

May 2017

Railway DIGEST™

Signalling and infrastructure:
A Tale of Two Crossings
Electric switch locks

Steamfest 2017
From Coast to Coast
Catch me while you can
Chasing trains in Tasmania – Not!
Trainspotting made easy at Manildra

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 www.sydneylightrail.transport.nsw.gov.au , www.westernsydneyairport.gov.au

Cover: The four-days-per-week Duncan coal train, powered by TasRail Progress Rail/Caterpillar locomotives TR07 and TR04, approaches the Powranna Rail Overpass under the Midland Highway, conveying the full consist of coal for Railton Cement and the Boyer paper mill, on Wednesday afternoon 15 March. Shane O'Neil

Opposite: On Monday 27 February, Alco units 8044 and 4458 arrive at Junee with Train No.3316, the Up Harefield to Junee shuttle service. John Scott

May 2017

Volume 55, Number 5



Features

Catch me while you can

28

While the second of QR's electric tilt trains is undergoing refurbishment, a temporary diesel locomotive-hauled replacement service, known colloquially as the 'Tiltlander' has been operating between Brisbane and Rockhampton. Robert Gill took a trip up to Rocky on the ETT, and back on the 'Tiltlander', to see how they compare..

From Coast to Coast

32

When it comes to transcontinental railways, Australia is unique. Our north-south and east-west routes don't just cross; they share the same track for 528 kilometres, from Crystal Brook to Tarcoola. So, as Larry Zanker explains in word and picture, here in Australia we can have north, south, east and west-bound transcontinental trains all running on the same track.

Trainspotting made easy at Manildra

37

These days, when observing trains is becoming ever more difficult, it is refreshing to find a dedicated viewing platform where railfans can take photos to their heart's content without that annoying high wire fence getting in the way, or being threatened with crippling fines. Neville Pollard reports.

Regulars

Rail Industry	4
Railway people	7
News	8
Operations	38
- Chasing trains in Tasmania - Not!	38
Signalling and Infrastructure	44
- General News	44
- Level Crossing News	47
- A Tale of Two Crossings	48
- Electric switch locks	50
Preservation and Tourist	51
- Steamfest 2017	54
Readers Write	57

Back cover upper: Clyde/EMD units X31, T356, S303 and T376, the first three in original Victorian Railways livery, power across Rumbalara Road at Mooroopna with 9374 Up Qube Tocumwal goods, on Saturday 25 February. John Scott

Back cover lower: Queensland Rail 1720 Class Clyde/EMD units 1738 and 1746 head OGR2 infrastructure train at Glanmire, near Gympie, on Thursday 16 March. Ray Miller

Terms of Reference released for freight inquiry

A panel of transport industry experts has been appointed to help the Federal government to develop a blueprint for Infrastructure investment in the 21st century.

On Thursday 9 March Minister for Infrastructure and Transport Darren Chester released the terms of reference for the *Inquiry into Freight and Supply Chain Productivity*.

Mr Chester said the Inquiry would support the delivery of the National Freight and Supply Chain strategy by outlining how existing infrastructure can be best utilised and guide future investment.

"The Turnbull/Joyce government has a record \$50 billion infrastructure program rolling out across Australia and this strategy will assist in making long term infrastructure decisions that will reduce congestion, improve productivity, and create jobs," Mr Chester said. "The Terms of Reference will provide the scope of this Inquiry for the expert panel to ensure we develop the evidence-base we need to deliver a suitable national strategy.

The senior industry panel experts are:

- Maurice James—Managing Director of Qube
- Nicole Lockwood—Principal of Lockwood Advisory, Board of Infrastructure Australia
- Marika Calfas—CEO of NSW Ports

Mr Chester said the national freight and supply chain strategy was a key recommendation by Infrastructure Australia in the recently launched *Australian Infrastructure Plan*.

"The effective movement of freight goes hand-in-hand with our national prosperity and opportunity for job growth," Mr Chester said. "The Inquiry will draw on a significant amount of work completed already, including the National Ports Strategy, National Land Freight

Strategy, and current state and territory freight/port strategies and plans". "The draft inquiry will be shared with industry and government for comment in late 2017, with the final report due by early 2018."

The Australasian Railway Association (ARA) welcomed Mr Chester's announcement.

"The Australasian Railway Association welcomes Minister Chester's announcement that Marika Calfas, Maurice James and Nicole Lockwood have been appointed to work closely with industry to develop a National Freight and Supply Chain Strategy that will meet the critical needs of our industry," said Mr Danny Broad, Chief Executive Officer of the ARA.

"The appointment of these three individuals provides the progress that our industry needs in moving forward with rail priorities. This includes long-term and smarter investment, better identification of key supply chains and their links to supporting infrastructure, improved integration between modes of transport, getting the price settings right around road pricing and short-haul rail to ports.

"Our members believe that the critical success to the development of the Strategy and to the final report is thorough consultation with industry, including with the Australasian Railway Association and its members.

"We look forward to working with the newly-appointed panel members to provide our collective insights to ensure that the various stages of the consultation process and the report is reflective of the needs of our industry," concluded Mr Broad.

For more information on the national freight and supply chain strategy visit: <https://infrastructure.gov.au/transport/freight/national-strategy.aspx>

Proposed new Olive Downs coking coal mine and rail spur in Central Queensland

Although rapid expansion of the coal mining industry has come to a halt, new mines, such as Adani's Carmichael mine north of Alpha in Central Queensland, are being planned. Another proposal is Australian-based Pembroke Resources' Olive Downs mine which is located 40 kilometres south east of Moranbah and north east of Dysart. Billed as one of the largest coking coal mines in the world, planned annual output is around 14 million tonnes with a working life of 37 years. The new mine will require an 18 kilometre branch line from the electrified 'cross-country' Coppabella – Burngrove line linking Aurizon's Goonyella and Blackwater coal networks. The branch line would junction with the main line between Ingsdon (end of double track from Coppabella) and Peak Downs.

Initially coal would be road-hauled to the nearby Moorvale mine for

washing and railing but as the project developed a coal preparation plant and the rail spur would be built for the Olive Downs mine. Pembroke says that based on a "Goonyella" train configuration of 126 wagons and total payload of 10,800 tonnes, an average of four coal trains would be loaded per day. Coal is to be railed to the Dalrymple Bay export terminal, near Sarina. Pembroke bought the Olive Downs North, Olive Downs South and Willunga reserves from Peabody Energy and CITC Resources in April 2016 for a reported figure of between \$104 million and \$120 million.

On 6 April the draft terms of reference for the environmental impact assessment were released for public comment. Construction is expected to begin in 2019 subject to approvals being granted.

Melbourne Metro construction shortlist announced

The Victorian Government announced on 9 April the three bidders shortlisted to deliver the \$10.9 billion Melbourne Metro tunnel and stations PPP contract.

The shortlist is comprised of the following three consortia:

- Downer EDI, ACCIONA Infrastructure, Ferrovial Agroman, Honeywell, Plenary – **Continuum Victoria**
- Lendlease Engineering, John Holland, Bouygues Construction and Capella Capital – **Cross Yarra Partnership**
- CPB Contractors, Salini Impregilo, Pacific Partnerships, Ghella, Serco, and Macquarie Capital – **Moving Melbourne Together**

Transport Minister Jacinta Allan said the three proposals combined to provide over 100,000 pages of detailed plans to build the nine-kilometre

Metro Tunnel and five new underground stations at Arden, Parkville, CBD North, CBD South and Domain in Melbourne. Ms Allan said a contract would be awarded by the end of 2017, so work can commence in 2018.

At the same time early works on the project have received formal planning approval and will ramp up in the coming months. Piling rigs are now on site at Franklin and A'Beckett Streets in the CBD and construction crews have commenced driving concrete poles to reinforce the walls of the 35 metre-deep shaft where the new CBD North underground station will be built. Early works will also commence at City Square over the coming months to build the CBD South underground station, which will have a direct connection to Flinders Street Station.

Brookfield Rail nears zero Gender Pay Gap

Brookfield Rail has announced an impressive reduction in its gender pay gap (GPG) figure to 0.6% for base salaries after making significant changes across its business to work towards creating a fair and equitable approach to remuneration.

Brookfield said this is a significant achievement and the result of deliberate decisions that were made to reduce the gender pay gap from 22.9% in 2011 to less than 1% five years later. Brookfield Rail's CEO Paul Larsen strongly believes that creating pay parity benefits everyone in a workplace, regardless of gender. Today's results are reflective of a vigilant and deliberate approach to ensuring equal employment conditions across our business. I want people to know that if you join the Brookfield Rail team you will be paid fairly and equitably regardless of your gender," Mr Larsen said in a Wednesday 8 March — International Women's Day — media release. "As a father, I want to know that my daughter is growing up in a world where leaders of all organisations are actively making bold and deliberate decisions to close the gender pay gap."

Brookfield Rail began actively focusing on its remuneration policy and review processes with the intent of reducing the gap to the benefit of all employees. "I am extremely proud of our team and their commitment to driving this figure down through vigilant and focussed actions. However with a relatively small workforce, the gender pay gap figure is very sensitive and one inconsistent decision could open up the gap again," he said.

"We feel the results speak for themselves and we will continue to be vigilant to ensure our organisation is able to adapt and grow so that a gender pay gap of zero is a reality," Mr Larsen said.

Construction begins at Moorebank Intermodal Terminal

On Thursday 6 April, Minister for Finance, Senator the Hon. Mathias Cormann and Minister for Infrastructure & Transport, the Hon. Darren Chester MP joined Moorebank Intermodal Company Chair, Dr Kerry Schott AO and Qube Holdings Chairman, Mr Chris Corrigan, for a sod-turning ceremony to mark the official commencement of construction at the Moorebank site, following months of pre-construction and remedial works.

Moorebank Intermodal Company and the Sydney Intermodal Terminal Alliance (SIMTA), a wholly owned subsidiary of Qube Holdings, reached financial close on the agreement to develop and operate the site in late January.

Mr Corrigan welcomed the commencement of construction, noting that Moorebank was identified as a priority location for a freight terminal in 2004 and in October 2016 was included on Infrastructure Australia's priority list for national infrastructure projects. "The site has a direct rail link to Port Botany and the interstate freight network which, along with its proximity to major motorways, makes it ideal for an intermodal facility," said Mr. Corrigan. "Moorebank Logistics Park will transform the freight and logistics supply chain along the East Coast."

Australasian Railway Association CEO, Danny Broad, who also attended, said "The benefits of this project will assist in supply chain efficiency by reducing the cost to business for transporting goods. It will also create more integrated road and rail connections and make for quicker flow of goods by enabling rail to be the connector between Port Botany and south-west Sydney. Shifting more freight to rail, both in our cities and between our capital cities, is commonsense. Projects such as the Moorebank Intermodal Terminal in Sydney and the much anticipated Inland Rail Project are critical to Australia's future because it will move freight more efficiently, reduce congestion and improve our economic performance, which will bring economic and social benefits to our communities and to our businesses."



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EVENT AND TICKETING DETAILS

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RISSB Rail Safety Conference 2017

Perhaps not well-known to many *Digest* readers, the Rail Industry Safety and Standards Board (RISSB) is a non-profit organisation wholly owned by its funding members (such as ARTC, Aurizon, Sydney Trains, Pacific National) and responsible for the development and management of rail industry standards, rules, codes of practice and guidelines.

On Tuesday 4th and Wednesday 5th of April, RISSB held its 2017 conference, this year on the theme of 'Enhancing Safety through Collaboration'. Held in the well appointed and centrally located Pullman Brisbane King George Square (just down the road from RISSB's Brisbane office, at Central Station) the conference attracted an impressive number of participants from across the Australian rail industry, plus a delegation from Indonesia.

Though it's not unusual for an industry conference to conclude with a site tour, the RISSB Conference instead began with one! From 08:00 to 12:00 on Day One, 30 lucky attendees were hosted by Bombardier Transportation on a guided tour of the Queensland Government's \$190 million, state-of-the-art maintenance centre at Wulkuraka, near Ipswich, responsible for the servicing and repair of the New Generation Rollingstock (NGR) fleet.

For those of us unable to attend the site tour, the day's events commenced somewhat incongruously at 12.15, with registration, followed by an excellent lunch. At 12:45 the conference proper got underway, with the obligatory administration and safety briefing, followed by 'Opening remarks from the Chair', who on Day One was, appropriately enough, Deborah Spring, Chair of RISSB.

The first series of presentations fell under the heading of 'Industry Rail Safety Updates', and first cab off the rank was Sue McCarrey, Chief Executive of ONRSR (Office of the National Rail Safety Regulator) with an informative address describing the work of ONRSR, including some recent case studies, and emphasising its collaborative approach with industry in achieving safety outcomes. Todd Bentley, Director – Safety, Environment and Risk, Metro Trains Melbourne, followed, then Phil Allan, COO of the Australasian Railway Association; Darren Quinlivan, Manager, Strategy & Risk, Metro Trains Melbourne; Naomi Frauenfelder, Executive Director, TrackSAFE Foundation; Dane Newton, Manager – Risk, ONRSR; Russ Evans, National Rules Manager, RISSB, and Steve Jones from Sydney Metro, brought us up-to-date with their various organisations' recent activities.

On Tuesday evening, the RISSB Annual Rail Safety Dinner was held, in the elegant surrounds of Hillstone St Lucia. Though I didn't attend, I hear it was a very successful evening, with a well-received keynote address given by Graham Bradshaw, Partner at Tactix Group.

Day Two's proceedings kicked off with 'Opening remarks from the Chair' by Paul Daly, CEO of RISSB. Then it was on to a series of impressive, and diverse, presentations under the morning's theme of 'Learning from others', including offerings from Ravi Ravitharan, Director, Institute of Railway Technology; Ian Chapman from TasRail; Bill Greer from Metro Trains Melbourne, Vishal Singh from Sydney Trains and John Anderson AO, Chair, Australasian Centre for Rail Innovation. Karlie Southwood, Rail Safety Director, GoldlinQ provided a 'light rail' perspective, while Greg Newman and Beatrice Rituerto of SNC Lavalin Rail & Transit entertained us with a lively double-act 'The Reverse SFAIRP Argument', set around a *Star Trek* theme.

Lunch was followed by a lively panel discussion 'Ask the Regulator', facilitated by RISSB CEO Paul Daly, and drawing on the impressive knowledge bank of Sue McCarrey, Peter Doggett, Simon Foster and Julie Bullas, all of ONRSR. Next came three presentations on the theme of 'Incident Investigation', from Tony Simes of Australian Transport Safety Bureau (ATSB), Justin Vincent of New Zealand Transport Agency (NZTA) and Dr Gemma Read of University of the Sunshine Coast. Given the close look at the methodology and some fascinating case histories, I found this to be a particularly riveting segment - almost like watching three episodes of *Air Crash Investigations*!



Top: Tony Simes, Manager, Rail Safety Investigations, ATSB, posed the question 'What does a good incident investigation look like?'.

Centre: Panellists Simon Foster, Julie Bullas, Peter Doggett and Sue McCarrey, all from ONRSR, fielded some challenging questions from the audience.

Above: The conference was chaired on Day One by RISSB Chair Deborah Spring (left), and on Day Two by RISSB CEO Paul Daly (right).

Finally, under the category of 'Asset Management', Richard Adams, Manager Safety and Risk Assurance, Transport for NSW, explained the ins-and-outs of the safety-focused multi-element assurance framework for transport assets that TfNSW has developed.

Bruce Belbin

SNC-Lavalin to deliver rail feasibility design for Western Sydney Airport

The A consortium led by SNC-Lavalin Rail & Transit has been selected to deliver part of the Australian Government's concept design for rail infrastructure on the Western Sydney Airport site.

(The Western Sydney Airport project will see a second Sydney airport constructed in the suburb of Badgerys Creek, located approximately 44 kilometres west of the Sydney CBD. The new airport will be curfew free allowing for 24-hour operation.)

SNC-Lavalin—a leading engineering, rail and construction company with recognised international rail expertise—will develop a feasibility design and detailed estimates of the cost and time required to construct rail infrastructure on the Western Sydney Airport site.

This work is part of the \$26 million funding commitment in the Australian Government's 2016-17 Budget towards the rail design and will lay the foundation for a future rail service to the airport.

SNC-Lavalin has partnered with Aquentia, Architectus, Norman Disney & Young, SMEC and Stacey Agnew to provide a team with a broad range of expertise, covering all aspects of rail design, costing and operations. The consortium will work closely with the Australian Government and with Transport for New South Wales over the coming months. The Rail Feasibility Design will inform the Australian Government on the construction programme and cost of Western Sydney Airport rail works.

It will also provide information about early preparatory activities necessary for the future development of rail services to the airport site. The Rail Feasibility Design will consider several rail alignment and station options. This project involves developing a design for the rail corridor on the airport site, as part of ensuring that Western Sydney Airport is rail ready.

Mark Hughes, SNC-Lavalin's Regional Director — Australasia, said that the company was delighted to lead the delivery of the rail feasibility design services for the new Western Sydney Airport. "We are excited to have been awarded our first major Commonwealth Government project in Australia. This demonstrates our ability to work effectively with key partners to deliver world-class advice and expertise in the region", he commented.

The Rail Feasibility Design is expected to be submitted to the Australian Government in the first half of 2017 following the Joint Scoping Study of Rail Needs for Western Sydney, which is currently underway. The Joint Scoping Study will also inform advice to the Australian Government on the timing, potential routes and the type of rail services to the Western Sydney Airport.

A major programme of road projects to connect the Western Sydney Airport to Sydney's road network is included in the \$3.6 billion Western Sydney Infrastructure Plan.

Railway people

Rita Saffioti is new WA Transport Minister

The Western Australian state government elections of Saturday 12 March saw the Australian Labor Party resoundingly defeat the incumbent Liberal / National coalition with Mark McGowan replacing Colin Barnett as Premier.

Among the Labor Party's policies for this election was the Perth Metronet urban rail plan, particularly a new line to Ellenbrook and extension of the Butler railway to Yanchep. Labor also promised to work with Brookfield Rail and the grain industry to identify opportunities to put more grain onto rail, including possible reopening of some Tier 3 lines.

Rita Saffioti has been appointed as the new Minister for Transport, Planning and Lands from 17 March. Ms Saffioti became the inaugural Member of the Legislative Assembly for the then-new seat of West Swan on 6 September 2008 and has retained the seat since. She became Shadow Minister for Transport and other portfolios on 9 April 2013 and has been an important advocate of Metronet.

Ms Saffioti was born on 26 May 1972 and has a Bachelor of Business, majoring in Economics, from Curtin University. She had a career as a senior adviser and chief of staff to previous Labor Premiers Geoff Gallop and Alan Carpenter.

The dual-gauge Transcontinental railway from Perth to the eastern states passes through the eastern portion of her electorate but there are no passenger stations on this section of track with suburban rail services terminating further south at Midland station in the adjacent electorate of the same name.

Well known WA politician Alannah MacTiernan returned to state parliament as a Member of the Legislative Council after a period in federal parliament. Ms MacTiernan had been a prominent Minister for Transport in previous Labor state governments and the Mandurah railway is among her projects. She has been given Ministerial responsibility for Regional Development and Agriculture & Food, and is Minister Assisting the Minister for State Development, Jobs and Trade.

The Opposition, under new Liberal Party leader Mike Nahan, now has Liza Harvey, MLA Scarborough, as Shadow Transport Minister as well as being Deputy Leader of the Liberal Party of WA, a position she has held since February 2016.



Rita Saffioti

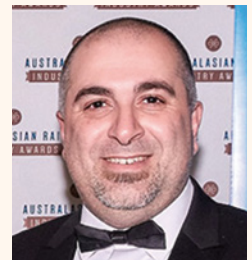
Mark Andrews and Stef Zarikos make a move

Rail industry identities Mark Andrews and Stef Zarikos, well known for their work with SNP Security, have left to form their own organisation, an 'enhanced transport focused security provider', Unified Security.

Based in Sydney, but with offices Australia-wide, Unified Security supplies specialised high-tech surveillance units, and associated hardware, and can also supply rail accredited security officers, rapid response mobile patrol units, a number of Protection Officer qualified Security Personnel to enter and protect assets inside the corridor, a significant K9 unit with rail accredited handlers and customer service accredited officers.



Mark Andrews
and Stef Zarikos



Light rail construction noise keeping Canberrans awake

Noisy construction along Canberra's light rail corridor is keeping residents on Northbourne Avenue awake, a parliamentary committee heard in early March.

ACT government officials admitted there was a provision under the environmental protection regulation that exempted noise from the light rail construction from existing restrictions.

"With regards to the tram construction there is a provision under the environmental protection regulation which has exempted noise from the construction of the light rail or a train, so there are no noise restrictions that apply for a major road or the light rail (project)," Rodney Dix from ACT Environmental, Regulation and Protection said.

However, Mr Dix said there was a noise management plan in place as part of the development application and the construction managers still had to take "practical steps" to minimise inconvenience.

"I know they have to go through a very systematic approval process to approve all their night works, so they're not purely impacting residents," Mr Dix said.

Deputy director-general of the Chief Minister, Treasury and Economic Development Directorate Dave Pepper told the committee Canberra Metro had a "tight alignment" between its contact centre and the construction team.

"If people do find they're having or have concerns with the construction, be it noise, be it the impact on amenity or impact on their own property they are able to talk to the folks in our contact centre and get a direct line to quite senior people as part of that construction team", Mr Pepper said.

But the resident whose tweet sparked the discussion said she complained online through the ACT government's website in January and never heard back. The woman said since the work began in December she has had five or six nights of "really badly broken sleep".

"I have double glazing and even with ear plugs in I couldn't get to sleep the other night," she said.

A spokeswoman for transport minister Meegan Fitzharris stressed this was not new legislation and major infrastructure projects are often able to carry out night works. "Light rail stage one was simply added to the list of projects," she said. "By carrying out night works on infrastructure projects we can minimise the impact on traffic during peak times and ensure the safety of the workers."

Overnight construction along the Northbourne Avenue corridor from the Rudd/Bunda Street intersection in Civic to the Mouat/Antill Street intersection in Dickson took place from 8pm until 6am Sunday to Thursday until the end of March. Equipment in use included: road saw, excavator, vacuum excavator truck, directional drill rig, temporary lighting equipment, whacker packer and vibration plate.

Ms Fitzharris' spokeswoman said Canberra Metro was "making every effort" to minimise the noise disruption to nearby residents.

"Examples of mitigation in place includes wherever possible carrying out noisier activities earlier in the evening, placing noise curtains/ blankets, turning off plant and equipment when not in use, arranging the site to minimise the noise of movement alarms on vehicles and plant, and the use of 'non-tonal' movement alarms which eliminates the need for the high pitched 'reversing beepers'," she said.

TfNSW Customer Satisfaction Index 2016 figures released

In November 2016 Transport for NSW (TfNSW) surveyed more than 17,000 public transport users to get both a rating of their overall satisfaction with public transport, and a score on the things that matter most to them, including security and safety, convenience, cleanliness, timeliness, ticketing, comfort, information, accessibility and customer service.

Results show overall customer satisfaction has remained steady at 90 per cent when compared with the same period in 2015, sustaining the solid improvement in results since the first survey in 2012.

"These surveys help us understand how our customers feel about our services over time, showing where things are improving and where more effort would benefit the customer most. This feedback can directly impact where we focus our attention," Customer Services Deputy Secretary Tony Braxton-Smith said.

A number of improvements have led to the increase in customer satisfaction since 2012. Among them is the roll-out of Opal smartcard ticketing, which has helped minimise queues and simplify connections with other modes, contributing to a rise of up to 9 per cent in satisfaction with ticketing across all modes.

Customer satisfaction with the cleanliness of public transport has also risen across all modes. Enhanced cleaning processes and efforts to eradicate graffiti have particularly improved the presentation of trains and stations, with satisfaction amongst Sydney Trains customers up 18 per cent from the 2012 survey.

Satisfaction with public transport timeliness has also increased, with buses and trains seeing a 10 per cent lift in satisfaction since 2012. New timetables, introduced in 2013, have delivered more services, and ratings

for frequency of services have improved by 11 per cent as a result.

Although satisfaction with information regarding public transport has grown by over 11 per cent since 2012, the surveys revealed that getting real-time information, such as service delays, could be further enhanced.

"It's great to see that our efforts to improve the services we deliver have made a difference to customers, especially when we are asking our customers for their patience as we deliver an unprecedented range of large infrastructure projects," Mr Braxton-Smith said.

The latest TfNSW Customer Satisfaction Index can be viewed at: <https://www.transport.nsw.gov.au/newsroom/publications-and-reports/customer-satisfaction-index>

NSW Public Transport overall satisfaction

	November 2012	November 2015	November 2016
Train	79%	90%	89%
Bus	79%	88%	89%
Ferry	94%	97%	98%
Light rail	91%	92%	92%



Xplorer DMU Set EC2524/EA2508 working the weekly Up Griffith to Sydney passenger service (SP42) departs Gunning, between Yass and Goulburn, on New Year's Day. John Scott

Real-time revolution for TfNSW trip planner

In late-March Transport for NSW (TfNSW) launched a new trip planning website using real-time information to revolutionise the way customers plan their public transport trip. The redesigned transportnsw.info adapts to any screen or device, and provides users with detailed public transport information.

Some of the key features and tools include:

- personalised trip planning,
- printable timetables; and
- travel alerts for specific customer selected services.

"We are really excited to offer our customers new and more user friendly ways of planning their trip and accessing handy information on the go, like timetables and maps," said Tony Braxton-Smith, Deputy Secretary Customer Services at TfNSW. "With the help of real-time data, customers will know exactly when to leave home or work to get to the station or stop, and connecting with different transport modes will be smoother."

Around 1.3 million customers visit the transportnsw.info every month, roughly equating to 75,000 customers who click on the site each and every day, the vast majority looking for help to plan a trip.

"From now on their experience will be more personal, flexible and streamlined and will put the customer in the driver's seat of their own public transport experience."

Transport for NSW has also made five real-time Application Programming Interfaces (APIs) publicly available, which until recently

were only available to those who took part in last year's Personal Trip Plan API App Challenge.

The updated real-time trip planner was released as a beta option in November 2016 and customer feedback from the trial was used in designing the new trip planner.

To see the new website visit: <http://www.transportnsw.info>



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or from www.nijverepublishers.nl



Above: Pacific National's 8230 and 48144 are loading their train on Friday, 17 February at the new overline grain loader installed by GrainCorp at Nevertire. The siding serving the new high speed loader was extended from 750 metres to 1,170 metres with \$2.9 million funding from the NSW Government. Larry Zanker

Below: Fletcher International Exports' intermodal terminal is located about four kilometres east of Dubbo, on the Merrygoen line. Three trains are loaded here each week; on Tuesday, Thursday and Saturday. The company hauls refrigerated meat from the neighbouring abattoirs, containerised grain and will shortly commence transport of cotton. Four locomotives, including an SSR G Class banker, can haul 6000 tonnes from Dubbo to Port Botany, whilst the three company-owned locomotives can handle 5000 tonnes unassisted. FIE 001, *Gail Allen* is seen here leading the trio whilst loading occurs on Tuesday 21 March. So tight is the schedule for this train that tonnages for each day have to be settled three weeks in advance. Neville Pollard





Above: An SSR empty grain train drops down Morrison's Hill, north of Cootamundra, on Wednesday 29 March behind Clyde/EMD units C507 and C508. Dennis Forbes

Right: In the fading evening light on Monday 13 March, Clyde/EMD 'streamliner' GM27 and Avteq/EMD unit VL355 head 7576 empty grain train from Lithgow to Narrabri, past East Greta Junction near Maitland. The train consists of 18 former Pacific National coal wagons, used on Leigh Creek coal traffic in South Australia, converted to grain haulage by SSR. Bruce Gehrig



Around Sydney

Potential names for light rail stops released

On Monday 13 March Transport for NSW unveiled potential names for the 19 stops along the CBD and South East Light Rail route.

The list of draft names will be distributed to councils, businesses and other key stakeholders for initial consultation before broader community consultation starts later in the year.

CDB Coordinator General Marg Prendergast said engaging the whole community would be a key step in finalising stop names for the project. "The stop names for the CBD and South East Light rail are important because they will be the first step in how customers navigate this new public transport system," said Ms Prendergast.

"The key to getting it right when it comes to naming is talking to and hearing from local businesses, residents, Councils – people and groups who have the best understanding of their communities.

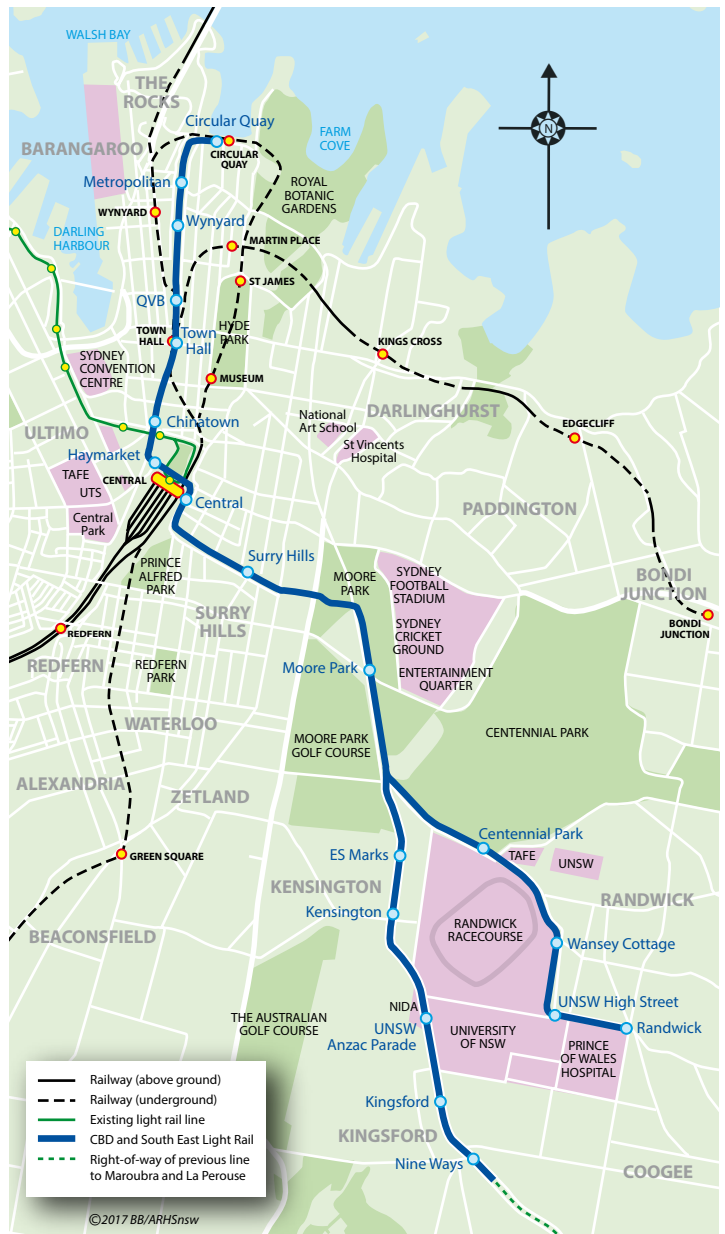
"These draft names released today are our proposals, but we will be listening to stakeholders and working with the NSW Geographical Names Board to make sure we get it right."

Following this initial consultation with key stakeholders, Transport for NSW will put forward its preferred stop name list to the Geographical Names Board who will lead a formal consultation and technical assessment process later in 2017.

The CBD and South East Light Rail is currently under construction. The 12-kilometre route will feature 19 stops, extending from Circular Quay along George Street to Central Station, through Surry Hills to Moore Park, then to Kensington and Kingsford via Anzac Parade and to Randwick via Alison Road and High Street. Construction will be completed and services will start running in 2019.

The potential names for stops on the Circular Quay to Kingsford route are: Circular Quay, Metropolitan, Wynyard, QVB, Town Hall, Chinatown, Haymarket, Central Grand Concourse, Central Chalmers Street, Surry Hills, Moore Park, E S Marks, Kensington, UNSW Anzac Parade, Kingsford, and Nine Ways.

On the Randwick line, which leaves the Kingsford route south of Moore Park the potential stops are: Centennial Park, Wansey Cottage, UNSW High Street and Randwick.



NSW Government ordered to hand over draft timetable to ABC

Transport for New South Wales has been ordered to hand over "highly confidential" 2018 train timetables to the ABC. The draft documents will detail how the state capital's thousands of rail commuters will be affected by the construction of Sydney Metro.

The work is expected to have flow-on effects for commuters on several rail lines, including express services from the Central Coast and those who use the Chatswood interchange.

In a Tuesday 21 March media release the ABC revealed that it had first applied three years ago for access to the planning information about the 2018 standard working timetable, which is under development. Buses will be needed to replace trains on several routes during conversion of parts of the existing rail network to the metro rail configuration – with the work to begin in 2019.

During the case, Transport for NSW tried to persuade the NSW Civil and Administrative Tribunal (NCAT) that releasing a draft timetable, drawn up in 2015, would not be in the public interest.

A second ABC application for access to more recent timetable information is yet to be decided by the Tribunal.

In evidence to the tribunal, Transport for NSW's principal manager for rail service planning, Nikolai Prince, said a 2013 leak of the previous standard timetable had interfered with the department's work. He said

there were 1,500 complaints and resources were diverted to respond to the Transport Minister's Office and the media. Mr Prince added the leak raised an expectation that the timetable could be changed, when it had been "effectively locked down".

It was argued a similar situation could develop if the material requested by the ABC about the 2018 timetable was released. He also said the material had been superseded and if released could be misunderstood or misinterpreted, resulting in industrial action and possibly delaying major infrastructure projects.

Michael McKinnon, the ABC's freedom of information editor, submitted to NCAT that: "If the material was historical, it would be difficult to understand how it would generate a large number of complaints."

Ultimately, the senior member hearing the case, Suzanne Leal, rejected each of Transport for NSW's arguments against disclosure.

In a judgment issued on Monday 20 March, she said: "I accept that the release of the material may be misinterpreted or misunderstood by the public but this is not something I can take into account in my determination. On this evidence before me, I am not satisfied that there is an overriding public interest against disclosure of the requested material."

Central station coach terminal relocated to allow light rail construction

The coach terminal and coach bays at Sydney's Central Station have been relocated from Eddy Avenue to the station's Western Forecourt as part of the Sydney CBD and South East Light Rail project.

All coaches previously operating from Eddy Avenue relocated to the forecourt in late-April so that construction crews could occupy Eddy Avenue from 28 April. Coaches operating from Pitt Street were not affected.

"We have been working closely with affected operators to ensure that they and their customers have enough notice ahead of the change," Sydney CDB Coordinator General Marg Prendergast said on Wednesday 29 March. "The new coach terminal will improve connectivity for many customers, with a taxi rank and 'kiss and ride' drop-off area close by, and will give customers better access to seating, toilets and food and drink options within the (Central station) Grand Concourse. "Relocating the coach terminal for light rail will minimise traffic impacts on Eddy Avenue – it's a key piece of the puzzle for the project which is on track to begin services in 2019."

The CBD and South East Light Rail will provide turn-up-and-go services every four minutes between Circular Quay to Randwick, and Kingsford via Moore Park and Central.

Underground walkway to transform Central Station

A new underground concourse for Sydney's Central Station will better connect passengers to trains, buses, light rail and the new Sydney Metro, as part of the New South Wales Government's plan to upgrade the precinct.

On Wednesday 22 March NSW Premier Gladys Berejiklian, and Transport and Infrastructure Minister Andrew Constance announced the 19-metre concourse, called Central Walk, that will link Chalmers Street to the existing platforms for heavy rail, and the new metro platforms. "We are going to revitalise Central Station to make it an international showpiece of Sydney's transport network. It's often the first stop for visitors from overseas, interstate and from regional areas and we want to ensure the Central Station experience is world class and convenient for the quarter of a million people who pass through every day," Ms Berejiklian said.

The tender process to deliver the new Sydney Metro at Central Station, as well as Central Walk, has already begun with expressions of interest called for the Central Station Main Works contract as part of the Sydney Metro City & Southwest project.

"Sydney Metro has provided us with a unique opportunity to deliver further improvements to Central, and Central Walk is just the beginning," Ms Berejiklian said.

In addition to the 19-metre wide concourse Central Walk will also include:

- New, easy access points to Sydney Trains platforms 16 to 23; and
- Escalators directly to suburban platforms for the first time,

With more than 250,000 people using the station daily, that number is expected to rise to 450,000 in the next two decades. Mr Constance said Central Walk will cater for that growth.

"Central is the backbone of public transport and customers tell us they want better and more convenient links. This project will create new entrances and easier interchanges for everyone", he said. "We began consultation on revitalising Central last year and this is the first step in its grand redesign."

Central Walk will be delivered at the same time as the new Sydney Metro platforms to reduce disruptions to commuters and provide better value for money.

The Heritage value of the station will remain paramount with a team established to conduct technical and heritage studies, with further community consultation to be completed throughout the year.

A dedicated construction contract will be awarded for the Sydney Metro Central works – separate to the rest of the Sydney Metro City & Southwest Project to ensure a strong focus on the complex work required at Sydney's busiest railway station. Community and industry feedback will be invited on Central Walk later this year.

Due to the scale of Central Walk, Transport for NSW has begun contacting affected property and lease owners, including one commercial property that will be acquired. Construction on Central Walk is expected to start in 2018.



An A Set EMU exits the Eastern portion of the City Circle tunnels on approach to Circular Quay Station on Australia Day Thursday 26 January 2017. Dominik Giemza



Above: Power unit DTD 5402 leads a diesel tilt train set on service No. VG01 on Saturday, 8 April near Curra, north of Gympie, operating in place of P301 “Traditional Diesel Replacement Train” (that normally replaces one of the two electric tilt train sets being refurbished) to Gladstone instead of Rockhampton due to flooding. It is understood that the lack of turning facilities at Gladstone led to QR using a diesel tilt train on this run. The diesel tilt train was available as it was unable to work to Cairns on the *Spirit of Queensland* service because of flooding at Rockhampton. Ray Miller

Right: An unusual sight at Yandina, north of Nambour, with a diesel tilt train (VG01) led by DTD 5402 crossing electric tilt train *City of Maryborough* (No. Q992) in the loop on Monday, 3 April. As mentioned above, a diesel tilt train set was being used to operate the diesel train replacement for one of the electric tilt train sets due to flood disruptions. It is unusual to see an electric and diesel tilt train crossing outside of the Roma Street/Mayne section in Brisbane. Ray Miller



Cyclone Debbie disrupts Queensland Rail and Aurizon networks

Queensland Rail's (QR) North Coast Line and Aurizon Network's central Queensland coal trackage were damaged or inundated as tropical cyclone Debbie traversed the eastern part of the state during early March. QR's North Coast Line was cut in the Bowen/Burdekin area and flooding at Rockhampton closed the line disrupting freight and passenger services. The *Spirit of Queensland* diesel tilt train was truncated to operate between Brisbane and Gladstone with buses being used between Gladstone and Cairns. The Brisbane – Bundaberg – Rockhampton Diesel Tilt Train Replacement service was operated on a number of occasions by a *Spirit of Queensland* diesel tilt train set, rendered surplus by its inability to travel to Cairns (see photos, previous page)..

Although the Brisbane suburban network escaped significant inundation, the Gold Coast Line was cut at Holmview and Beenleigh by Albert and Logan River valley flooding.

Aurizon's coal network suffered significant damage on some sections, especially on the Goonyella line where major landslides

occurred at Black Mountain, on the climb up the Connors Range from Yukan (where the Goonyella line diverges from the North Coast Line alignment) to Hatfield. In a 7 April statement Aurizon said the entire Goonyella network would not reopen for five weeks because of the damage at Black Mountain. However, Aurizon was offering coal miners alternative routing options (subject to contractual obligations and capacity constraints) which included railing from the western sections of the Goonyella network via the link to the Newlands line to reach Abbot Point coal terminal or south via the Coppabella – Burngrove line to reach the Blackwater system and the Port of Gladstone. The Newlands line was expected to reopen on 14 April which was ahead of an earlier estimate of reopening between 17 and 24 April. The Blackwater network was expected to reopen on 10 April (operating at reduced capacity) once the flooded Fitzroy River's level dropped. The Moura – Gladstone line was expected to reopen on 12 April, ahead of an earlier estimate of 17 April following repairs at multiple sites along the line.

Queensland's worst level crossings for boom gate strikes revealed

The top locations for collisions with level crossing boom gates have been revealed in open data published by the Queensland government. The details were included in open data published online by the Queensland government, covering all rail lines in the state.

The data shows collisions with vehicles and people, but overwhelmingly the figures represent motor vehicles hitting boom gates.

Figures show that the worst location was Telegraph Road at Bald Hills (located 20.2 kilometres from Brisbane Central Station on the North Coast line), with 70 boom strikes recorded between 2009 and 2014 – when the crossing was replaced with an overpass.

The second-worst location was Beenleigh Road at Kuraby (22.5 kilometres from Central on the Beenleigh line) with 33 boom strikes. The next was Boundary Road at Coopers Plains (15.2 kilometres from Central on the Beenleigh line) with 28 boom strikes.

Between 2009 and 2016 collisions with boom gates has resulted in seven fatalities, 19 serious injuries and 35 minor injuries.

However, the figures also show a decline in boom-gate strikes across the state, with 115 reported incidents where a motorist collided with level crossing boom gates in 2016 – about half the number in 2009, when there were 233.

Collisions with boom gates can cause serious harm, delays on the rail network and costly damage to infrastructure.

Deputy Premier and Transport Minister Jackie Trad said the statistics reflected the success of railway safety initiatives.

"There is a wide range of initiatives in place designed to combat level-crossing incidents, including education sessions at schools and community groups, campaigns through social media, media and advertising, as well as working with police on enforcement," Ms Trad said. "It's very encouraging to see the downward trend in incidents, which shows the effectiveness of these programs."

Ms Trad said there was still work to be done and urged motorists to remain vigilant and patient at level crossings.

"We are still seeing far too many of these incidents," she said.

"Motorists need to understand that trying to beat the boom gate to save a few minutes has potentially devastating consequences and is simply not worth the risk."

The penalty for ignoring railway crossing protection is a \$353 fine and three demerit points. People who damage QR infrastructure, including boom gates, can be fined up to \$8800, in addition to repair costs.



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On Thursday 23 February, G:link Bombardier Flexity 2 tram 13 pulls into the current southern terminus of Broadbeach South, with a service from Gold Coast University Hospital. Bruce Belbin

Queensland government moves to improve driver training

The Queensland government has announced a partnership with GHD and the Centre for Excellence in Rail Training (CERT) designed to improve Queensland Rail's driver and guard training program.

In a 21 March media release Deputy Premier and Minister for Transport Jackie Trad said that in line with recommendation 16 of the Strachan Inquiry into train crewing practices (see March 2017 RD, page 17), Queensland Rail would partner with GHD and CERT to overhaul its training program.

"Today's announcement is the critical next step in ensuring we speed up training timeframes and fix the trains," Ms Trad said. "The Palaszczuk Government is committed to modernising Queensland Rail's training program and ensuring drivers and guards are trained and on the network in shorter timeframes, without compromising safety."

Ms Trad said that GHD and CERT's industry experience and use of modern technologies made them the first choice to complete the intensive review and their findings will inform an entire overhaul of Queensland Rail's train crew training.

"Getting drivers trained and on the network is key to introducing more services for customers and this partnership will deliver faster, best practice training", Ms Trad said. "Queensland Rail is already working to identify areas where training can be fast-tracked, while still delivering highly skilled and qualified drivers. This includes the recent intake of the largest ever classes of drivers and guards."

GHD Australia has international experience in delivering infrastructure projects and specialises in technical-based training solutions.

CERT brings extensive national transformation experience specialising in the rail industry, including with organisations such as the New South Wales Country Rail Network, Aurizon, Thiess and Public Transport Authority WA.

Inland Rail information centre opens in Toowoomba

Federal Minister for Infrastructure and Transport Darren Chester officially opened the Inland Rail information office in Toowoomba on Wednesday 15 March. The office will act as a central hub for information and feedback about Australia's largest infrastructure project.

"This Toowoomba office is an Australia-first, as well as being a useful resource for local residents—it's a central spot to get information and advice, give feedback and talk face to face with the people delivering this nationally important project", Mr Chester said. "Choosing Toowoomba as a base for Inland Rail in Queensland makes perfect sense. It is a major regional city and the gateway to the Darling Downs."

Queensland will be the biggest state beneficiary of Inland Rail, with the benefit to Gross State Product modelled at \$7.3 billion during construction and the first 50 years of its operation.

Anyone seeking more information on Inland Rail can visit ARTC's Toowoomba office located at 65-67 Neil St Toowoomba. The office is open 9am to 5pm Monday to Friday. Appointments with the ARTC Community Engagement team members can be made by calling 1800 732 761 or email inlandraillenquiries@artc.com.au

More information on the Inland Rail project is available at <https://inlandrail.artc.com.au/>



Clyde/EMD units 2390 and 2360 with an empty Aurizon grain train from Fisherman Islands to Toowoomba, at Grandchester on Saturday 18 February. John Scott



Eagle Junction, 6.52km from Central, is served by Airport, Caboolture, Doomben, Redcliffe Peninsula, Shorncliffe and Sunshine Coast line services. Its name stems from its original role as junction point for the Ascot (later Pinkenba) Branch, which served the Eagle Farm area, once used for growing sugar cane. Suburban trains now operate as far as Doomben on the Pinkenba Line. On Thursday 6 April, IMU Set 183 rolls into Platform 2, bound for Brisbane Airport, while on Platform 3, EMU Set 87 is bound for Ipswich with a service from Caboolture. Bruce Belbin



GWA003 leads an ALF Class unit up to the Woomera Road crossing at Pimba, between Port Augusta and Tarcoola, as the newly-risen sun breaks through a dappled sky, on Friday 17 February. Malcolm Holdsworth

Rails delivered for Adelaide–Tarcoola Rail Upgrade

The first 10,000 tonnes of rails has been delivered to outback South-Australian locations in preparation for track laying as part of the Australian Rail Track Corporation's (ARTC) Adelaide–Tarcoola Rail Upgrade Acceleration project.

The project involves the upgrade of approximately 600 kilometres of track on the transcontinental line between Adelaide (Islington and Outer Harbor) and Tarcoola which supports intermodal freight traffic to and from Western Australia as well as heavy minerals rail freight.

The upgrade will improve capacity by increasing rail size along the interstate line from 47kg per metre to 60kg per metre. Along with other works, the upgrade will allow for higher 25 tonne axle loads to operate on the route at 80km/h.

By lifting the maximum axle loading from 23 tonnes to 25 tonnes the re-railing upgrade will improve the productivity of existing services and improve operating performance as it allows heavier, more efficient freight trains to operate at faster speeds. "The project will vastly improve freight transport for the region by enabling more efficient trains to operate on the route. This means greater productivity, with more goods delivered to markets quicker," Mr Chester said.

An estimated 60 workers are already employed on the project in Adelaide and at ARTC's flashbutt welding facility at Spencer Junction in Port Augusta. The \$252 million Adelaide–Tarcoola Rail Upgrade Acceleration project is being fully funded by the Australian Government as part of its assistance package to Arrium's financially troubled Whyalla steelworks.

New Adelaide metro digital kiosk in service

From Friday 3 March the first digital kiosk began operation at Adelaide Metro's InfoCentre on the corner of King William and Currie Street in the Adelaide CBD.

The kiosk provides a range of public transport information, including:

- Journey Planning,
- Real Time arrivals for stops around the InfoCentre,
- Full timetable details,
- Fare information,
- Quick links for journey plans to popular destinations; and
- Service disruption information.

The kiosk can replace current printed timetables, with users able to select specific stops and journeys to get immediate or later real time travel advice, with the option to print your precise travel details direct from the unit.

This is the first of a suite of kiosks that will be installed at sites across metropolitan Adelaide such as shopping centres and medical institutes, where access to public transport information is in high demand.

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Derwent Valley Council backs rail revival plan

The Derwent Valley Council will consider leasing part of the Derwent Valley Line in an effort to resurrect a heritage rail service in the region.

At a special council meeting on Monday 27 March, the council ramped up its support for the Derwent Valley Railway (DVR) by voting unanimously in favour of a raft of recommendations that include;

1. Declaring support for the reintroduction of a tourism railway experience in the Derwent Valley;
2. Listing for consideration in the 2017-18 draft Budget a sum of \$75,000 for the purposes of facilitating the pursuit of 1 above;
3. In collaboration with the Derwent Valley Railway Inc. pursuing funding commitments from the sitting Australian Government and Tasmanian Government and opposition parties for the reintroduction of a tourism railway experience in the Derwent Valley;
4. Agree in principle to consider entering into a lease with the crown for the purposes of a tourism railway; and
5. Seeking further information and clarity on the terms/conditions and implications of entering into a lease and the support being sought by the Derwent Valley Railway Inc.

DVR secretary Owen Andrews, who attended the meeting, described the decision as a “real turning point”. “For them to reaffirm their support with a unanimous vote, they’ve made it very clear that they are 100 per cent behind this project,” he said.

The DVR wants to re-establish tourist rail operations on a 42-kilometre

section of the disused Derwent Valley line between New Norfolk (the DVR’s base and location of the society’s workshop facility) and Mount Field National Park.

The heritage rail operator has been struggling for more than a decade to gain permission to run on the Derwent Valley Line, which is only used by freight services between Bridgewater and the Norske Skog Paper Mill at Boyer.

Mr Andrews believes the railway will bring thousands of tourists to the region and give them a reason to stay longer. “We’re talking about revitalising the valley at the end of the day, we’re talking about creating jobs and economic prosperity, drawing people to the region,” he said.

“The council also voted to give us some support in overcoming the ongoing issue of access to the Derwent Valley Line, which has been probably our biggest hurdle. With their support, and working with the State Government, we believe there’s a real chance of overcoming that issue and moving that along quickly now.”

Derwent Valley Mayor Martyn Evans said the council’s decision would allow it to investigate the finer points of getting the project off the ground. “This gives us an opportunity now to actually seek the information and clarity around what a lease could mean, what the implications in cost [are], what sort of buy-in it would have to be, or what sort of negotiation could we do with the State Government,” he said. “It’s going to be a world-class experience if we can get through this phase, so we just need to understand what the implications are.”



Seen approaching Bridgewater, 464 from Boyer to Brighton Hub on Tuesday 28 March was rather overpowered with TR07, TR13 and TR09 hauling just five empty HF coal hopper wagons. Bruce Tilley

PN mineral sands trains to cease as Iluka plans October suspension of Hamilton plant operations

Mineral sands processor Iluka Resources announced on 28 March that it would suspend operations at its Hamilton mineral separation plant in October this year. By that time Iluka expects to have processed its remaining heavy mineral concentrate from its Victorian Murray Basin mining operation (in the area between Sea Lake and Kulwin) which concluded in March 2015. Hamilton operations will be suspended until concentrate becomes available from Iluka's next planned mining development in the Murray Basin – near Balranald in NSW. While Iluka is undertaking evaluative work at the Balranald site it is not expected that concentrate will be available from this development before 2019. The Hamilton plant suspension will result in up to 60 jobs being lost plus many more in the transport sector. The temporary closure will result in the end of Pacific National's (PN) mineral sands train which have operated from Hopetoun to Hamilton since November 2011, initially using now defunct rail operator, El Zorro. The services are currently timetabled to run three days a week. Approximately 500,000 tonnes of sands were railed each year from Hopetoun to Hamilton. The sands were road hauled from the Murray Basin mines to Hopetoun.

In addition to the concentrate from the Murray Basin the Hamilton plant was processing concentrate which was trucked from Iluka's Jacinth-Ambrosia mine, situated 270 kilometres NW of Ceduna (SA), then shipped from the Port of Thevenard to Portland (Vic) where PN hauled it to Hamilton. PN hauled around 100,000 tonnes of sand a year from Portland to Hamilton on a service that commenced in January 2016 and

was timetabled to operate three times a week. Iluka said that in order to reduce transport, storage and handling costs, and to increase the overall efficiency of the company's two Australian mineral separation plants (Hamilton and Namgulu – the latter near Geraldton, WA), the company had taken the decision to process the Victorian stockpile only at Hamilton without supplementing it with concentrate imported from the Jacinth-Ambrosia mine (this mine has also been mothballed for up to two years). As a result the Victorian stockpile will be exhausted by next October. Iluka's Chief Operating Officer, Steve Wickham, said that since 2012 both the Hamilton and Narngulu plants had been operating at low utilisation levels of between 50 and 60 per cent. The company will now process all its product at Namgulu until Hamilton reopens. Iluka said 'subdued' global demand for zircon was behind its decision to rationalise its operations.

The cessation of the PN mineral sands business will result in only grain trains operating on the Murtoa – Warracknabeal – Hopetoun line. PN crews located at Warracknabeal and at Portland will be affected by the cessation of the mineral sands trains which were normally hauled by BL or G class locomotives. The conversion of the Murray Basin rail network to standard gauge may result in grain being again railed to Portland but other than the mineral sands traffic there are virtually no revenue rail services currently operating on the Ararat – Hamilton – Portland line. It is expected that when mineral sands production from Balranald commences it will be road hauled to Hopetoun to again use Iluka's loading facility, and then be railed to Hamilton.



The planned mothballing in October this year of Iluka Resources' Hamilton processing plant will result in the suspension of Pacific National's mineral sands trains that have operated from Hopetoun, terminus of the 112 kilometre standard-gauge branch line from Murtoa, to Hamilton. Hopefully, the development of new mineral sands mines near Balranald (NSW) will result in the future restoration of mineral sands trains from Hopetoun with the output likely to be trucked to Hopetoun for forwarding by rail to Hamilton. In this 25 November 2016 view under threatening skies PN's Clyde/EMD unit BL 26 slowly draws its train through the Hopetoun loading facility before departing for Hamilton. John Hoyle



On its first revenue trip since conversion to standard gauge, N457 *City of Mildura* shows off the new Public Transport Victoria livery as it leaves Seymour with Train 8615, the 12.05pm Southern Cross to Albury 'lunchtime' service, on Saturday 8 April. The repaint is part of the \$15 million upgrade for V/Line rolling stock in use on the standard-gauge line to Albury, involving the refurbishment, repainting and reconfiguration of the carriage sets and locomotives currently in use. Jo Asani

More than 3,000 extra car spaces at stations across Victoria

More than 3,000 extra commuter car parking spaces will be built across Victoria to make it easier for people to drive to the station and catch the train.

Minister for Public Transport Jacinta Allan joined Member for Macedon Mary-Anne Thomas at Gisborne Station on Friday 31 March, where work to build 40 new spaces is underway. (Gisborne station is located on the Bendigo line 64.2 kilometres from Southern Cross Station.)

"We're building new car parks at busy stations across Victoria, to make it easier for people to catch the train. These extra spaces will make a real difference for local passengers – reducing the daily scramble to get a park and get the train", Ms Allan said.

The Gisborne station upgrade will also install CCTV, bright lighting and better drainage to improve safety and comfort for local passengers.

Gisborne is the first of 17 stations that will be upgraded through the \$20 million Station Car Park Upgrades Program, which will deliver more than 2,100 car parking spaces at suburban and regional stations across Victoria.

In addition, almost 1,000 spaces will be delivered through the \$22 million Road and Rail Minor Works Program, which will upgrade car parks at Castlemaine, Woodend, Clarkefield, Macedon, Kangaroo Flat, Wendouree, Marshall, South Geelong and Warrnambool stations.

The Gisborne Station car park upgrade will be complete by the end of July. Work at all 17 sites to be upgraded through the Station Car Park Upgrades Program will be underway by July and finished by the end of 2017.

The Road and Rail Minor Works Program is currently out to market. The start of car park upgrades through this program will be determined through the tender process, but all are expected to be delivered by the end of 2018.

For more information, visit www.victrack.com.au/carparkupgrades

Safety upgrades to restore Echuca line services

Active level crossings on the Echuca Line between Bendigo and Echuca will be upgraded following a boom gate problem on Monday 20 March.

V/Line launched an immediate investigation into the incident and replaced the daily return rail service between Bendigo (Epsom) and Echuca with a road coach, which connected with scheduled rail services between Bendigo and Melbourne.

In a response published in the 25 March edition of the *Bendigo Advertiser*, V/Line spokesperson Rob Curtain said engineers were investigating the incident, where a level crossing was slow to detect a service travelling from Echuca towards Melbourne.

"The boom gates at the crossing north of Bendigo were in the down position and the lights and bells were operating to alert traffic, however the warning provided was 15 seconds instead of 25 seconds," Mr Curtain said.

On Thursday 30 March Victorian Minister for Public Transport Jacinta Allan announced that all 12 active level crossings between Bendigo and Echuca will be upgraded with the installation of 'axle counter' detection devices. "The axle counters will ensure boom gates come down in time, every time – keeping motorists, passengers and staff safe", Ms Allan said.

The upgrade is expected to take between five to seven weeks to complete, while coaches will continue to replace trains between Echuca and Bendigo. Commuters were advised to allow an additional 15 minutes journey times.

Better access to work and education on the Bendigo line

The Victorian government will partner with local councils and Regional Development Australia to investigate how to improve access to work and education along the Bendigo line.

On Tuesday 7 March Victorian Minister for Public Transport Jacinta Allan announced that the government will contribute \$35,000 towards a study investigating how to use local transport to improve access to local employment and education. The study will focus on the links between local railway stations, employment precincts, schools and universities.

Regional Development Australia will provide \$25,000 towards the initiatives and five participating councils will provide \$1,000 each.

The study is one of a number of initiatives announced that will improve access to and awareness of local transport services, including:

- up to \$90,000 to develop a Mallee Local Transport Options and Opportunities Paper to identify existing local transport assets, and how they could be better used to improve access to services in the region; and
- \$50,000 to develop a multi-language guide to using public transport for new arrivals in the region. The guide will be rolled out as a pilot program in partnership with the Sunraysia Mallee Ethnic Communities Council, and will include better education and signage at bus stops.

The government's contribution to these projects is being provided through the Transport Investing in Regions initiative. The projects will be delivered by local councils and are expected to be complete in the second half of 2017.

The Transport Investing in Regions (TIIR) initiative was established in 2012 to gain a better understanding of local transport needs and to deliver practical solutions across regional Victoria.

Since being developed, the TIIR initiative has invested \$6.3 million in 190 small-scale but very significant regional projects, with project partners such as local councils contributing over \$12.5 million in additional funding over the five years. The majority of Transport Investing in Regions projects are a mix of walking and cycling initiatives; tourist and heritage railway infrastructure; local ports infrastructure; transport, freight and land-use strategies; and projects that celebrate Aboriginal culture and heritage.

Locals give mixed review of Ballarat rail precinct upgrade

Hundreds of local residents say the Victorian government's \$25 million proposal for the Ballarat Railway Precinct (see November 2016 *RD*, page 22) falls short of activating the site.

Supply chain infrastructure needs ongoing investment

The Federal Government needs to embrace all forms of investment to help fund supply chain infrastructure, the country's top treasury official has told Victorian Farmers Federation (VFF) members.

Treasury secretary, John Fraser, appeared at the VFF Grains Conference earlier this month and discussed the importance of rural infrastructure investment as a shift in population growth from city to regional centres needs to occur over the next few years.

VFF Grains Group president, Ross Johns, said Mr Fraser's lecture hit home the need to ensure rural infrastructure is equipped to cope with the demands of growing population and productivity.

"Regional Victoria is facing a number of infrastructure priorities, challenges, and opportunities," Mr Johns said. "We need federal support to improve the state's rail freight network, roads and bridges, and telecommunications infrastructure, and in Victoria we're not getting enough bang from our taxes to fund these projects."

Mr Johns said during the conference there was spirited debate around the need for supply chain infrastructure upgrades, with slow progress on the Murray Basin Rail Project and the heat restrictions on the V/Line service singled out for criticism.

"Farmers are constantly investing in new technology to become more efficient and remain competitive in world markets while we have a rail network that can't operate in temperatures over 33 degrees," he said. "A railway that is shut down on moderately hot days during harvest is hardly a 'fit for purpose' system."

The discussion at the Grains Conference came as Department of Infrastructure and Regional Development official, Mark Thomann, told the Senate Committee on Rural and Regional Affairs and Transport that Victoria would only receive 7.7 per cent of the Federal Government's \$26.5 billion infrastructure budget during 2016-2020.

An online survey, of almost 700 people, undertaken by *The (Ballarat) Courier* in March, found 85 per cent of people did not believe the current plan would sufficiently activate the site or integrate with the Central Business District.

A further 3 per cent said they were unsure whether or not the proposal would activate the site, while almost 12 per cent of respondents believed it would be a positive addition to the Central Business District.

Earlier this year, it was revealed construction on the Ballarat Railway Precinct will begin by mid to late 2017 after the government unveiled the consortium that will take control of the \$44 million project.

Under the plan, the historic bluestone goods shed would be converted into a convention or exhibition centre.

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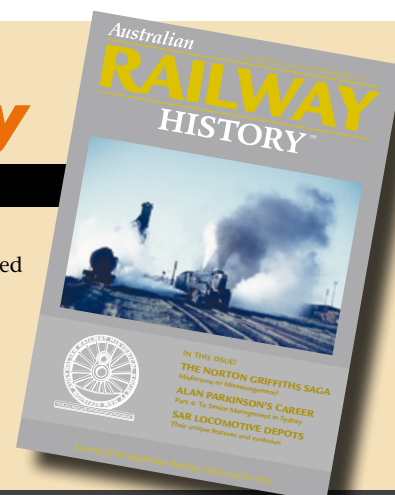
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The May issue of *Australian Railway History* features Rodney Barrington's impressive photo of SAR 520 Class locomotive No. 524 blowing down at Mile End locomotive depot on 3 November 1965, which sets the scene for his article on the history of the locomotive depots of the South Australian Railways.

Neville Pollard's account tells of the fascinating Norton Griffiths saga in New South Wales, which

became a major political issue between 1912 and the 1920s. It was a period of upheaval that impacted on the State over subsequent decades.

Colin Bull completes his account of Alan Parkinson's career following his promotion to senior positions in head office and the issue rounds off with an Explorer piece by Percy Suckling on a tough night on a steam locomotive footplate in 1965.





Clyde/EMD units G543, X41 and X44 at Yendon (between Gheringhap and Warrenheip on the Geelong – Ballarat line) on a Down empty grain train from North Geelong, on Thursday 2 March. John Scott

The Pellicano Group will be in charge of building a four-and-a-half-star, 77-room Quest hotel on the Lydiard Street side of the precinct.

More than 77 per cent respondents said they wanted to see the goods shed converted into a regional and airport bus interchange while 16 per cent said they would support a plan to revamp it into a convention or exhibition centre.

More than 90 per cent of respondents said they would not support the government's plan to permanently transfer land at the Ballarat Station to a private developer.

More than 80 per cent of respondents (511 people) said the state government's investment into the station precinct did not meet their expectations for car parking. Almost 14 per cent (85 people) believed there was adequate parking within the proposed plan.

The community remained strongly divided on the amount of disability access the new plan proposes between train platforms and buses.

About 63 per cent of people said disability access was insufficient under the state government plan, 22 per cent said it would improve access for all abilities and 15 per cent said they were unsure.

The Ballarat station redevelopment project is being delivered by Regional Development Victoria in partnership with VicTrack, City of Ballarat and the Transport division of the Department of economic Development, Jobs, Transport and Resources.

Warrnambool line level crossing upgraded

V/Line completed level crossing improvement works at Back Larpent Road, Larpent on the Warrnambool line in mid-March. (Larpent is located 162 kilometres from Southern Cross station, 8 kilometres west of the town of Colac.)

Works included the installation of lights, bells and boom gates. To upgrade the crossing, crews installed electrical power, completed engineering and signalling works, and installed level crossing equipment.

It is the fourth crossing on the Warrnambool line to be upgraded in the past year, with another 19 set for completion by the end of 2017.

Work is also underway to upgrade the Fairley Road level crossing in Reedy Lake (10 kilometres northwest of Kerang), the first of four Swan Hill line crossings to be upgraded this year.

Heinz Street crossing upgrade fast-tracked

The upgrade of the Heinz Street level crossing in Bendigo will be fast-tracked with the project to be completed by the end of this year, six months sooner than originally planned.

The crossing, which takes Heinz Road across the Echuca line adjacent to Bendigo Racecourse, will be upgraded with bells and boom gates.

The Victorian government is accelerating its \$50 million Safer Country Crossings Program (SCCP) so all upgrades are finished by the end of 2018. The program was originally due to be complete by mid-2019.

The *Safer Country Crossings Program* has already upgraded road crossings in Sandys Lane in Gnotuk (Warrnambool line), Phalps Road in Pirron Yallock (Warrnambool line), and Back Larpent Road in Larpent (Warrnambool line), Racecourse Road in Chiltern (North East line), Rutherglen-Springhurst Road in Springhurst (North East line), Palmerston Street in Baddaginnie (North East line), Caroll Road in Benalla (North East line), Mahers Road in Violet Town (North East line), Nagambie-Locksley Road in Locksley (North East line), and Tragowel Road in Tragowel (Swan Hill line).



Above: LDP 008, LDP 004 and G534 are at Albion, in Melbourne's western suburbs, with Aurizon's 6MB7 Melbourne-Brisbane intermodal freight on Friday afternoon 6 January. The old John Darling Mill looms in the background. Dominik Giemza

Below: B75 and G521 on Qube 9374, Tocumwal to Port of Melbourne, wait for a clear road at Tottenham Yard on Sunday 9 April, as another Qube train (9178 grain) with G532, B74 and S303, the latter two in VR livery, receives the right-of-way and moves out. James Chuang



Around Melbourne

Injuries on Melbourne trams hits eight-year high

Melbourne has had its worst year for serious injuries on trams in almost a decade, mainly due to passengers falling inside trams and at tram stops while boarding or alighting.

To deal with the growing problem, Yarra Trams is investigating changing the way its trams accelerate and brake, improving its driver training and identifying injury hot spots around the network.

There were 61 serious injuries on Melbourne's tram network in 2016, a 30 per cent rise from 2015. It was the worst result since 2008, safety watchdog Transport Safety Victoria said.

The watchdog said distracted pedestrians straying into the path of trams were an increasing problem and "the rise of smartphone zombies doesn't show any sign of slowing".

"Transport Safety Victoria is receiving an increasing number of reports about distracted pedestrians walking in front of, or into the side of, trams in Melbourne," said TSV's Director of Rail Safety Jodie Talone. "While there's a wide range of factors that can result in these types of incidents, we'd like to take this opportunity to remind people to stay alert around tram tracks, and hold on when you're on board."

A breakdown of the 61 serious injuries reveals distracted pedestrians were not the biggest cause of injuries. Half of the reported incidents occurred on a tram.

There were seven incidents in which a pedestrian was seriously injured from being hit by a tram, and 32 serious injuries from falls onboard a tram. Thirteen people were badly hurt while getting on or off a tram.

One Yarra Trams employee was seriously injured in an electrical incident at the Preston workshops.

Transport Safety Victoria said it was working with Yarra Trams to investigate the increase in serious injuries on and around trams.

There are different theories as to what has caused the spike in people getting hurt. A Yarra Trams spokesperson blamed some of the increase on poor driving habits and an increase in traffic density.

"Many of our incidents are as a result of drivers turning in front of trams or other unsafe road behaviours," she said. "We're working closer than ever with our road partners to improve safety on our network, specifically around vehicle-to-tram incidents and serious injuries."

Daniel Bowen, spokesman for the Public Transport Users Association, said many seats had been stripped from trams in recent years to create more standing room, which made falls more likely.

Many sudden stops can be attributed to tram drivers hitting the brakes to avoid a vehicle that has entered its path.

The figures show there were 962 collisions between trams and vehicles last year, almost three a day on average, and the worst result in at least five years. The number of slips, trips and falls, 285, was the highest in 10 years and represented a 41 per cent increase in one year.

Design of new Frankston Station revealed

The design of the new Frankston Station was revealed on Monday 27 March, marking the culmination of two years of detailed planning, consultation, and a national design competition.



B2 class tramcar 2009, recently repainted in the current PTV "Gem" livery crosses the Latrobe Street rail bridge on 4 March 2017 heading for the Docklands terminus on route 86a. One of the first B Class in the new colours, 2009 also had new light emitting diode (LED) headlights and marker and indicator lights, which were obvious at a distance. Peter Clark

(Frankston is located 42.7 kilometres from Melbourne on the suburban Frankston line. The Frankston line continues on to Stony Point as the Stony Point line.)

The competition for Australian-registered architects to create their vision for the new Frankston railway station attracted 39 entries. Five entries were shortlisted by the jury to proceed to Stage 2 of the competition and the jury met in early March to select the winner.

The Melbourne-based Genton Architecture's design for the new Frankston station was chosen by the competition jury as the unanimous winner among five finalists.

Genton Architecture will now work with the Victorian Government to further develop their design, with construction starting in late 2017.

Preliminary works in Young Street, located to the west of the station, are already well underway. It will deliver a new bus interchange, wider footpaths, fresh landscaping, and road improvements to reduce congestion.

Rebuilding Frankston station is the centrepiece project of the Victorian Government's \$63 million investment in the redevelopment of the Frankston station precinct, which includes major improvements to Young Street between Wells and Beach streets.

More information on the design will be available at the Frankston Revitalisation Hub opposite the station, and online at www.transport.vic.gov.au/frankston-station-precinct-redevelopment

Frankston line level crossing removals could damage unique wetlands

The only globally important wetland in suburban Melbourne is at "significant" risk of major and long-term environmental damage from the removal of two level crossings on the Frankston Line, a report for the Victorian government has warned.

The Edithvale-Seaford wetlands in Melbourne's south-east are a refuge for about 100 threatened or migratory bird species from Siberia, Japan and Alaska. Surrounded by suburban houses, they are the last remnant of a large swamp that once stretched from Frankston to Mordialloc.

Though small and heavily marked by urban encroachment, the Edithvale-Seaford wetlands have been classified as one of the world's significant wetlands for the richness and diversity of the wildlife they support, and are protected under an international treaty.

Threatened species found at the wetlands include the Australasian bittern, curlew sandpiper and swift parrot.

However, a plan to dig two rail trenches nearby could degrade the wetlands' ecosystem to the point that it would become uninhabitable for some of the birds that live or migrate there.

A report for the government's Level Crossing Removal Authority found the twin trenches could create a barrier to natural water flows from the wetlands, raise the water table by 10 centimetres and activate acid sulfate in the soil.

"The permanency of the trench structures is likely to result in impacts to groundwater that are likely to be long term and irreversible in nature," the report, by consultants AECOM and GHD, states. "Any change to the hydrological regime at the Edithvale-Seaford wetlands is highly likely to impact the use of the site by waterbirds."

The government announced in February that it would remove the level crossings at Edithvale Road in Edithvale (approximately 31.7 kilometres from Southern Cross station) and Bondi Road in Bonbeach (approximately 34.7 kilometres from Southern Cross) on the Frankston line by putting the rail line under the road, in each case digging a trench about one kilometre long and up to eight metres deep.

It also said an environment effects statement would be required, due to the project's potential impact on the wetlands.

There is a risk the government's preferred rail-under-road design could be rejected if it is found its environmental impacts would be too severe.

The project has been referred to federal Environment Minister Josh Frydenberg and Victorian Planning Minister Richard Wynne for assessment. Both ministers have the power to decide the environmental impact is unacceptable and that it should not proceed.

Below: Two Metro Trains EMU Sets pass on Flinders Street viaduct on Saturday 7 January, viewed from Eureka Tower. Dominik Gienza





Aurizon's Clyde/EMD unit LZ 3106 is seen unloading its train at BHP Billiton's Kalgoorlie Nickel Smelter at Hampton on Thursday 6 April. Walter Rowe

Chinese company signs MOU for Balla Balla construction

Balla Balla Infrastructure (BBI) Group announced on Friday 24 March that it has signed a memorandum of understanding (MoU) with China State Construction Engineering Corporation (CSCEC) to build the infrastructure for a project to link central Pilbara iron ore deposits with a new export facility at Balla Balla, near Whim Creek, via a 162 kilometre rail line.

The MoU was signed in Canberra at a ceremony attended by Prime Minister Malcolm Turnbull and Chinese Premier Li Keqiang.

The MoU specifies that CSCEC use Pilbara sub-contractors for all 'on-the-ground' delivery and confirms BBI's commitment to maximising opportunities for local and regional businesses and employees where possible, rather than using fly-in, fly-out workers.

The agreement follows January's signing of a State Agreement between BBI and the former Western Australian Coalition State Government over the project (see March 2017 *RD*, page 28).

BBI Group chairman Jon Young said the partnership between BBIG and CSCEC represented another significant milestone for the Balla Balla project and a step towards BBI reaching a final investment decision and a start on construction in 2018. "To have signed such an important MOU for our project in the presence of the Australian Prime Minister and the Chinese Premier confirms the strength and international significance of the Balla Balla project," he said.

CSCEC is one of the world's largest construction companies and one of the biggest companies in China. It delivers large-scale projects, including port and rail infrastructure, and operates in 20 countries around the world.

BBI Group is jointly owned by New Zealand's Todd Corporation and Nyco, an investment company owned by Sydney businessman and former Lynas Corporation boss Nic Curtis.

BBI is yet to make a final investment decision on Balla Balla or secure financing for the \$5.6 billion project. Its future will be dependent on the iron ore price remaining buoyant.

Brookfield Rail completes Avon Valley upgrade works

In March, Brookfield Rail completed a \$20 million re-rail and track renewal program in Western Australia's Avon Valley.

The program involved replacing 35 kilometres of rail between Kwinana (located on the Mandurah line approximately 33 kilometres from Perth) and Avon Yard (just west of Northam), and re-aligning 18 kilometres of dual-gauge track between Jumperkine and Moondyne.

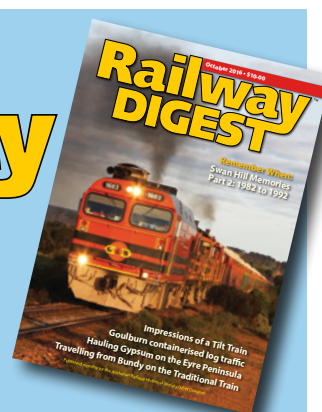
This section of Brookfield Rail's network currently transports in excess of 19 million tonnes each year, and connects Western Australia to the eastern states for passenger, bulk commodities and containerised freight services.

The upgrade has resulted in the removal of operational train crossing restrictions between Jumperkine and Moondyne, enabling a more reliable service to be provided to customers. The works were part of Brookfield Rail's ongoing asset renewal program.

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Catch me while you can

Robert Gill

To date, only QueenslandRail Travel trains with a limited lifespan have attracted my attention. The first jaunt article compared *The Sunlander* to the former Diesel Tilt train now known as *The Spirit of Queensland*, (RD August 2011), with the second piece discussing the *Westlander* (RD January 2017).

With one of the electric Tilt Trains undergoing heavy refurbishment, this has created a temporary replacement, known locally as the 'Tiltlander' or 'P Train'. Around March 2015, the refurbishment of both Tilt Train Sets, one at a time, prompted these two diesel-powered traditional trains using L Series carriages.

The *City of Maryborough* was the first train to be refurbished, and was returned to service in July 2016, with the second set *City of Rockhampton* currently undergoing work. It is due to be returned to service around June this year. Both sets have reached approximately half their anticipated lifespan, with current works expected to maintain serviceability for another 15 years or so.

Items being attended to during the refurbishment are:-

- 15-year electrical insulation resistance tests/inspection/repair;
- Brake system – remove/overhaul/test re-commissioning;
- Traction system – remove/overhaul/test/recommissioning;
- Couplers and draft gear overhaul – remove/overhaul/test/recommissioning;
- Inter-car canopies;
- Domestic inverters, contactors, cabling and anaconda cabling and other miscellaneous items replaced.

This most recent trip began at the new Kippa-Ring Railway Station, boarding SMU 227 for the commute into the big smoke. (See November 2016 RD, from page 41, for a full description of the line.) The train soon departed Platform 2 and then crossed over to the Up track to pass the stabling yard capable of holding up to ten, 6-car electric trains. The only occupant appeared to be a hybrid IMU/SMU consist – a 'coupling of convenience' of an SMU (Suburban Multiple Unit) and an IMU (Intercity Multiple Unit). This unique pairing provides practicality on longer routes, as only the IMU units are equipped with toilet facilities.

Further along the line just prior to Rothwell is a power feed-in facility, then a long viaduct over the wetlands and Saltwater Creek. Also notable are the unique access posts for koalas, enabling them to cross from the rail corridor to adjacent bushland.

From this point there is much ongoing construction, with the corridor running between numerous housing and unit developments. It seems possible that urban encroachment might be more to blame for the drop in koala numbers, rather than construction of the rail corridor that was initially thought to be a major factor.

After Mango Hill Station the track continues along and over the M1 (Bruce Highway) and on to Murrumba Downs, followed by a short gallop to Kallangur Station. This is the only station with the platform three stories above the natural ground level. From here the track drops down gradually in a sweeping curve through a cutting down to ground level to enter Petrie Station.

As the train slowed for Petrie, the southbound Electric Tilt Train was sighted at platform 1. After departing platform 5 our train traversed the North Pine River over the new bridge constructed at the same time as the line to Kippa-Ring.

Crossing the 3-track level crossing at Strathpine, the train now turned slightly to cross the Bald Hills flats and South Pine River. The trains traverse the new bridge over the lowlands at a much faster pace than they did over its much-reinforced predecessor. I liked the driver's use of both the town and country horns. The dull sound was used for acknowledging right of way and the long higher-pitched sound for approach to a level crossing or anywhere 'W' board signs are placed. At Geebung a northbound Inter City Express (ICE) unit was passed on its way to Gympie North. After Virginia Station the train crossed over from the third road to the main just prior to Northgate. The train ran express from this point, only stopping at Eagle Junction for a crew change.

Arrival at Roma Street was on time at 10:15am. All long distance trains depart from Platform 10 at Roma Street unless trackwork involves the use of Platforms 2 or 3. I made my way to platform 10 and observed the Electric Tilt Train *City of Maryborough* at the far end of the platform

being provisioned and having checked luggage loaded. Just slightly before departure time the train reversed back along the platform to allow passengers to board.

Boarding commenced at 10:58 and after the obligatory 'doors closing' automated announcement, departure was at 11:02. Just as the train started off a very noisy compressor kicked in under my feet, the noise fading from consciousness as we progressed. The train manager commenced his travel and safety announcement and ticket and concession card checking got underway. The Passenger Service officers were friendly but more business-like than those on the *Westlander*.

Since the refurbishment of this train, to me, the interiors of the cars look slightly cheapened. Some of the ceiling panels do not appear flush, the seats seem a lot harder than the L Series Cars used on the *Westlander* and *Spirit of the Outback*, and the tray tables seem higher and further away. Whilst contemplating these detractors, it was announced over the public address system that all of the stops would be a 'stop and go' process and that there was no time available for passenger leg stretches or smoke breaks.

After Northgate, the train travelled up the bi-directional centre track and over the South Pine River Bridge. Lunch orders were taken. The train travelled reasonably slowly between Bray Park and Petrie (Platform 2). A lot of work was being carried out on the large Petrie Feeder Substation. Shortly after passing under Anzac Avenue a Pacific National freighter hauled by PN 004 was crossed. Arrival at Caboolture Platform 1 was 11:47 with departure shortly thereafter.

Beyond the limit of regular suburban services, speeds improved with the 'nose cam' operating and the speed indicator showing 90 km/h crossing Pumicestone Road, with 149 km/h observed through Elimbah Station and peaking at 160 km/h just before Beerburum. Lunch arrived just prior to running through Glass House Mountains; a pleasant combination of beef rissoles, potatoes, peas and onion gravy.

The drinks and snacks trolley service followed, as a quick stop was made at Landsborough for a few passengers to join the train. Shortly

after this we travelled through the Mooloolah Tunnel. The countryside is very green around the little township of Eudlo. A second tunnel was traversed shortly afterwards.

An Ipswich-bound IMU from Nambour was crossed where a lot of trackwork was being carried out. At 12:32 an Aurizon freighter was crossed at the passing loop at Palmwoods. The construction of the new stabling yard at Woombye, just prior to Nambour was progressing.

12:42 saw the train depart Nambour, 7 minutes late, after a 2-minute stop to pick up several passengers. A long slow section then ensued, though there were times the train travelled too fast to even read station name boards. The tilting of the carriage of this train could be noticed just prior to the curves in the track, which I hadn't noticed on the diesel tilt.

13:00 saw arrival at Cooroy with a large number of passengers boarding. The long timber ramp to the white-timbered overbridge, becoming a rarity on the suburban network, was noted. The train travelled slowly through Pomona and also through Cooran with the train slowing even more after Cooran, with trackwork the reason. A lot of new sleepers had been laid around Traveston. The pace picked up but slowed again to a crawl at milepost 161.

The train stopped prior to Gympie to allow the southbound ICE units, unit 155 and its twin, (the same as those observed earlier at Geebung) to cross. From here a disused branch diverges into old Gympie Station and down the valley to Imbil. A cattle train, unique in Australia, was crossed just after the old line into Gympie was seen curving off to the left.

At 13:45 the Electric Tilt Train arrived at Gympie North Station. After receiving right of way, the train slowly departed past the branch down to the cattle sale yard and the northern end of old Gympie Station. Our northward journey continued with the passing of the south-bound *Tiltlander*.

Rolling into Maryborough West, the first of the controversial New Generation Rollingstock (NGR) EMU trains was seen in the test siding used by Bombardier/EDl as part of their testing regime. Several ballast wagons occupied one of the sidings.

Above left (page 28): Traversing a section which allows it to travel at 160 km/h; Queensland Rail's electric tilt train *City of Maryborough* has just passed through Elliott crossing loop as it races towards Bundaberg; 13 kilometres to the north; with a Brisbane to Rockhampton service on Sunday, 24 July 2016. The tilt train had just returned to service 10 days earlier after an extensive overhaul and refurbishment at Downer's Maryborough plant. The other electric tilt train set, *City of Rockhampton*, is now at the plant for its mid-life refurbishment, expected to be completed in June this year. John Hoyle

Below: One of the posts provided for koalas to cross the rail corridor along the Kippa-Ring Line. Robert Gill



After a very quick stop at Maryborough West where a large number of passengers detrained, the train continued at a very fast pace. Five minutes later an Aurizon freighter hauled by a 2800 Class locomotive was crossed. Travelling on, the countryside changed again with wallum to the right and pine plantations to the left.

The train stopped at Howard's short platform using a 2-stop system, the first two cars first and then the train pulling forward for the last two. Dozens of White Cabbage butterflies skittered about in randomly clumped formations of vivid colours.

After departure at 15:03 the train proceeded at a fast pace. About 15 minutes outside of Bundaberg a Pacific National freighter was crossed. Cane harvesting could be seen being carried on in the distance.

At 15:39 the PA announced that Bundaberg would be the next stop, reminding passengers to ensure they have all their belongings. Soon after I alighted at Bundaberg to seek repose in the evening's motel.

Situated 385 kilometres north of Brisbane, the town of Bundaberg is home to about 70,000 people. The area is home to a thriving sugar industry as well as being the gateway to nearby Lady Elliot and Lady Mulgrave Islands at the southern end of the Great Barrier Reef. Due to its roughly halfway position on the Brisbane-Rockhampton rail line, Tilt Train drivers have traditionally been based in the town.

After a non-descript evening in, I ventured forth the next day, Wednesday 16 November, to arrive at the station a tad before 10:00 am, admiring the sadly disused layout, dock area and rail yard whilst awaiting the southbound train.



The rear 'dock' platform at Bundaberg Station is, somewhat unusually, in the shape of an S Bend. Robert Gill

A fair bit of work was being done to the old yard area. Sections of track still connected to the sleepers were being removed and put on the back of a flat top semi. A slightly damaged lower section of the front of an Electric Tilt Train was sighted beside the track at the southern end of the dock line. A fellow railfan was sighted on the platform, recording images for posterity.

At 11:26 the Tilt Train Replacement ('Tiltlander') arrived, and after passengers disembarked and new passengers boarded, the doors closed and the train departed at 11:30, just eight minutes late. Train service P992 was composed of Clyde/EMD locomotive 2163 of the 2150 class, built in 1979, Power/baggage car QPB1998, Staff car MBSC1480, Dining car LDC1935, Passenger car LAL1878, and Passenger cars LBL 1882, 1881 and 1928. I found there was far more leg room than on the Tilt Train. The seats were more comfortable and softer than those on the Tilt. The tray table was also lower, closer and more practical to use.

Just after departure an announcement came over to advise us of the contents of the lunch menu and that the staff would walk through taking orders, with lunches to be delivered to seats between 12:15 and 12:30.



On Tuesday afternoon, 15 November 2016, City of Maryborough glides out of Bundaberg Station, on its way to Rockhampton. Robert Gill

The car appeared less occupied than that on the trip north. Many of the passengers adjusted the blinds to inhibit the strong sunlight coming in.

At 11:37 the train passed through a drawbridge crossing of a 2-foot gauge cane railway servicing the vast cane farms in the area. Shortly after this a freighter was crossed, and the road to Coonar Beach was crossed via a high bridge over the Elliott River.

This trip was made more enjoyable by the fact that the adjacent seat was vacant, though it was a pity that the centre armrest could not be raised and tucked away to provide a little extra breathing space. Four passing loops were traversed in the first 30 minutes from Bundaberg. We were now travelling through wallum-type country still with the same sandy soil since Bundaberg.

The countryside reminded me a little of my experience in the *Westlander* a few months earlier. This area had a thicker concentration of trees, with not a kangaroo or emu in sight. Despite the interest of the journey, tiredness began to set in as we arrived at Howard at 12:12. After departure from Howard the lunches were distributed, another pleasing presentation of rissoles with mashed potato, onion, peas and gravy. This kept me happily occupied until Maryborough West, where quite a few passengers boarded.



Looking south through Bundaberg Station, with the now disused goods yard visible on the right. Robert Gill



The diesel-hauled 'Tiltlander' behind Clyde/EMD unit 2163 seen between Bajool and Marmor on Wednesday 30 November 2016. Steve Karas

This train seemed to travel a bit faster than the old *Sunlander*, perhaps due to being about a quarter of the length. On departure, some ballast wagons and NGR EMU Set 701 were observed on sidings to the left of the main line. A lot of broken and fallen branches were seen on the properties adjacent to the rail corridor, and one of the Passenger Service Officers told us there had been a fairly vicious storm here a few days earlier. We travelled slowly along the section up to one of the Mary River crossings.

A lot of slow travel occurred after the river crossing, mainly due to track work. Concrete sleepers appeared to be being replaced with newer (heavier?) concrete units. We rolled over the larger Mary River Bridge and past the Owanyilla passing loop and 'angle'. Speed now picked up a bit towards Tiarno.

Despite the speed, the old saying in former Queensland Rail advertising came to mind: "Take it easy, Take a Train". Some 10 minutes out of Tiarno the train came to a complete stop, taking it easy for some seven minutes. Ten minutes later we stopped again, our full attention focussed on an adjacent paddock occupied by a large herd of rather languid cattle.

Shortly after 14:00 we went through the area that was the former Hervey's Siding Station. Only a very old hard-to-read sign is in place now. We were getting close to Gympie North as the branch to the Sale yards and the town of Gympie was passed. A cattle train was sighted in the passing loop at Gympie North. Arrival at Gympie North was some five minutes late, not bad considering the slow running and stops that had occurred after Maryborough West.

After departing Gympie North and crossing Deep Creek the train started to really hike along. The piers of an old railway bridge were passed in the Glanmire/Woondum section, constructed of concrete but looking like bricks. Travelling through one of the tight curves in this area it was possible to see the locomotive as the train travelled on to Cooran and Pomona. It was easier to read the station name boards as this train did not travel as fast as the Tilt did on the way north.

A quick one-minute stop was made at Cooroy. The old hand crane base is still in evidence on the eastern side of the track. We travelled under a very tall concrete bridge just south of Cooroy. Moving on, Mt Ninderry could be seen far over to the east, the fire tower just visible on top. We travelled through Yandina, past the 'angle' and across the creek beside the former old railway bridge.

15:25 saw departure from Nambour. The station was being refurbished with work being carried out on the dock platform and railway building, with a fair few passengers departing and leaving the train quite empty. Five minutes later we crossed a Pacific National freight at Woombye and then travelled through Palmwoods to Eudlo, with nice areas of thick rainforest noted either side of Nambour.

The travel from Nambour through Mooloolah Station and the Mooloolah tunnel brought us to a stop at Landsborough. We crossed an IMU set travelling to the Nambour, with departure from Landsborough being 12 minutes early. We sped down the line passing Beerwah, and Glasshouse Mountains Station with the inspiring peaks of the mountains themselves in the distance. We stopped short of Caboolture for a few minutes to await a crossing, the train pulling in at 16:34.

I boarded suburban SMU set 240 for the trip to Petrie Station, as the 'Tiltlander' does not stop there. At 16:49 the Cairns-bound *Spirit of Queensland* pulled in to Platform 1. An ICE set was stabled in a siding and another SMU arrived as a Nambour service, to depart shortly afterwards.

The suburban train departed on time and paused at Morayfield, Burpengary, Narangba and Dakabin before arriving at Petrie at 17:57. The northbound 'Tiltlander' crossed us between Burpengary and Narangba. At Petrie, I wandered over to meet the Redcliffe train for the 12-odd kilometre leg to Kippa-Ring.

The closely-spaced stations passed by in quick succession, and we soon slowed to a stop at the terminus at 17:45.

Moseying on homewards, all I could manage was to ponder the next great railway journey: *Inlander* or *Spirit of the Outback*?

From Coast to Coast

A look at Australia's unique transcontinental railways

Larry Zanker



Webster's 1913 Dictionary

Trans'con'ti'nen'tal

a. 1. Extending or going across a continent; as, a transcontinental railroad or journey.

WordNet Dictionary

Adj. 1. transcontinental – spanning or crossing or on the farther side of a continent; “transcontinental railway”;

For the purpose of this article, rough compass directions are used in a logical order i.e. Sydney or Melbourne to Perth is westbound, Darwin to Adelaide is southbound and the Panama Transcontinental runs east from the Pacific Ocean to the Atlantic Ocean, and so on.

There are seven continents: Australia, Africa, Antarctica, Asia, Europe, North America and South America. The world's first transcontinental railway was in Panama, in Central America (included in North America for purposes of classification), running east-west, and opened in January 1855. Built with a gauge of 1524 mm, or 5 feet, a common gauge in the south of the USA at the time, it was converted to standard gauge in 2000.

The United States' first east-west line was a Union Pacific Railroad connection to the eastern systems in Omaha, Nebraska linking up with the Central Pacific Railroad at Promontory, Utah, in 1869. This was, of course, followed by many other east-west crossings. A north-south transcontinental could be identified as commencing on the Canadian National Railway at Churchill, Hudsons Bay, down through various railroads in the USA and into the Mexican rail system, ending at Salina Cruz on the south coast. Using the straightest line available, the crossing point of the North American transcontinental routes is at Cheyenne, Wyoming – specifically the old Colorado & Southern bridge near Cheyenne Tower A.

No transcontinental route current exists in South America, although the proposed Chinese-backed 'Twin Ocean Railroad' project, if built, would run from Peru's Pacific coast to the Brazilian Atlantic and pass through Bolivia thereby serving as a tool for regional integration, and would facilitate cheap exports from Latin America to China.

There is no complete transcontinental route in Africa, despite the efforts of Cecil Rhodes in the 19th Century.

Asia is crossed by a few lines and working on the Trans Mongolian Railway and its connections for east-west starting at Shanghai and using a north-south route from Manzholti in China to South Vietnam, they cross at Zhangzhou.

Europe, like North America, has any number of lines that one could classify as Transcontinental.

The United Kingdom, whilst not a continent, is the birthplace of railways and therefore deserves special mention. London to Penzance forms a logical east-west route, with Thurso to Southampton as north-south, and the crossing therefore taking place at Reading.

All of the above crossing points are at 90 degrees, or thereabouts, to each other with no significant amount of parallel running.

The Island Continent

Australia is unique, as our transcontinental routes share the same track all the way from No.9 points at Crystal Brook for the next 528 kilometres to No.7 points at Tarcoola. This means that we can have north, south, east and west bound trains all running on the same track.

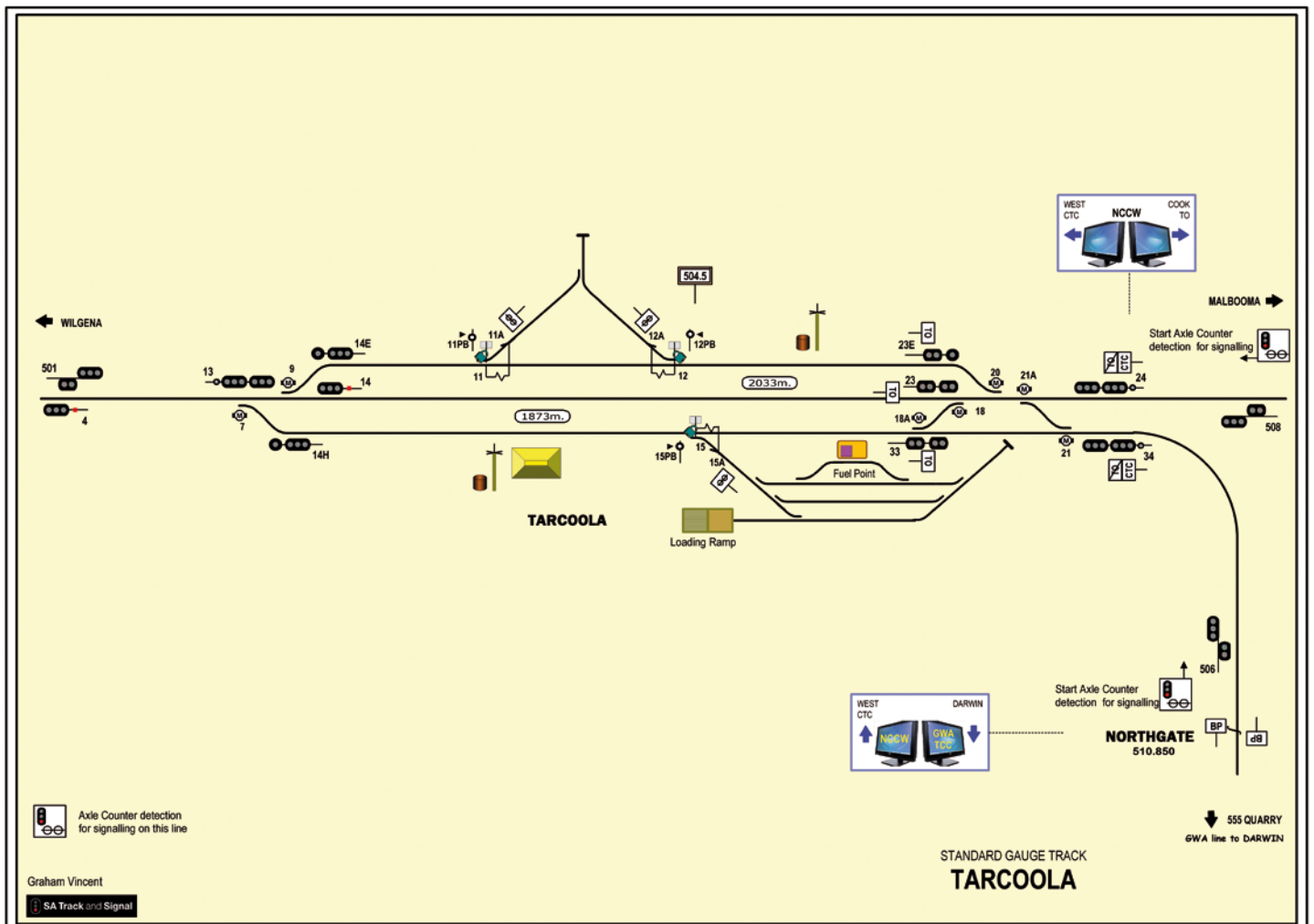
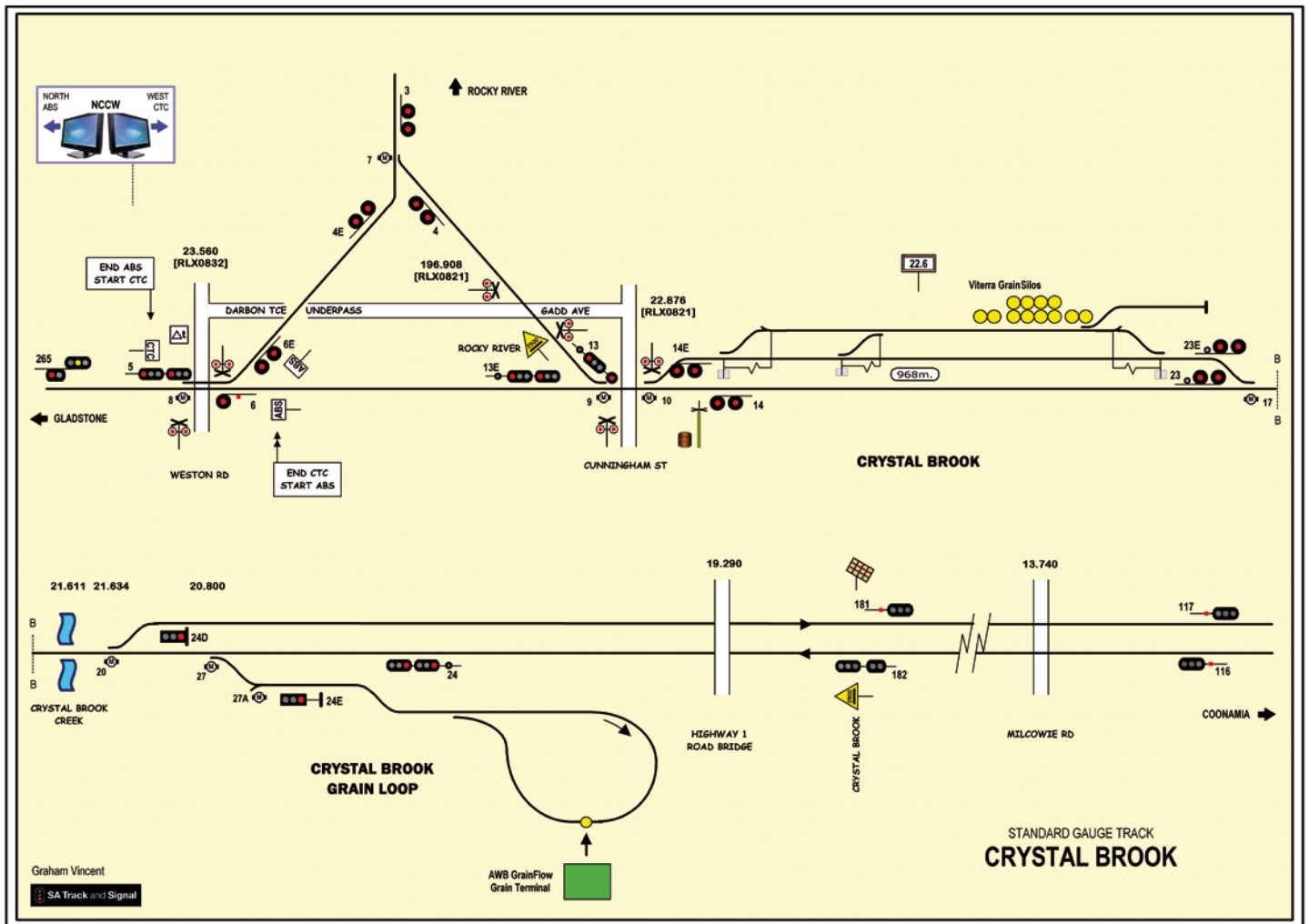
Standing at Yorkeys Crossing of an evening, I can see a beautiful long passenger train in the distance hauled by two NR Class locomotives. It could be a westbound *Indian Pacific* or a northbound *Ghan*. Only the day of the week and the train number will tell me if it is AP 8 *Indian Pacific* or AD8 *Ghan*. From an ARTC point of view, they both start in Adelaide.

Let's journey on this unique section of Australia's Transcontinentals, from a driver's perspective .



On Saturday morning 25 February, an eastbound Pacific National intermodal freight service, hauled by Goninan/GE units NR 116 and NR 113, swings around downgrade into Tarcoola, with the Darwin 'Branch' visible in the foreground. Steve Munro







On SP5 Sydney to Perth fast freight (call it a westbound), we approach No.9 points in a straight line at Crystal Brook from Broken Hill and the east and note the line coming in on our left-hand side from Adelaide (the start of the north– south Transcontinental). Remember, this was the standard-gauge connection to Adelaide added in 1983.

Following fixed light signals, we proceed mostly along single line track (with the exception of the first 22 kilometres of double track to Coonamia) stopping to shunt if necessary at Port Augusta. It's then on to Tarcoola where, if not crossing any other trains, the No.7 points will be in the normal position and we will proceed straight ahead to the end of the yard, then veer left to proceed west to Kalgoorlie and Perth. Ironically, the straight track out is the 'branch' to Alice Springs and Darwin with construction starting in 1975. Its opposite number PS5, the eastbound service reverses the procedure and turns left at Crystal Brook to Broken Hill and the east.

On AD1 Adelaide to Darwin freight (call it northbound), we approach No. 9 points on a curve coming into Crystal Brook with the mainline from Broken Hill coming straight in on the right. We are on the same

tracks as SP5 to No.7 points at Tarcoola where they will be set for us in the reverse position to allow entry into the 'Branch Loop' as the Tarcoola to Darwin line is known as the 'Branch'.

Until 1975, this was known as the 'Car Loop' as passenger trains used it to access the Tarcoola platform. When construction began on the Tarcoola to Alice Springs line it was renamed the 'Branch Loop'.

If we are crossing another 'North' line train, No.7 points will be at normal and we will continue along the main to No.21 points, which will be in reverse and we can get onto the branch via them.

Proceeding another four kilometres to 'Northgate' we find the end of ARTC-controlled track and the start of the GWA-controlled Tarcoola to Darwin line, our north-south transcontinental. Once again the procedure is reversed for its return working DA2, a southbound, except that it turns right at Crystal Brook to continue to Adelaide.

Both our transcontinental routes feature in the *Guinness Book of Rail Records* – straight track for 497 kilometres on the east-west and 160 kilometres on the north-south. What is not mentioned is that for 528 kilometres they are the same rails.

Above: Aurizon UGR/GE units 6021 and 6022 are approaching No.9 points at Crystal Brook with 4MP1 Melbourne-Perth intermodal freight on Wednesday 1 March.

Larry Zanker

Right: NR11 and a sister unit work a westbound Pacific National intermodal service upgrade out of Tarcoola, with the Darwin 'Branch' visible to the left on Saturday 25 February.

Steve Munro





Above: Train No. 9101 bound for Darwin behind GWA 003 and GWA 010 passes Tarcoola Station in the 'branch loop', heading towards Wirrida on Sunday 26 February. Larry Zanker

Below: The number 7 points at Tarcoola on Saturday 25 February – set for the 'branch loop' and a northbound train. Larry Zanker

Right: Evidence of three generations of communications technology near the station building at Tarcoola: On the far left, the Mobile Phone and UHF Radio tower, in the centre the former VHF tower, while on the right is the old telephone line. Larry Zanker





Trainspotting made easy at Manildra

Text and images by Neville Pollard

In these days where observing trains is becoming ever more difficult, it is refreshing to find a dedicated viewing platform where railfans can take photos to their heart's content without that annoying high wire fence getting in the way or being threatened with crippling fines. How refreshing to be able to go to a place where trains are laid on when it is so difficult in most other country locations to know where freights are operating. Constructed in 2008, the Manildra Viewing Platform gives fans an unrestricted view of shunting operations, and a roof is even provided for when the weather is inclement.

Manildra, located roughly half way between Orange and Parkes in

Central West NSW, is the home of the Manildra Flour Mill (part of the Manildra Group) that is reputed to be the largest mill in the Southern Hemisphere. The mill is an interface between farmers and manufacturing and that is what makes so many trains to observe. Pacific National brings in wheat from all over the state where it is stored and milled into flour much of which then is taken off site by other trains. Given the confined space of the yard there is always shunting necessary that is carried out by MM01 and MM03 and Pacific National locomotives.

So next time you are passing through Manildra, stop off for a few minutes and watch big men playing trains.

Above: MM01, formerly 4907, was purchased by Manildra Mill in 1994. It was then rebuilt by Clyde Engineering Kelso with a lower No.1 end to increase visibility whilst shunting. This view taken from the Manildra Viewing Platform shows the locomotive pushing a rake of wagons out of the silo complex. The first two wagons are NGKF and NGPF respectively. Note the 'Driver Only' operation.

Right: The Viewing Platform was constructed in 2008 to enable observation of Manildra Mill's extensive rail operations that include use of locos MM01 and MM03, ex BHP 37 Class No 51. Pacific National's mainline fleet of 81, 82 or smaller 48 class locos collect grain from other silos in the state and take out flour in bulk. What makes for good viewing is that the yard is very small necessitating considerable amounts of shunting. Other important trains that pass through Manildra include interstate container trains, Broken Hill Xplorer and Indian Pacific (at night).



Chasing trains in Tasmania – Not!

Text and images by Shane O'Neil



The opportunity to visit the island state presented itself recently due to a number of circumstances. The 60th birthday of a long term mate and the fact that he was working a four-month stint on the West Coast Wilderness Railway at Queenstown as a steam driver, provided all the reasons we needed to say 'let's go'. We also felt that seeing as we were there we may as well spend some time photographing regular TasRail operations. Well, that was the plan at least.

After three days enjoying the delights of Tasmania's West Coast, we returned north to Burnie on Tuesday morning 14 March and happened to come across a southbound intermodal with only five containers and many empty flats, just as we passed over the railway and as we were about to connect with the main road into and out of town. Our first decision was easy. Chase that train east. So we did, with almost total lack of good, sunny shots, right through to Devonport, where we lost one of our party, who made possibly the wisest decision (albeit planned many months prior) to fly back to the Big Island! After his departure, the next problem was one that became a familiar pattern over the next four days: where is that train or any train for that matter? The normal rule-of-thumb for any railfan train chaser in attempting to obtain good train images is first – find a train, drive ahead and look for a good location, with sun angle and scenery as required and then wait for it all to fall into place. Yes, that is the usual plan, but when the train is lost due to the aforementioned detour, all knowledge of the trains whereabouts and current location was also lost! Who do you ask and where do you look? With no stations, signal boxes, computer-based tracking system (not that either of us had a laptop) lots of lovely trees and bushes, behind which it is possible to hide said train, it became like a cat and mouse game, with us being the cat, with no sense of smell and the mouse having the upper hand at every turn.

Well, there is one train we know that is on a constant rotation backwards and forwards, never traveling very far, as if on a yo-yo. Yes, the cement train from the giant Railton Cement Australia plant

to the storage silos and loading facility at the port of Devonport. We did that and found TR12 and its de-powered mate, DV1, part-way through the unloading process, so following the accepted normally successful approach after locating a train, we drove off down the line back toward the cement plant, found a reasonable location with a background of suitable greenery and we waited. And waited and waited. Finally at 4 pm, two and a half hour after we had last seen the cement train at Devonport, all of 15 kilometres away, we hear a train coming through the forest. Into view bursts a train, but not the train we thought, but the first train we saw, the intermodal, now with twenty more containers and a cement wagon, as well as lots of empty flats. So where had our empty cement train gone too? No time to worry about such trivial things we had a train to chase once more, so away we went, following it with varying quality of images taken, along a road we barely knew, which inevitably results in a lot of 'hits and misses'. Whilst this was all happening we were also keeping an eye out for the loaded coal train, which runs four days/week from Fingal via Conara Junction and Western Junction, to the Railton cement plant, where it is normally due to arrive about 5:30 – 6 pm. However, there is a catch. One that we had not factored into our chasing schedule. It is meant to cross the intermodal we were now hotly chasing, at Deloraine, at approximately 4:30 pm. As it was now well after that time and with no sign of it anywhere, we wrongly assumed we had somehow missed it amongst all the greenery which was flashing by. We made other fundamental errors, driving too far and fast ahead of the train, thereby missing potential locations which may or may not have existed. Result, more waiting and waiting, while the sun sunk further into the western sky, as we ignored the taunts of loud mouthed hoons in passing cars (who were the idiots in this case?) at what should have been a lovely location, the very old, brick arch viaduct at Longford, originally built when the line was laid as broad gauge in 1870. When the Brighton-bound train finally turned up at 7:05 pm, the sun was so weak, the images was just average. 'Never to be looked at again!'



Above left (page 38):

The empty cement train returns to Railton with TR12 trailing 2001, just south of the Youngmans Road crossing on Saturday afternoon 18 March. The usual trailing unit DVI, converted from Y Class unit Y7, was at Launceston Workshops for servicing and 2001 was in its place.

Above: TR12 trails the empty Cement Australia train, as 2001 (out of sight) leads the wagons under the loading silo at the Railton plant to recommence the loading cycle once more, on Friday afternoon 17 March.





Day 1 had not given us much to inspire us and after a pleasant night at a motel at the Tasmanian town of Perth, we decided to find the elusive coal train, where we thought we could corner it (the mouse) like the cats we were, at Conara Junction, which it had to pass and stop, wrongly thinking as we later found out, that it would drop off that part of its load for the Boyer paper mill (between 5 and 10 wagons), logic telling us (so we thought) that was the obvious place to do that. Not so, yes we found the train (TR07 and TR04) with help from visiting WA railfan and driver, Kieran Wright, who sensibly came equipped with a scanner, which allowed him to know what and where trains were running. The train did briefly stop in Conara Junction yard, however, due to chronic staff shortages, the Boyer-bound coal wagons are not dropped off there, but dragged further north to Western Junction, to be collected later that day by a southbound, intermodal service. We had some success with the run from Conara to Western Junction achieving some pleasing results, but nothing special. But following this train was an eye-opener at least after Western Junction. We never realized a train could run at such a glacial pace, with it literally crawling from Perth across through Longford, Little Hampton, Oaks and Westbury and onto Deloraine. Was it just waiting for time to catch-up so that it wouldn't have to wait so long at Deloraine for the regular cross with the Burnie-Brighton intermodal? Who knows, as we certainly didn't! OK, per way restrictions could have been the answer, but hey, millions of dollars of Federal and State moneys have been spent upgrading the TasRail system and it can be seen with a vast improvement in the physical state of the island state's railway infrastructure. So why do they run trains so slowly, when alongside, the competing road hauliers fly up and down the roads pushing their massive rigs, at or above the speed limit? It could well be imagined that an average truck will complete a round trip from Burnie to Hobart, possibly twice, in the time a TasRail service does one single trip. We finally saw the possible reason for its slow progress, the equally slow southbound run of the Burnie-Brighton intermodal, which we photographed headed by TR's 14 and 02, a few kilometres north-west of Deloraine. Weather conditions had worsened dramatically so we decided the best thing we could do was to look for some accommodation further west, consequently we ended up at Ulverstone. This would also get us closer to Burnie to attempt to find and follow an ore train on the Melba Line the following morning.

Thursday dawned very dull and heavily overcast with the prospect of sun being very unlikely. Forever the optimists, which is a must for our breed of humanity, we headed west to Burnie and a visit to the new yard, sans station from my last visit almost 21 years ago, found former DQ Class members, 2010 2008 and 2012 making up a train of wagons alongside lines of containers, headed for Brighton. The weather was simply appalling, way beyond the best abilities of digital to drag anything out of the situation. So, in the knowledge that a train was indeed headed south to Primrose, we drove out of town to see what we could make of the day. We found a half-decent location near Pigeon Hill and proceeded to catch-up on the days newspapers, *The Age* for myself and *The Australian* for Malcolm. We agree on most rail matters, but not our politics. After an hour or so with no improvement in the weather, we pressed on further south and higher down near Ridgley and after another hour, there was a real sign of Big Brother shining upon us. And yes, we could hear a train coming, hallelujah! The three DQ's made our day and after a short chase of 25 kilometres or so and a few half-decent shots in the bag, it was all over as the line headed into more gloom and doom.

Heading east, our target was the southbound Boyer intermodal, with our aim being to try for another attempt at the wide amphitheatre-style shot a couple of kilometres west of Deloraine. We managed to catch the train at the spot at about 4:30 pm with TR09 and TR13 but the sun was briefly hidden by a rogue cloud at the last moment. Drat. OK, we would try for the expected Railton-bound coal led by TR04 and TR07 once more, at a spot further west, on a raising grade with the line amongst grazing country with a stunning mountain backdrop. We easily beat the train to the location, only to watch the same thing happen again. Malcolm was feeling resoundingly defeated by failure, as he had tried this particular spot at least four times in the past, with the same result every time. Beautifully sunny one minute, cloudy the next! He was not a happy camper and for the rest of the day, all he could do was complain about that 'big fella' in the sky and what he would love to do to him! Back to the southbound intermodal, which was easy to catch up with and some sense of achievement was realized at last with a nice, late afternoon sunny, at the Longford brick arch viaduct making up for the failure two days before. Malcolm was still not happy however. The Perth motel welcomed us back again and the steak somewhat made up for a marginal day's photography.

Acting on advice from Kieran Wright and others, we decided to try and find the log train bound for Bell Bay the next day, Friday 17 March.



Above left (page 40): Bathed in the beautiful late afternoon light of Thursday 16 March, TR's 09 and 13, haul a long Burnie to Brighton intermodal over the Longford viaduct, a structure constructed largely of bricks. Built in 1870 for the broad-gauge line from Launceston to Deloraine, it is a beautiful structure, complementing the iron bridge just 50 metres further west.

Above: A lineup of stored Tasrail locomotives of varied prior histories – former MKA/ZC/Z2/ZR/ZB/1300/2350 class members – 2131, 2133, 2111, 2138, 2134, 2101 and 2128 at East Tamar, Launceston, on Friday 17 March. All these locomotives are part of a package of units for sale through auction house Mannheim. They were all affected by the flooding of 6 June 2016.

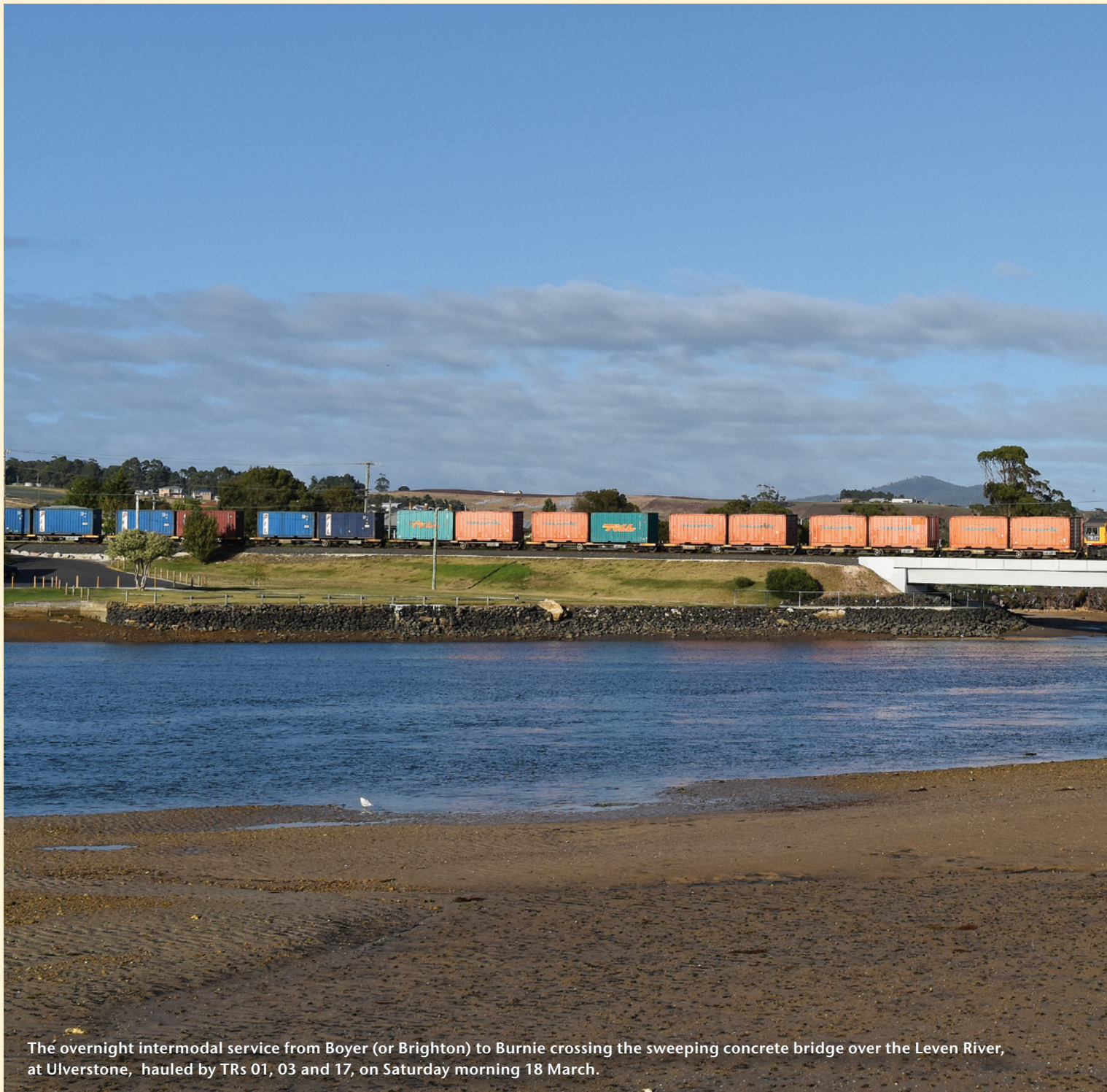
Below: With the Boyer coal dropped off, the train of Railton-bound product works through Western Junction yard and approaches the classic US-style switch stands behind TR07 & TR04 on Wednesday afternoon 15 March.



It was a gamble, as we knew there was no Friday coal train, as a back-up option, but hey, what have we to lose? Lots, as we found out. It was a glorious sunny day, the best day so far in our short period of TasRail train chasing. Driving north out of Launceston, we found the line, albeit hidden almost entirely by bush and tree cover, with a couple of over-road bridges, set at bad angles for any train running at the time of day we were looking for the log train: 7:30 – 9:30 am. After arriving at what we thought was Bell Bay, we had great difficulty locating where the line really ended or any accessible rail terminal. Industrial plants aplenty, ditto locked gates, plenty of new housing estates, but no sign of a ‘normal’ rail terminus. Eventually, after talking to a friendly dog walker, we were directed to a possible rail yard, only to discover a very small yard, a single siding, single forklift truck, all behind yet another, locked gate. This is beyond a joke.

Returning to Launceston, we located East Tamar yard and workshops,

went in and spoke to a friendly supervisor, David, who gave us some local train running information, answered a few other of our inane questions and we departed, westbound, to where we knew there was a train definitely running – the Railton cement yo-yo. But first, we will just drive over and try for a lovely shot of the late morning, Burnie to Brighton container train on the bridge over the Don River and maybe a quick look at the Don River Railway as well, while we are here. After waiting an hour or so for the southbound train we gave up, took a quick shot of the tiny U6 working the DRR shuttle to Coles Beach and departed toward Deloraine. We should have just headed for the nearest hotel and drunk copious amounts of alcohol to drown our sorrows for all the good we had not achieved. No train was sighted at the port of Deloraine and after driving to the cement plant, ditto result. So where was the train? Hiding in the forest, that’s where it was! We were beginning to agree with many of the locals. Cut down all those trees,



The overnight intermodal service from Boyer (or Brighton) to Burnie crossing the sweeping concrete bridge over the Leven River, at Ulverstone, hauled by TRs 01, 03 and 17, on Saturday morning 18 March.

then we could see where our missing trains were! Frustration was rising on what was a beautiful sunny day. We had achieved so little and we only had one more full day remaining.

Determined to make something of our last day, we selected a motel, 50 metres from a level crossing at Ulverstone on Friday night. We were not going to miss the inbound paper train from Boyer the Saturday morning. Up early we checked out and drove through town and found a spot in a riverside park with a lovely view of the Leven River Bridge. There was no chance this train was going to escape our grasp, this time. After waiting 90 minutes, finally the train's horn could be heard blowing as it worked through all the town's level crossings and at last it appeared, powered by TR's 01, 03 & 17, with a monster train of 60-odd containers in beautiful light over the low tidal waters of the Leven River, a little after 9am (see below). Gotcha! From there,

it was an easy chase all the way into Burnie in company with a local railfan, Darren, and visiting, now Melbourne resident, James Chuang, as well.

After our previous dismal attempts with the Railton cement yo-yo, we had to make another attempt for our final Tasmanian rail adventure, so in company with James, we drove back to Devonport and this time we had success. DV1 was in for servicing, so 2001 had taken its place as the trailing, non-powered unit, with TR12 providing the grunt. We recorded one return working and then decided to call it quits and retired to an East Devonport motel, and with an Indian curry that night, we ended our short and not-all-that successful, Tasrail sojourn. Will I return to Tasmania to photograph regular train running? Maybe to the West Coast Wilderness Railway, but I am not sure I will try TasRail again. Sorry.



Signalling & Infrastructure

Compiled by
David Campbell and
Graham Vincent

New South Wales

General The Network Rules and Procedures pertaining to Electric Staff System for the ARTC Network within New South Wales were removed from use on 05/02/2017. This effectively means the end of Electric Staff System working within New South Wales, although Ordinary Train Staff remains in use in a few locations.

Main North line Generic System Function testing for the Advanced Train Control Migration System Project necessitated signage changes relating to ATP areas, which occurred on 27/03/2017. On the Down Main line, the "Begin ATP" sign at 85.180km (near Narara) was relocated to 85.070km, and the "End ATP" sign at 103.700km (near Warnervale) was relocated to 105.100km. On the Up Main line, the "Begin ATP" sign at 104.639km was relocated to 105.100km, and the "End ATP" sign at 85.785km was relocated to 85.595km.

Airly Loop Junction – Kandos This line was temporarily booked back into service on 29/01/2017 to allow for the running of Heritage passenger trains by the Lachlan Valley Railway Society. The STOP Block on the Main Line at 213.768km (Airly Junction) was removed, and the Cooper Drive level crossing at 241.270km (Clandulla) was booked back into use. After the running of the last service on the day, the line was again booked back out of use, the STOP Block was reinstated at 213.768km, and the Cooper Drive level crossing at Clandulla was also booked out of use. Similar arrangements were implemented on 19/03/2017, in conjunction with the running of Heritage passenger trains by the Lachlan Valley Railway Society to Kandos.

Bomen (Main South). Commencing 11/03/2017, the Main Line through this precinct was booked out of use to facilitate the construction of a road underpass (Bomen Road, at 512.421km). The Loop line was used for through traffic as well as shunting



On Sunday 9 April, the Rail Motor Society's 621 and 721 have just passed through Branxton Station, in the NSW Hunter Valley, heading east. The double-track main line here is bi-directional, and the route indicator on signal BN108 relates to the facing crossover just visible to the right above the rail motor set. Pacific National's Greta Train Support Facility is just out of view around the bend in the distance. Robert Rouse

movements, with the points at the entry of the passing lane (51 at the Up end, and 55 at the Down end) locked and secured to lay for the Loop line, while intermediate crossover points 57 were locked to lay for the straight (non-diverging moves, preventing access to the Main line). Instructions were issued that trains were not to cross at Bomen during the period of the works, anticipated to continue to 11/04/2017.

Cunninggar (Main South; part of the Harden Yard Limits). Commencing 29/03/2017, No. 2A points (trailing, Up Main to Goods Siding at 380.564km) were booked out of use pending replacement (anticipated 29/05/2017). 2B catch points were removed, and Frame A was booked out of use. The siding will be temporarily out of use.

Fairfield (West). Crossover points 21 were renewed and upgraded from 04/03/2017. 21A points (Up Old Main South) and 21B points (Down Old Main South) were both relocated approximately 1m in a Down direction.

Griffith (Hillston line, junction between Junee and Temora lines). The Yard Limits of this Location were extended away from the station precinct on 17/02/2017. The Location signs at 654.000km (Junee line), 634.800km (Temora line) and 644.020km (Hillston line) were relocated to 652.000km, 632.000km, and 645.500km respectively. The "Yard Limit" and "Check Position Of Derails" signs applicable to trains approaching Griffith were relocated to be 2000m beyond the applicable Yard Limit signs (654.000km, 634.000km, and 643.500km respectively). The Shunt Limit signs applicable to trains departing Griffith were relocated to 654.500km, 635.000km, and 643.000km respectively. A STOP Block was installed on the Fruit Siding at 660.414km (distance via Junee), on the Up side of the access roadway across the tracks into the goods yard.

Gunnedah (Werris Creek – Moree line). New signs "Residential Area Please Minimise Noise" were installed facing trains approaching Gunnedah at 470.830km (Down trains) and 478.840km (Up trains) on 14/02/2017. Signs "End Residential Area" were installed opposite these signs facing trains departing the town.

Harris Park (West). Signal GE419 was upgraded in situ to LED type from 25/03/2017.

Hawkesbury River (North). Crossover points 208 were renewed and upgraded from 11/03/2017. As part of this work, points 208A (Up Refuge) were relocated 1m in an Up direction, while 208B points (Up Main) were relocated 1m in a Down direction.

Hornsby (North). The existing Indicator ("IND") signs provided for signals HY27 IND, HY46 IND, HY48 IND, and HY55 IND were replaced with new signs HY27 CO-ACT, HY46 CO-ACT, HY48 CO-ACT and HY55 CO-ACT respectively from 11/03/2017.

Kooragang Island Facing crossover points 144A (Down Kooragang Branch at 170.384km) and 144B (Up Kooragang Branch at 170.466km) were removed from 21/02/2017. This crossover was located between the Pacific Highway overline bridge and the Hunter River. The applicable aspects on signal B105.9 (73) were also removed. The Pulsating Yellow aspects on signals NFD4 (85, Down Coal Branch), SFD1 (71, Down South Fork) and NFU2 (77, Up Coal Branch) were removed from 04/04/2017.

Milsons Point (North Shore line). Signal SH2.67 (Down Shore line) was relocated onto overhead wiring structure NS4+310 (at 4.267km) from 01/04/2017.

Moree The former Agripark Siding (on the remnant of the Inverell line) was upgraded, and the track was returned to service with the Location re-named as Moree East from 16/01/2017. A STOP Block was installed at 669.300km, this now forms the new boundary

between the ARTC and the CRN Networks (the CRN Network including the non-operational Inverell line); this interface point replaces that at 666.440km. Signs “STOP” and “Contact Network Controller Before Proceeding” were installed facing Up trains at 667.131km, on the Down side of the Tycannah Street level crossing at 666.731km (formerly known as the Moree Lxing, with the name being now changed).

North Sydney The Medium aspects on signals NS331SH, NS327SH, NS327 CO-ACTING, NS321SH (Down Shore line), also NS306SH and NS302SH (Up Shore line) were removed from 01/04/2017. These works are part of the Wynyard – Waverton Headway Improvement works.

Parramatta (West). The warning lights on platforms 3 and 4 were removed from 25/03/2017. At the same time, one of the Down Guards Indicators on platform 3 was removed, and the remaining Guards Indicators on platforms 3 and 4 were upgraded in situ to LED type.

Port Waratah Crossover points 121 were upgraded from 11/03/2017. The work included installation of motorised point machines, as a consequence of which it is no longer possible to “trail through” these points (when a train passes through points which are not set for the movement).

Redfern (Eastern Suburbs Railway). Commencing 23/01/2017, the existing Guards Indicators on platforms 11 and 12 were replaced with LED type, reconfigured to face against the direction of travel. Two new Guards Indicators were installed on platform 11 (applicable to signal IR1.22), and also on platform 12 (applicable to signal IR1.41).

Singleton (Maitland - Muswellbrook line). In conjunction with yard rationalisation works,

crossover points 61 (facing points, between Down Main and Up Main lines on the Down side of the passenger platform), also catch points 60 (located on the Up Main line, set to act against a Down movement exceeding its signalled authority) were removed. These points had allowed for shunting movements along the Up Main line for a short distance in a Down direction (allowing, for example, loco run-rounds of a passenger train at the platform). The sign “Shunting Limit On Up Main” located at 239.489km was removed. Up signal 148.6 was relocated from 239.356km to 239.491km. Signal U148.5 (Down Home, Down end of platform on Up Main) and Up signal 148.6 both had aspects applicable to points 61 removed.

Stockinbingal (Cootamundra – Parkes line, junction for Griffith line). Track and signalling alterations were made from 17/03/2017, in conjunction with level crossing upgrade works at Dudauman Street. Crossover points 122 (between Parkes line and Griffith line, facing Down trains on the Parkes line / Up trains on the Griffith line) were altered to become a simple turnout, with points 122B removed and points 122A renumbered as 122. Single-ended points 110 (Up end of yard, facing Down trains, left-hand diverge onto Griffith line) were removed. The section of the Griffith line between former points 110 and 122B was removed (this being opposite the passenger platform and the goods and grain sidings, approximately 1km in length). Down Home signal SL11 (453.689km) received additional aspects. New Down Shunt signal SL15 was provided at 454.093km (Main line, prior to points into goods/grain sidings). Down Home signal SL17 was relocated from 454.683km to 454.570km, and altered to be

on the left-hand side of the track (previously “wrong-sided”). Push-button controls were provided in the vicinity of Frame E, allowing train crew to activate the level crossing controls (Temora Road / Burley Griffin Way, at 454.696km).

Up Home signals SL20 (approaching yard from Griffith line) and SL22 (approaching yard from Parkes line) were relocated from 454.906km to 455.075km. Up Home signal SL14 (Main line at 453.889km) was removed. New Up home signal SL12 was provided on the Main line at 454.025km (Up end of platform).

Alterations to signage on the Down side of the passenger platform occurred, where all existing signs were replaced. For Down trains, signs “Do Not Proceed Past This Point Unless In possession Of A Train Order” were installed on the main line at 454.570km (adjacent to signal SL17), also adjacent to points 3E North (sidings). Signs “Yard Limit”, “Begin Train Order Working”, “End ARTC Control”, “Stockinbingal AWB” and “Begin CRN Control” were installed adjacent to signal SL20 (Griffith line). Signs “Begin Train Order Working” and “Stockinbingal North” were installed adjacent to signal SL22 (Parkes line). The “Shunt Limit” sign for the Parkes line was relocated from 455.156km to 455.323km.

Signs for Up trains were also altered. The Location sign for Up trains from Parkes was relocated from 456.911km to 457.078km. Signs “Stockinbingal” and “End Train Order Working” were installed adjacent to signal SL22 (Parkes line). Signs “End Train Order Working”, “End CRN Control”, Stockinbingal”, and “Begin ARTC Control” were installed adjacent to signal SL20. Other signs for Stockinbingal North (Parkes line) and Stockinbingal AWB (Griffith line) were unchanged.

Track work in progress at Stockinbingal over the weekend of 17–19 February in conjunction with level crossing upgrade works at Dudauman Street. New Up home signal SL12 was provided on the Main line at 454.025km, at the Up end of the platform. Alf Atkin



Sydney Central Crossover points 626 (Up Illawarra Local to Up Local line) were renewed and upgraded from 28/01/2017. 626A points were relocated 1m in an Up direction, and 626B points were relocated 1m in a Down direction. **Tarago** (Goulburn – Canberra line). Further to the item in February 2017 RD, page 48, the catch points installed at the Down end of the Loop line were brought into use on 31/01/2017. Frame E was booked back into use. The Clearance Posts at each end of the Loop line were removed. **Tempe** (Illawarra). Clarifying the report in February 2017, page 48, the Guards Indicator upgrades were conducted from 28/01/2017.

Queensland

Bromelton (Brisbane – NSW border line). Commencing 10/01/2017, a new turnout (left-hand diverge facing trains heading toward Brisbane) was installed at 925.336km. The points provide an access into the new SCT Terminal. The points at this stage were locked and secured pending final commissioning, however arrangements were made for the points to be unlocked and used under special conditions. The Yard Limits of Bromelton were extended from 20/01/2017 to incorporate the newly commissioned SCT Intermodal Siding. The points installed previously at 925.336km were brought into use, numbered as 45A; these operate in conjunction with derailer/crowder 45B, located in the siding at 925.575km. New signals BF27 DISTANT (923.460km) and BF27 (925.180km), facing trains heading towards Brisbane, and BF28 (for trains exiting the new SCT Intermodal Siding at 925.580km) were provided. The new points and signals are operated from NCCN (Broadmeadow). **Tamrookum** (Brisbane – NSW border line). A new turnout was installed from 13/01/2017 providing access into the Quarry Siding. The

points are located at 922.567km (between Bromelton and Tamrookum), left hand diverge facing trains heading from Brisbane. The points at this stage were locked and secured pending final commissioning, however arrangements were made for the points to be unlocked and used under special conditions. The Quarry Siding was commissioned into service from 20/01/2017. The siding is privately owned, and comprises a single dead-end siding. The main line points (3A) are located at 922.567km, catch points 3B are located at 922.466km, and the siding ends at 921.506km (all distances from Sydney). The points are operated from a new 4-lever Frame A, electrically released from NCCN. Signal 4A is provided at 922.456km, allowing trains in the Siding to access the main line.

Victoria

Blackburn (Melbourne – Ringwood line). Commencing 27/12/2016 in conjunction with level crossing removal works at Blackburn Road, a friction buffer stop was temporarily provided on the Down side of Down Home signal BBN310 (Down end of platform 2). A pedestrian access pathway was provided beyond this friction buffer, allowing improved pedestrian access between trains and connecting buses during the line closure. The signal box was de-commissioned on 13/01/2017, with control of all points and signals transferred to Ringwood. The Computer Based Interlocking was upgraded to a Westrace Mk 2 Interlocking. Down Automatic signals BBN304 (Down line to platform 3) and BBN308 (Down line to platform 2) were converted to Home signals, with aspect changes. Commencing 06/02/2017, in conjunction with removal of the Blackburn Road level crossing and 2 other pedestrian crossings between Blackburn and Nunawading, Up Dwarf signal BBN307 (set back from Down

line) was abolished. Automatic signals between Blackburn and Nunawading were upgraded to LED type, with Down Automatic signal BBN208 replaced by new BBN206, located at 19.221km. Down Automatic signal L597 was replaced by new L599, located at 19.820km. Down Automatic signal L619 was relocated 1m in a Down direction. Up Automatic signal L614 was relocated 9m in a Down direction, and L598 was relocated 9m in an Up direction, with the medium speed aspect removed. Up Automatic signal L578 was relocated 54m in an Up direction to 19.164km.

Broadford (Melbourne – Seymour line, broad gauge). Commencing 27/01/2017, this Location became available again as a Double Line Block Post in accordance with the Rules for the Double Line Block Safeworking System. The location had been unavailable since 23/05/2016 (see RD, August 2016, page 46).

Carnegie (Caulfield – Dandenong line). The Down and Up platforms were temporarily closed between 23/01/2017 and 13/03/2017 to allow for level crossing removal works.

Deer Park West Junction / Caroline Springs (Sunshine – Ballarat line). Commencing 13/01/2017, track and signalling alterations were made to facilitate the opening of the new Caroline Springs station, located at 21.256km, on the Down side of the existing Deer Park West Junction. The future station comprises 2 platforms, each 193m length, in an island arrangement. The existing single line effectively becomes the Down line through this station, running through platform 2 and is now named as “2 Road”. The new track passing through this station effectively becomes the Up line, running through platform 1, and is named as “1 Road”. 1 Road and 2 Road are both signalled for bi-directional movements, allowing trains to depart from either platform towards either Melbourne or Ballarat. The existing 630 points (located at the end of the former double track, prior to the new station)

N460 on No.7159 Down Melton to Bacchus Marsh empty cars transfer approaches Cowans Lane level crossing at Parwan on Tuesday 7 February. Though Cowans Lane is an unsealed minor road, the crossing is protected by flashing lights and boom gates.
Ewan McLean



were re-named as 7D, and now operate in conjunction with the previously installed 7U points (see February 2017 *Railway Digest*, page 50) to form a trailing crossover between the Down and Up lines on the Up side of the new station. Existing points 724 (accessing the Boral siding) were re-named as 9. New crossover points 27 were installed on the Down side of the station, and will subsequently form a trailing crossover between the future Up line and the existing single line. 27U points are located at 21.413km, at the Down end of 1 Road, while 27D points, located at 21.469km, will enable Up trains from the current single line to access 1 Road and platform 1. The effect of this work is to extend the double track by around 700m to the Down side of the new station, allowing Down trains to use the new station while waiting for an Up movement from the single line from Rockbank. Down Automatic signal A 201 (20.118km) received altered aspects. Existing Down Home signal DPW730 (Down line) and Down Dwarf signal DPW732 (Up line) (approaching the former junction at 20.762km) were re-numbered as DPW706 and DPW708 respectively. Down Home signals DPW730 (2 Road) and DPW732 (1 Road) were provided at 21.407km. Existing Up Home signal DPW726 (single line towards either platform 1 or 2) was relocated to 22.085km. New Up Home signals DPW710 (1 Road) and DPW712 (2 Road) were provided at 21.140km. Up Dwarf

signal DPW724 (20.071km, Boral siding) was re-named as DPW714. Up Automatic signal A 208 (Up line at 20.760km) was abolished. TPWS equipment was provided for all home signals. **Flinders Street** Up Home signal 156 (1A track) was upgraded to LED type from 05/03/2017. Over the following week, Up Home signal 316 and co-acting signal 316P (platform 2), Up Home signal 318 (2 East track) and Down Home signal 315 (2 East track) were also upgraded to LED type. **Heatherdale** (Melbourne – Ringwood line). In conjunction with level crossing removal works at Heatherdale Road, the station was relocated from the Up side of the level crossing to new facilities located on the Down side of the new overline bridge at 25.421km. The signals between Mitcham and Ringwood were altered, with existing Down Automatic signals L727, L747 and L767, and Up Automatic signals L772, L756, L740 and L728 abolished. New Down Automatic signals L729 (23.730km), L755 (24.523km, Down side of new station), and Up Automatic signals L764 (24.810km), L748 (24.319km, on Up side of new station), and L732 (23.847km) were provided. **Jeparit** (Dimboola – Rainbow line). The Down end main line points (at 398.875km) were booked out of service on 06/03/2017 due to track condition. The points were locked and secured. Access to the siding remains available via the Up end. **Lal Lal** (Geelong – Ballarat line). The siding, which had been booked out of use since

2008, had previously been available for use by track machines, however this siding became unavailable for track machine use from 28/02/2017 due to track condition.

North Dynon In conjunction with track re-configuration works, points VTD40 (between No. 7 and No. 9 broad gauge tracks, Up end) were removed from 21/01/2017, with No. 7 track being booked out of use for broad gauge movements.

Pakenham (Dandenong – Traralgon line). The “80” speed indicators applicable to signals PKM6 and PKM28 were disabled on 17/01/2017 due to circuitry issues.

Warragul (Dandenong – Traralgon line). The remaining portion of the “Loop Siding” (lately being a single-ended siding located adjacent to the North Line through platform 2) was abolished from 11/02/2017. Points “B” (Main Line to Loop Siding, Down end of station), the point lever, the HLM Electric Lock, and the catch points in the siding were removed.

Werneth (Gheringhap – Ararat line). New Automatic signals were erected on 18/01/2017. The signals are identified as Down Automatic signals GV1325 (132.480km) and GV1357 (135.747km), and Up Automatic signals GV1386 (138.605km) and GV1360 (136.105km). These signals were extinguished pending final commissioning, which occurred on 06/02/2017. The new signals permit follow-on movements in either direction between Wingee Loop and Berrybank Loop.

Level crossing news

New South Wales

Grafton (North Coast line). Fry Street level crossing at 700.407km. Flashing lights, boom barriers and audible warning devices were commissioned from 11/03/2017 (previously passive).

Kelso (Lithgow – Bathurst line). Lee Street (temporary) level crossing at 237.480km. Further to the report in November 2015 RD (page 47), the hours of operation of this temporary crossing were extended effective 13/02/2017, with the roadway now being available for use at all times (previously 0700 – 1800, Monday – Friday, and 0700 – 1300 Saturday).

Stockinbingal (Cootamundra – Parkes line, junction for Griffith line). Dudauman Street level crossing at 453.917km. In conjunction with track and signalling alterations reported above, flashing lights, boom barriers and audible warning devices were commissioned from 17/03/2017 (previously passive).

Victoria

Blackburn (Melbourne – Ringwood line). Blackburn Road level crossing at 18.933km. This level crossing was abolished on 06/02/2017, being replaced with an overline road bridge located at 18.932km.

Cottage Street pedestrian crossing at 19.314km. This pedestrian crossing was abolished on 06/02/2017, being replaced with an overline pedestrian bridge located at 19.310km.

Oliver Avenue / King Street pedestrian crossing at 19.905km. This pedestrian crossing was abolished on 06/02/2017, being replaced by an overline pedestrian bridge located at 19.896km.

Camperdown (Geelong – Warrnambool line). Wiridgil Lane level crossing at 191.535km. Flashing lights and boom barriers were commissioned on 30/03/2017 (previously passive).

Colac (Geelong – Warrnambool line). Back Larpent Road level crossing at 158.478km. Flashing lights and boom barriers were commissioned on 28/02/2017 (previously passive).

Heatherdale (Melbourne – Ringwood line). Heatherdale Road level crossing at 24.307km. This level crossing was abolished on 06/02/2017, being replaced by an overline bridge located at 24.314km.

Locksley (Seymour – Albury line). Nagambie – Locksley Road level crossing at 127.376km. The existing flashing lights were upgraded with the installation of boom barriers from 05/03/2017.

Menzies Creek (Belgrave – Gembrook line, “Puffing Billy”). Station access pedestrian crossing at the Down end of platform 1. Motorised pedestrian gates and warning bells were provided on 13/01/2017 (previously passive).

North Ballarat (Maryborough line). Heinz Lane level crossing at 159.441km. Motorised pedestrian gates, operating in conjunction with the existing flashing lights and boom barriers, were provided from 31/01/2017. Emergency gate control locks for the pedestrian gates were also provided.

Springhurst (Seymour – Albury line). Developmental Road level crossing at 258.433km (also known as Rutherglen – Springhurst Road). The existing flashing lights were upgraded with the installation of boom barriers from 15/01/2017.

Violet Town (Seymour – Albury line). Mahers Road level crossing at 163.797km. Flashing lights and boom barriers were commissioned from 05/03/2017 (previously passive).



A Tale of Two Crossings

Text and images by David Campbell

The railway between Camberwell and Lilydale was opened in 1882. Originally a single line, duplication between Box Hill and Ringwood followed in 1891. The line was electrified in 1923, after which not much changed, apart from power signalling between 1958 and 1960.

Blackburn Station, at 18.674km, opened in 1882. Once serving extensive cool stores, the goods sidings and yard were removed by 1980; extensive track re-configuration about that time resulted in the previous two single-face platforms being replaced by three new platforms, designed to facilitate trains terminating and returning to Melbourne. The original plans for that work had to be extensively altered after a community outcry about the then-planned removal of ornamental gardens between the station and the adjacent shopping precinct.

The Blackburn Road level crossing at 18.933km was a source of complaint from local residents, as it effectively divided the town into two segments. Several cross streets feed into Blackburn Road, and despite all sorts of road traffic signal co-ordination with the level crossing equipment, extensive delays to road traffic could often occur. This is one of 50 level crossings included in the State Government's Level Crossing Removal Authority projects.

The project became complicated by the grades encountered by the railway in this area. Down trains commenced climbing at 1:40 almost immediately on the Down side of the platforms, that climb continuing for around 1km. This meant that the level crossing was several metres higher than the station height, reducing the distance the railway had to be lowered to pass beneath Blackburn Road; unfortunately that also meant that the railway had to quickly start climbing to get back to natural ground level, so the cutting built between the Blackburn Station and the level crossing had to be continued for several hundred metres.

Instead of climbing from Blackburn Station, the railway now drops a few metres to pass beneath the new Blackburn Road bridge, also passing beneath the Cottage Street footbridge at 19.314km. The Project also took the opportunity to remove the Oliver Avenue / King Street pedestrian crossing at 19.905km, replacing it with another footbridge, this located at 19.896km. This last work was necessitated by the railway being still within the cutting.

The photograph above is taken from platform 3, looking in a Down direction. The fall of the railway beneath the bridge can be seen, the road being on the original rail level. The two tracks seen between platforms 3 and 2 merge near the bridge to form the Down line; the other track seen to the right beneath the bridge is the Up line, which swings around to the right into platform 1. The existing Blackburn Station remains, although works are underway to provide lifts from the old station access subway to platform level, improved drainage (this subway had been prone to flooding), and other improvements. Some of the ornamental plantings threatened in 1980 were removed during these works, but the LXRA is currently re-planting around 17,000 plants, and the end result is expected to please the locals.

The three photos on the page opposite show the works at the new Heatherdale Station. The original station was opened in 1958 at 24.211km, on the Up side of Heatherdale Road level crossing. It was never a popular spot for operational people, as it was located within a cutting which was prone to damp rails, on a 1:40 grade (down hill for Down trains). There were numerous incidents over the years of Down trains having difficulty stopping, and of Up trains struggling to start, especially if equipment was defective. That 1:40 downgrade commenced a couple of hundred metres on the Up side of the station, and continued through the station for around 1km towards Ringwood.

The Victorian State Government's Level Crossing Removal Authority recently completed grade separation here, as can be seen in the photographs. The station was moved to the Down side of the roadway, which as with Blackburn created several challenges with the vertical alignment. The crest of the hill at the Up end was lowered, and the tracks on that lowered level continue through beneath Heatherdale Road, then flatten out through the new station. The railway then returns onto the falling 1:40 downhill almost immediately, allowing the bridge over the Eastlink tollway to be retained (this was built in 2007, on the 1:40 hill).

The photo above right shows an Up train arriving into the new station. The rear of the train is still on the 1:40 uphill, the front of the train is already around 2m lower than the original alignment.

The photo at right shows a Down Belgrave train dropping beneath the new Heatherdale Road bridge, passing the previous Up train starting towards Melbourne. The track towards Melbourne remains on a hill, although somewhat gentler than the previous. As with Blackburn, the cutting has only been built for two tracks, with no provision for a future third (or fourth) track. In this sense, the Project has not provided any additional capacity for the railway, although it certainly hasn't reduced the capacity either.

The photo below shows the vertical curve between the original level and the new. Parts of the new station can also be seen here.

All photographs were taken on Tuesday 21 February.





The main line between Melbourne and Adelaide is operated under CTC Rules. Crossing loops and several stations use point machines to operate the main line points, while several sidings in Victoria are manually operated, with the main line points being secured and locked using **'electric switch locks'**. The device prevents points being operated unless certain conditions are met, and also prevents signals for trains approaching the points showing a proceed aspect unless the points are locked in the normal position. An example is seen here in use at Nhill while a grain train shunts on Monday 23rd January. The train is standing on the main line, with the loco assistant about to alight to operate the points to allow the wagons to be placed into the siding. The white rodding from the point lever running parallel to the locomotives operates catch points in the siding, the same lever operating both the catch points and the main line turnout. In the photo below, taken shortly after, we see the door of the Switch Lock Apparatus open, allowing the operator to unlock the points for a move into the siding at Nhill. The Automatic signal in the background ('400 / 4') is numbered according to distance from Melbourne (400km), then reflects that it is at a 'location', in this case Nhill, with certain controls on it; the controls in this case being the ability to hold it at stop with a train nearby to prevent unnecessary operation of the adjacent level crossing flashing lights. Both David Campbell



North-East Rail Trail one step closer

A further step towards the establishment of the 72-kilometre long North-East rail trail — along the route of Tasmania's disused North-East rail line from Coldwater Creek Junction to Tonganah — was taken on Tuesday 7 March with the tabling in State Parliament of a draft Corridor Notice.

The development of the rail trail was made possible by the Tasmanian Government's *Strategic Infrastructure Corridors (Strategic and Recreational Use) Act*, which enables non-operational rail corridors to be used for non-rail purposes, while protecting their strategic potential for a future return to rail usage.

The agreement of both Houses of the Tasmanian Parliament to the declaration of the North-East Line Corridor is the first step in the process to establish the rail trail.

The lead proponent for the North-East Rail Trail is Dorset Council, who, in 2016, received \$1.47 million to progress the project from the Federal Government's National Stronger Regions Fund. (Dorset Council is based on the town of Scottsdale and covers the north-east part of the Tasmanian mainland.)

Rene Hidding, Minister for Infrastructure said that the Tasmanian Government believes the state's non-operational rail network offers great potential for regional tourism and recreation usage; including a possible future rail heritage services.

"The Hodgman Liberal Government will continue to engage with proponents with strong business plans for non-operational rail corridors through the clarity of process that we now enjoy under our legislation", Minister Hidding said.



A private charter with Brill Railcar 106 operated on the Pichi Richi Railway from Quorn to Woolshed Flat and return for a group from the Yorke Peninsula on Sunday 2 April. The railcar is seen at the overbridge crossing B83, the main road linking Quorn and points north with Port Augusta. Greg Bass

Lachlan Valley Railway temporarily suspends operations after ONRSR serves Improvement Notice

In an email to members, the Cowra-based Lachlan Valley Railway Society (LVR) announced that the Office of the National Rail Safety Regulator (ONRSR) had served an Improvement Notice on the LVR on 3 March. This replaced an earlier Improvement Notice, limited to the manner in which the LVR managed medical examinations for rail safety workers. The second Improvement Notice was extended to cover the management of safeworking and route competencies, and records of current rolling stock. As a result LVR has cancelled a number of planned trips. The society is now required to submit all current records for rolling stock and crew to ONRSR before each trip. The LVR stated that trip cancellations were the result of records of work actually done that were not available, records didn't exist because records of work that should have been done was not, re-examination of

work done and records provided invalidated earlier tests and qualifications of rail safety workers were not on file and could not be produced in time for a trip.

In response to these issues the LVR held a 'Safeworking Summit' on 25 March, attended by safeworking, risk and systems experts from both inside and outside the LVR, who were invited to assist and develop plans and responses required by the ONRSR to address the issues that led to the Improvement Notice being served. The output from that meeting was to be presented to the ONRSR and the LVR has until September to satisfy the Regulator that the society has systems in place to manage processes and records. The LVR has also called for the key voluntary positions of Operations Manager, Operations Assistant and Roster Clerk to be filled by 'capable and qualified' people.



Former South Johnstone Mill John Fowler 0-4-2T tank locomotive No.10 (built 1928, builder's number 17881) departs "Timbertown Station" at Wauchope, NSW, at 2pm with the final of four public shuttles of the day, Sunday 26 March. This locomotive operates four, hourly trips (11am, 12pm, 1pm and 2pm) most days on the heritage park's two-kilometre, 610mm-gauge circuit track, taking passengers on an 8-10 minute, anti-clockwise run around the 39-hectare site. Chris Walters



Further to our report in the March 2017 *RD* (page 53), regarding the theft of an historic lineside sign near Cullerin, on the NSW Main Southern Line, the local ARTC team have had a new sign created, as close as possible in style to the original, and it has now been put in place. The crew from the Goulburn Provisioning Centre are seen posing with the new sign shortly after installation. ARTC



Above: Krauss 0-4-OT locomotive number 1, a composite built of Numbers 5682 of 1906 and 5800 of 1907, eases off the tiny turntable at Sheffield Station on the Redwater Creek Heritage Museum railway, at Sheffield in north-west Tasmania, prior to running another trip on the short line on Saturday 11 March during the annual Steamfest on the Labour Day weekend. Shane O'Neil

Below: At Coles Beach, the terminus of the Don River Railway, after running around its small train, U6 departs on return to Don Village on Friday 17 March. The tiny U class locomotives, built by Malcolm Moore, were originally used for tunnelling contract work in Victoria and were built for 914 mm gauge. They are fitted with a Gardiner 6LW engine of 76 kW. Shane O'Neil





Hunter Valley Steamfest 2017

Hunter Valley Steamfest was held on the weekend 8-9 April, and due to the late withdrawal of LVR 5917, it was left to 4-6-0s 3016 and 3642 to operate a reduced program of steam excursions. Fortunately the omission was easily accommodated as this year there were no planned steam runs beyond Branxton or Paterson. In a departure from recent practice, the transfer movements from Thirlmere on Friday 7 April both featured steam traction, mainly because this year's program required only "heritage" as distinct from "main line" diesels. First came 3016 leading heritage diesels 4001 + 4490 + 4520 plus car set, followed by 3642, which was scheduled to be assisted by 4490 as distributed power, but ended up working to Maitland solo with a five car set.

All excursions were hauled by mixed distributed power, steam leading on the Down. 3016 plus 4520 worked between Maitland and

Branxton throughout the weekend, while 3642 plus 4490 operated over the extended route: Maitland - Paterson - Broadmeadow - Port Waratah - Maitland, performing one complete circuit each day, plus an additional Maitland - Paterson return trip to round off the day on Saturday. Sunday commenced with the traditional Great Train Race, the two steamers racing in parallel with a Tiger Moth from Warabrook to Maitland, the aircraft being judged the winner. The Rail Motor Society's CPHs provided additional excursions between Maitland and Paterson, with some runs timed to cross 3642 + 4490 at Mindaribba. Two car diesel 621/721 also ran return trips to Mount Thorley.

The return transfers on Monday 10 April comprised an 'all diesel' train hauled by 4001 + 4490 + 4520, leaving 3016 + 3642 to work back as a following 'all steam' train.
Robert Driver



Above: The Great Train Race, with 3642 and 3016 approaching East Maitland on Sunday 9 April. Robert Driver
Left: Train 6S51 headed by 3642 and Train 6S61 headed by 3016, competing in the Great Train Race, approach Tarro on Sunday morning 9 April. The trailing units were 4490 and 4520 respectively. Philip Vergison



Above: 3016 and 3642 depart the sidings at Maitland on Monday morning 10 April on their way back to Thirlmere, with a train consisting of two water gins and five passenger carriages. Robert Rouse

Below: 3642 and 4490 depart the wheat terminal loop at Carrington, Port Waratah en route to Paterson on Saturday 8 April. Robert Driver





Above: Victoria's main line steam season for 2017 kicked off on Sunday 9 April, when Steamrail Victoria ran a series of Suburban Shuttle trips featuring 2-8-0 K 190 and old favourite' 4-6-0 D3 639 hauling the Heritage 'Tait' electric set. On the return run from Essendon, K 190 in its maroon livery sweeps through Kensington with the D3 on the rear. Steve Ban

Below: IXL castings in Geelong recently cast the two main driving wheels for Glenn Smythe's new-build SAR Z Class 4-4-0. These are thought to be the first full-size steam locomotive wheels to be cast in Australia since 1958. Each wheel weighs in at 920kg and is 4ft 6in (1.3716m) in diameter. They were poured on Monday 3 and Thursday 6 April. The wheels have had the tyre cast integral and as such have been made with 1040 equivalent steel, or in casting terms, C6 or carbon 6 steel. For further information on this interesting project, see: <http://australiansteam.com/Z%20199.htm> Both images: Glenn Smythe





On Saturday 18 March, QR Heritage BB18½ Class steam locomotive 1089 worked M4Y1, a Sunshine Express Rail Tour to Cooroy, between Nambour and Gympie. The 1958-built Walkers pacific is seen emerging from the Eudlo Tunnel, heading north. Ray Miller

\$10 billion

The revelation that Transport for NSW has been instructed to consider only road projects and to ignore rail and other solutions has the fingerprints of the cold, dead hands of the economic rationalists in NSW Treasury all over it.

To the average person a \$10b saving on the construction costs of a rail link over the F6 motorway extension draws a clear conclusion. Not so to Treasury. To them the additional

\$10b is a mere bagatelle.

Construction of the F6 extension will be funded by a fixed contribution from Treasury funded from various road user charges. The balance will be met by private capital in the manner applied to WestConnex and NorthConnex. Road users will pay through very expensive tolls. There will be no need for more funding from Treasury.

The rail deviation will need to be fully funded by Treasury from loan funds. Once completed,

fares and freight charges will be insufficient to cover operating and maintenance costs, let alone interest or capital repayments. This is a continuing and growing burden on the State finances.

There is a factor missing from this equation. What will the effects of each decision be on the State's economic development and the well being of its citizens? History has shown that road projects are universally negative. Traffic jams, air pollution, and

strangulation of economic activity. The rail solution, properly implemented, means less time travelling, cheaper transport costs, all encouraging geographic diversification of business and economic activity.

One day we might get some political leaders who have some practical vision for the well being of the State and its citizens.

*Les Shepherd
via email*

ARTC on wrong track to restrict 4Trak

I read with interest and amazement the news item in the March *RD* (page 6) stating that the Australian Rail Track Corporation had restricted access to its 4Trak train tracking system from 2 February to 'internal' users. Being part of 'Generation XY' I find it extraordinary that the rail industry is still grappling with the concept of providing a publicly accessible on-line train tracking system when the aviation and shipping industries have been providing such facilities for years. It is through access to these tracking systems that many young people develop an interest in aviation and shipping and often go on to careers in those industries. Those same young people also use other electronic mediums such as Facebook to learn about an industry.

Not so the rail industry which mouths off nonsense about 'safety and security' as the ARTC has done. If the ARTC was so concerned about 'safety and security' then one has to ask how so many members of the public (perhaps several thousand) unofficially gained access to 4Trak during the years it was available. As the news item pointed out passenger trains, which would have to be the most 'security sensitive' trains running on a rail network, appear in public timetables.

The rail industry is always talking about its ageing workforce and the need to attract younger people to the industry. One way it can create an interest in the industry is to provide an electronic window into how the industry operates so that younger people can learn about its operations and, in some cases, one day join the industry.

I look forward to the day when all track managers, including Queensland Rail, Aurizon, V/Line and TasRail, join the 21st century and become part of a national train tracking system just like other transport industries have provided for years. Perhaps the ARTC could spend more time on fixing mud holes on the Sydney – Melbourne line and less time

in conducting 'safety reviews' which actually make little contribution to safety.

*Nathan Watson
via email*

Fishermans Bend Transport

Ian Crellin (*RD* April '17) has some concerns about tram congestion with my suggested tram connections to Fishermans Bend (*RD* March '17). I had suggested the reinstatement of route 31 (Hoddle St. to Victoria Harbour and discontinued in July 2014) but redirected from terminating at Victoria Harbour to the new suggested route across the Yarra on the old freight rail bridge and along Lorimer St/Todd & Wharf Rds to Fishermans Bend. Also redirecting route 11 from Victoria Harbour down Spencer St/Port Melbourne line/Howe Pde/Fishermans Bend to connect with 31. He believed the Collins/Spencer Sts intersection could be overloaded with Collins St operating in peak with a one-and-a-half minute tram headways (all four present routes operating at about a 6 min. headway each). Even if Collins St increased to 5 routes I think the real choke point would not be Collins/Spencer but where it has always been – Collins and Swanston Sts (the magnitude of crossing trams, pedestrians and motor vehicles here in peaks is momentous, with nine routes or so on Swanston).

If current tram frequencies are not increased and a reinstituted and redirected route 31 is not implemented, then could I suggest the following possibility for servicing the proposed lines to Fishermans Bend:

* **Route 11** (West Preston to Victoria Harbour) be redirected from terminating at Victoria Harbour to the new route across the Yarra on the old freight rail bridge and down Lorimer St/Todd & Wharf Rds to Fishermans Bend, with every third tram proceeding on a single track to Webb Dock light rail stop (this latter would need a different route number).
* **Route 109** (Box Hill to Port Melbourne): Only every third

tram would terminate at Port Melbourne, the others would leave the Port Melbourne line after Graham and proceed along Howe Parade to connect with 11 at Fishermans Bend (this would need a different route number).
* The result of this would be that Victoria Harbour terminus would be left with a 6 min. service via route 48. Collins St to Fishermans Bend via Lorimer St would have a 6 min. service. Webb Dock would have an 18 min. service. Graham to Whiteman St junction would retain its 6 min. service, with the Port Melbourne terminus having an 18 min. service and Graham to Fishermans Bend having a 6/6/12 min. service. Problems could be the 18min. service for Port Melbourne terminus stop and the 6 min. service for the Victoria Harbour terminus.

There are other possibilities but this is just a suggestion.

*Kerry Hortop
Morisset Park, NSW*

Level Crossing Safety

If I see an episode where a motorist runs a level crossing light when there is a train coming, who can I report it to?

I took an image during a recent trip to New Zealand at Temuku, north of Timaru on the east coast of the south island. I sent this image to the editor of *New Zealand Rail Observer*. The editor suggested that I send it to NZTracksafe who would pass the details on to the local police. I did as he suggested and to cut a long story short, the offending motorist was spoken to and issued with a \$150.00 fine.

My concern about the incident in question was that the motorist didn't even look. That was despite the fact the train was moving and the level crossing lights and sirens were activated. They didn't even look!

I was an engineman for more than 35 years and I saw numerous motorists take stupid risks. I had a number of close calls; the worst was with a truck at Wingen. Some of my friends weren't so lucky and I saw what it did to them. What made me angry was that everyone wanted to blame the train

driver. I find it surprising that motorists take more care at stop signs than at level crossings.

While I believe the worst offenders were those who didn't even look, those who did look and still crossed the line while the train was approaching were still very foolish. I say this because, over the years I had a number of episodes where after being stopped at traffic lights, I stalled my car and it wouldn't restart. In a couple of cases the battery went flat without warning. On an other occasion, the module in the electronic ignition failed, again without warning. It was bad enough that these episodes occurred at traffic lights, but no-one would help me get the car off the road. Imagine what the result could be if it was on a level crossing.

For this reason, my advice is, if you see something, say something. A life may be saved. Who do I report it to?

*Peter Sansom
via email*

Solar Panels and electric tramways

In the March 2017 issue of *Railway Digest*, page 26, is an article titled "Melbourne tram network to use solar energy". Readers may be interested to know that the Ballarat Tramway Museum was the first in Australia to use solar energy to power its depot and trams. The depot's roof top panels were commissioned in December 2014. Bendigo Tramways installed solar panels on its depot roof during November 2016.

The panel installation cost some \$20,000 funded by a legacy. Since the solar installation, the Museum is a net generator of power. A recent analysis based on current tariffs in Victoria, the Museum is saving some \$3000 per annum on its previous power bill, which was over \$5000/a.

Further information can be seen on www.btm.org.au/aboutus.html

*Warren Doubleday
Manager Museum
Services, Ballarat Tramway
Museum*

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			NMANCHESTER TO CLEETHORPES.DVD\$44.(BluRay)	\$54		TTR191 Railways South Africa	Pt2DVD/BRay 60'	\$47
			MARSILLE TO PARIS. 107'	\$32		TTR194 Joensuu to Simpele	DVD/BRay 85'	\$42
			MILAN TRAMS. 74' DVD	\$39		TTR195 Kuopio to Kuovola	DVD/BRay 90'	\$40
			N NORTH WALES COAST.Crewe/Holyd	DVD\$44.(BR)	\$54	TTR196 Kouvola to Helsinki	DVD/BRay 85'	\$42
			PICCADILLY. 105' London Tube	\$34		TTR 200 Railways of Germany	Pt9 BRay 60'	\$50
			NORFOLK BRANCHES. Std DVD 93'	\$29		TTR 201 Railways of Germany	Pt10 DVD 80'	\$50
			READING TO WATERLOO. 76' DVD \$44 /BluRay	\$54		TTR 202 Railways of Czech Rep	Pt6DVD/BRay 80'	\$50
			STRASBOURG TO PARIS (also BluRay)	\$35/103'.	\$35	205 OUT & ABOUT SAXON SWITZERLAND.	52'\$50	
			THE DOWN FISGHARD. 118' DVD	\$39		207 Railways of Austria	Pt9 Brenner BR 65'	\$50
			THE FLYING SCOTSMAN.190'	\$44		N 211 Malmö to Hassleholm	DVD 50'	\$45
			THE ISLE OF WIGHT DRIVER'S VIEW\$35/BR	\$38		N 212 Hassleholm to Alvesta	DVD 45'	\$45
			THE JACOBITE. FtWilliam/Mallaig.	DVD	\$44	N 213 Alvesta to Linköping	DVD 98'	\$50
			THE ROYAL SCOT Parts 1& 2.189'	\$39		N 214 Linköping to Stockholm	DVD 98'	\$118
			THE WEST HIGHLAND. 96' DVD	\$34		N 223 Swiss Railways from Air	P1 DVD/BRay 73'	\$45
			N THE WESTERN CORRIDOR.155' DVD \$44/BR.	\$54		N 224 Swiss Railways from Air	P2 DVD/BRay 69'	\$45
			THE WIRRAL LINE. 100' DVD	\$44		N 225 Swiss Railways from Air	P3 DVD/BRay 80'	\$45
			TGV ITALY FRANCE.Turin/Chambery.	123DVD \$44/BR.	\$54	N 227 O&A MULHOUSE & BASEL	DVD/BRay 40'.	\$45
			THAMES BRANCHES. 72' DVD \$44 /BluRay	\$54		N 229 British Railways from Air	P1 DVD/BRay 80'	\$45
			VICTORIA LINE. 110' DVD	\$34				
			WELSH MARCHES.Std & BluRay	115'	\$39	EUROPEAN CABRIDE DVDS		
			WESSEX Weymouth to Waterloo. 134'. DVD	\$34		BERNINABAHN. (Swiss Cabride#1).		\$32
			WEYMOUTH TO BRIGHTON. 117'. DVD	\$44		ORSIERES,MARTINGNY,CHAMONIX (Sw#10)		\$36
						JUNGFRAU 1 (Swiss Cabride#11)		\$25
			FFESTINIOW RAILWAY UK			OVP VIDEO - STEAM DRIVERS EYE VIEW		
			A YEAR IN THE LIFE OF THE F&WHR 2013. (BluRay)	\$54		MAINLINE DIARY 2015. 120' DVD/BluRay.		\$40
			A YEAR IN THE LIFE OF THE F&WHR 2013.DVD	\$50		BORDERS RAILWAY. EdinburghTwo	DVD/BluRay.	\$40
			A YEAR IN THE LIFE OF THE F&WHR 2014 DVD.	\$50		BRITANNIA GOES WEST. PlymouthDVD/BluRay.		\$40
			2011-2014 YEAR F&WHR HIGHLIGHTS.255'(BR)	\$35		CLAN LINE SURREY HILLS	DVD/BluRay.	\$40
			A TRAVELLER'S VIEW OF THE FFEISTINIOW RAILWAY	\$40		COTSWOLD MAINLINE. OxfordDVD/BluRay.		\$40
			& THE WELSH HIGHLAND RAILWAY 105'(BluRay)	\$55		DUTCHESS OVER DEVON BANKS.	DVD/BR.	\$40
			THE WELSH HIGHLAND RLWYA Traveller's View.	DVD \$30		EARL OF MOUNT EDGCUMBE.DVD/BluRay.		\$40
			HARBOUR STATION - The Whole Story	146'(BluRay)	\$55	NORTH WALES COAST LINE. DVD/BluRay.		\$40
			THE GREASERS' EXPRESS 2011. 76' (DVD)	\$35		NSETTLE & CARLISLE.(Jubilee) DVD/BluRay.		\$40
			LYD - 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			

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.

