'.....	\$28
CLOUDS RISING IN THE SKY. Nilgiri. 38'.....	\$20
FURKA-OVERALP-BAHN 87'.....	\$32
MONT-BLANC EXPRESS. French rail superlative	\$30
IN INDIA. 35'.....	\$30
SHIBANXI China coal rly. (Hhbl)std/bluray)140'.....	\$32
STEAM ACROSS ASIA. (RossRail).1980s.110'.....	\$40
STEAM IN BRAZIL. (RossRail). 1995 film. 54'.....	\$30
STEAM IN CUBA. (RossRail). 2012 footage. 47'.....	\$30
STEAM IN SOUTH AFRICA. (RossRail).91'.....	\$40
N SWISS-EXPLORER. (TeleRail) 90'. std/bluray.....	\$45

NEW ZEALAND DVDS

ENGLISH ELECTRIC SWANSONG. electrics.....	\$15
NZGR Ka942 IN STEAM.(Fotoz).45'.....	\$29
S NZ RAILSCENE 71, 72 & 73, each.....	\$25
NZ RAILSCENE 75. Majik Video. 60'.....	\$35
NZ RAILSCENE 78. Majik Video. 60'.....	\$40
NZ RAILSCENE 85, 86, 87 or 88.....	each\$42

BEVAN WALL DVDS/BLURAYS

DIESEL DIARY ARG IN NSW. 47' DVD.....	\$39
DIESEL DIARY Vol 1, 2, 3 or 4.1993-97ea.....	\$34
DIESEL DIARY Vol. 22.....	\$34
DIESEL DIARY Vol.	

