

August 2017

# Railway DIGEST

**Signalling & Infrastructure:**  
Saving people from themselves

**P Class withdrawal  
621-721 to Peterborough – well almost!  
SCT's Bromelton and Barnawartha Terminals  
A day out at the Dorrigo Steam Railway and Museum**

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



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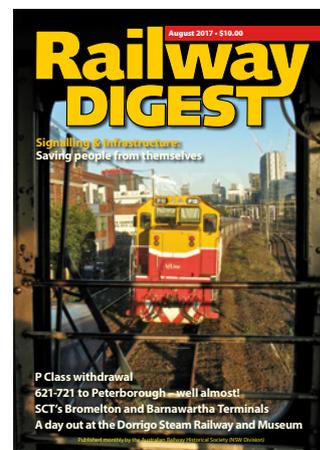
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**Cover:** Before the opening of the regional Rail Link lines in 2015, the North Melbourne flyover featured just one broad-gauge track, used mostly for light engine and empty car moves between Southern Cross Station and South Dynon Loco Depot. During the evening peak, two empty push-pull trains destined for Bacchus Marsh were staged here pending a platform becoming free. In this unusual photo, driver Ken Hambleton captured the view from the second train while waiting for the first to move into Southern Cross Station.  
**Opposite:** Electric Tilt Train Set *City of Maryborough* rolls

# August 2017

## Volume 55, Number 8



## Features

**P Class withdrawal** 28  
 The Victorian Railways' 'New Deal for Country Passengers', beginning in October 1981, revolutionised the provision of country passenger services in Victoria. Thirty-five little-used stations were closed, rolling stock utilisation was improved, and new rolling stock introduced. One component of the project involved the rebuilding of thirteen early-model 'flat-top' T Class locomotives into the 'new' P Class, incorporating head end power for the rebuilt former EMU Harris Cars that they would haul in push-pull mode – giving rise to the nickname 'Poor Man's XPT'! Now, these veterans are facing retirement, and in his own inimitable style, *RD* Signalling Editor (and V/Line driver) David Campbell pays special tribute to these interesting and engaging machines.

**SCT's Bromelton and Barnawartha terminals bring growth for rail** 32  
 The opening in the last 12 months of new SCT Logistics intermodal terminals at Bromelton (49 kilometres south of Brisbane's Acacia Ridge rail terminal) and Barnawartha (near Wodonga in north east Victoria) has brought new business to rail on Australia's interstate network and demonstrated that rail can compete with road if the mix of reliability, distance and appropriate terminal facilities is right, as John Hoyle reports.

## Regulars

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southbound through a deep cutting on the Eudlo-Mooloolah section of the north coast line on Saturday 20 May. Ray Miller  
**Back cover upper:** CK3 and GWN004 are at Middle Back Junction on Wednesday 24 May with empties heading for Iron Knob. Scott Mitchell  
**Back cover lower:** On Saturday 24 June, Steamrail Victoria's 'Steam Spectacular' tour saw triple-headed operation from Melbourne to Ballarat via Bacchus Marsh then to Geelong via Gheringhap, and finally a night parallel run back to Melbourne. D<sup>3</sup> 639, A<sup>2</sup> 986 and R761 are seen at Parwan, on the first stage of the journey. Rhys Harrison

## Aurizon announces senior management restructure

On Tuesday 27 June Andrew Harding, Aurizon Managing Director and CEO, announced his senior management team to support a new organisational structure effective from 1 July.

The proposed structure, first announced by Mr Harding in March, will see Aurizon shift from a functionally-based model to a business unit model designed along the core areas of the business – Network, Coal, Bulk and Intermodal, as well as central support and planning functions.

“Over the past few months we have been working through the organisational design of the new structure and putting in place systems and processes to ensure a seamless transition on 1 July,” said Harding. “We have collapsed management layers and removed roles from the broader management group.

“Ed McKeiver has been appointed as the Group Executive Coal. Ed is well known to our customers and staff having served in a number of senior roles across Aurizon over the past seven years including four years running Coal Service Delivery Operations.

“He has been heading up our current Customer and Strategy function and his substantive role is supporting our Coal customers so he is well placed to transition this part of our business.

“Clay McDonald has been appointed to the role of Group Executive Bulk. This includes our Diversified Bulk Freight and Iron Ore businesses. Clay has been with Aurizon for the past nine years and has served in several senior management roles, including as Vice President Network Commercial and Vice President Network Operations.

“I will also be taking the opportunity as we embed the business model to put a greater focus on regionalisation and putting our people closer to our operations and the customers we serve. This includes

senior management and the Group Executive Coal role will be based in Mackay and the Group Executive Bulk role will be based in Perth.

“As announced earlier this month, Michael Riches has been appointed as the new Group Executive for Network. Michael is an experienced executive with extensive regulatory and legal experience in Australia. “Andy Jakab will continue to lead our other business unit of Intermodal pending the outcome of our previously announced Freight Review.”

Harding said the current Chief Financial Officer, Pam Bains, would lead the Finance and Strategy team under the new structure, and the current head of Human Resources, Tina Thomas, would lead the new Corporate function consisting of Human Resources, Safety, Legal, Brand and Communications, Risk, Legal and Company Secretary.

He said current Aurizon executive Mike Carter had been appointed to lead the new business unit of Technical Services and Planning.

“Technical Services and Planning will provide key enterprise-wide specialised services to the other business units. This includes central stewardship of key company assets such as rollingstock fleet, real estate, information technology and operational technology,” Harding said. He also stated the new business unit model would provide greater management accountability in each of Aurizon’s product lines while retaining the benefits of disciplined and efficient central support.

“We must continue to evolve to best meet the needs of our customers and the market. The new business unit structure will improve customer service and help drive down costs and improve efficiency,” Harding said. “It will enable us to remain competitive in challenging market conditions and support future growth.”

## John Holland joint venture awarded Harbour Metro crossing contract

The New South Wales Government has awarded the \$2.81 billion contract for the construction of new twin metro rail tunnels under Sydney Harbour to the John Holland CPB Contractors Ghella Joint Venture.

The \$2.81 billion Sydney Metro City & Southwest Tunnel and Station Excavation Works (TSE) contract includes twin 15.5km tunnels and civil works for six new metro stations. The tunnels will be excavated by five tunnel boring machines (TBMs) between Chatswood and Sydenham, including a specialised TBM to build the tunnels beneath Sydney Harbour.

The new stations will be built at Crows Nest, Victoria Cross (North Sydney), Barangaroo, Martin Place, Pitt Street and Waterloo.

In response to the Thursday 22 June contract announcement, John Holland Chief Executive Officer, Joe Barr, said it would be an honour to deliver Australia’s largest public transport project, which will revolutionise public transport in Sydney.

“This iconic project will build the first ever rail tunnels under Sydney Harbour – a crucial transport connection to meet the ever growing needs of our global city,” he said. “This one-in-a-generation project will transform the rail network in Sydney, delivering a step-change in public transport capacity and customer experience, and it is a privilege to be trusted to build it.”

“Our construction solution addresses the challenges of intricate underground construction in the heart of the Sydney CBD.”

“This milestone unlocks a generational change to the way people will get around Sydney,” NSW Premier Gladys Berejiklian said.

NSW Minister for Transport and Infrastructure, Andrew Constance, said the line extends new metro rail from Sydney’s booming North West into the City and Bankstown, connecting with new metro stations

already under construction at Castle Hill, Bella Vista, Rouse Hill, Kellyville and beyond.

“This new metro line will eventually stretch 66km and connect dozens of suburbs along the way. When services through the City start in 2024, the tunnels will move more people than the Harbour Bridge and Sydney Harbour Tunnel combined,” Mr Constance said.

Following community consultation, crushed rock will be removed by barges for the excavation work that takes place at Blues Point, Barangaroo and under Sydney Harbour – reducing impacts to the road network and cutting truck movements.

Once the tunnelling contract is complete in 2021, work will continue along the 30km length of the project to lay tracks, fit out stations and upgrade the existing rail line from Sydenham to Bankstown to metro rail.

Transport for NSW conducted geotechnical work deep under Sydney Harbour to help determine the best way to deliver the new metro railway tunnels, taking rock and soil samples from more than 50 boreholes. These geotechnical works confirmed a specialised TBM is required to tunnel through a combination of sandstone, clay and sediments between North Sydney and the new metro station at Barangaroo.

Due to the massive scale of the Sydney Metro project, the final tunnelling contract value may vary due to ongoing fine-tuning and optimisation involving the six other major contracts, for which tenders have yet to be received.

Construction is scheduled to commence on the TSE Works in the coming weeks, with the contract expected to be completed in 2021. The first TBM will be in the ground by the end of 2018, with the remainder to follow soon after.

## Rail Safety regulation takes a great leap forward

The Australasian Railway Association (ARA) has congratulated the Queensland Government on joining the National Rail Safety Regulator (ONRSR) from 1 July.

“Queensland joining ONRSR is an important step in the establishment of a national rail safety regulator, something the rail industry has called for over the past decade,” said Danny Broad, Chief Executive Officer, Australasian Railway Association.

“It is great for industry to have ONRSR as the rail safety regulator in all Australian States and Territories. However, after more than a decade

of discussion there is one missing piece of the jigsaw. The rail industry believes a national regulator must be just that and calls on Victoria to move from the current service level agreement to join ONRSR. In doing so Victoria needs to bring light rail and all tourism and heritage operations under ONRSR not the Victorian safety regulator.

ARA members want a truly national rail safety regulator without any additional cost of regulation.

“It is critical Victoria follow all other jurisdictions and join ONRSR to maximise the efficiency and effectiveness of ONRSR,” Mr Broad said.

## Linfox builds Darwin Intermodal Facility

Linfox has completed site construction of a new 3,000m<sup>2</sup> purpose-built Intermodal Facility, situated next to the Darwin railhead.

“Each year the Intermodal team shifts more than 15 million pallets for Australia’s retailers using its multi-modal freight network,” said Linfox CEO, Annette Carey. “Linfox has an extensive footprint in the Northern Territory, with sites in Darwin, Katherine, Tennant Creek and Alice Springs. This new investment increases our capacity and makes it easier for our customers to move inbound and outbound goods throughout the region.”

“A chilled storage area will enable temperature-controlled products to be safely stored during transit and broadens our cold chain network.”

The facility will deliver on Linfox’s environmental commitment with a 100KW battery-ready solar system to reduce the site’s carbon emissions. It also features rain water harvesting and high-efficiency LED lighting.

Linfox partnered with Vaughan Constructions to design and construct the facility.

## Perpetuum announces five-year track monitoring contract with NSW Trainlink

Perpetuum has announced it has been selected by New South Wales (NSW) Trainlink to collect and monitor vital train and track information across its fleet of XPT Power Cars, which run on the intercity service in eastern Australia. It marks the UK company’s first major export contract for track condition monitoring.

The New South Wales state government has allocated \$50m to renew the XPT fleet, with the first trains being introduced in 2019. The Perpetuum system will be immediately deployed across the current NSW Trainlink fleet to improve track maintenance, punctuality and ride quality on existing services. It will also monitor the track condition in preparation for the new fleet, in a progressive move to allow key wheel-rail measurement benchmarks to be set in advance.

Perpetuum will supply NSW Trainlink with its wireless self-powered sensors, train-to-ground communication equipment, data management and use of the Perpetuum track and ride algorithms and condition alarms.

The Perpetuum system will be mounted on XPT Power Cars to collect track and ride information to identify early damage across the thousands of kilometres of track through Sydney, Melbourne, Brisbane, Grafton, Casino and Dubbo. The fleet covers around 3.5 million kilometres annually, carrying around one million passengers.

The adoption of remote condition monitoring by NSW Trainlink comes after a number of reported issues with rough riding in its regional network. Following a successful internal investigation and report using onboard accelerometers, NSW Trainlink launched an international tender for a solution that could be deployed across the fleet. NSW Trainlink issued a performance-based specification that stipulated that the vibration sensors must operate for at least five years without needing power supply system maintenance, analyse trends in the data to identify potential cases of degradation in the wheels and the rail and comply with all international railway standards, including EN 12299:2009 for ride quality measurement.

## Northline opens new Adelaide intermodal facility

Australian transport and logistics provider Northline has opened a new purpose-built \$23 million facility in Adelaide. The new logistics facility brings together road and rail with a direct access cargo link to Pacific National, Australia’s largest rail operator (see November 2016 *RD*, page 18).

The move to a strategic location alongside the Kilburn railhead will improve transit speed and efficiency by alleviating the need for containers to travel by road between Pacific National and Northline’s facilities.

The new Adelaide depot, which facilitates B-Double movements, is also located in close proximity to Adelaide’s north-south road corridor, which is currently being upgraded with a \$2.5 billion Federal and State government investment. It also has 3500 square metres of warehousing space with modern high bay racking, along with a 440 square metre wash bay and container servicing area. The facility is located on a 30,000 square metre hard stand and will be a Quarantined Approved Premises (QAP), and is therefore customs compliant.

Northline Chief Executive Craig Whitton said the new state-of-the-art 10,440 square metre Adelaide transport and logistics facility is an investment in the efficiency and effectiveness for their customer’s supply chain. “Northline recognises the need for a multi-modal solution to meet customer’s needs which has led us to bringing road and rail closer together as well as ensuring easy access to Australia’s

major seaports for import/export. With investments made over the last 3 years, Northline now has one of the most modern networks of transport and logistics depots across mainland Australia.”

Northline’s investment in Adelaide is the final stage of a three year, \$98 million investment in new transport and logistics facilities in four States and Territories. The company has also opened new depots in Darwin, Brisbane, Townsville and Sydney as well as moving into a dedicated depot in Mackay.

“Northline’s facility represents the first intermodal cargo link operation in South Australia, said Andrew Adam, General Manager of Pacific National Intermodal. Mr Adam said the long term partnership between Northline and Pacific National is based on innovation and this cargo link facility is further evidence of this innovation.

The street address for the new Northline Adelaide transport and logistics depot is 20 Gallipoli Drive, Regency Park.

Northline began in Adelaide in 1983. The company was founded to service the Adelaide to Darwin freight route but has since grown into a national firm. It retains its National Service Centre in Adelaide, which is today located on Norwood Parade. Northline specialises in road and rail freight management services; warehousing and distribution; global freight forwarding and mining, construction, oil & gas logistics.

## Extra safety inspectors announced for Canberra light rail

Safety standards on Canberra's light rail project received a boost in early-June with the ACT government's announcement of the employment of three extra WorkSafe inspectors to carry out safety inspections on construction sites for the transport project.

The announcement comes after a union inspection on Friday 2 June revealed several safety flaws at the site, with water crash barriers not being filled and signs from previous traffic management plans not being removed. Two workers were also sent home after not being properly inducted to safety procedures.

Since work began on the transport project last year, figures from WorkSafe ACT show two workers have been injured while on the construction site.

The additional inspectors will be assessing the safety standards for workers as construction work increases ahead of the line's opening in 2019. Funding for the positions will cost \$715,000 over three years, with three inspectors being covered in the upcoming financial year, two during 2018-19 and one in 2019-20.

Currently, construction sites are monitored using existing resources within WorkSafe. ACT Transport Minister Meegan Fitzharris said the extra inspectors will be critical to maintain worker safety on the

territory's largest infrastructure project. "The network will transform our city, and we want to ensure the work is completed as safely as possible for the workers involved and the community," she said.

One of the workers was injured while working on the light rail in December last year after he was thrown two metres following an electric shock, and was taken to hospital.

A WorkSafe ACT spokeswoman said another worker suffered minor bruising as a result of an on-site incident. "An additional incident related to a traffic barrier was also reported," the spokeswoman said.

One of the workers was away from work for two days due to injuries.

As well as WorkSafe inspectors, inspections at light rail sites are also carried out by Comcare inspectors.

The spokeswoman said there were multiple safety measures in place at the construction sites for the transport project to prevent on-site injuries or fatalities.

"WorkSafe has an extensive audit program that involves a strong proactive approach to safety and the prevention of injury on work sites," the spokeswoman said. "WorkSafe continues to work co-operatively with Canberra Metro and Transport Canberra and City Services around safety and workplace injury prevention."



Aurizon's UGR/GE units 5032 and 5002 haul a loaded coal train at Whittingham, in the Hunter Valley, in the late afternoon of Thursday 15 June. Larry Zanker

## NSW parliament approves state's first rail trail

Supporters of the Tumbarumba-Rosewood rail trail are welcoming government approval which passed the NSW Upper House on Thursday 22 June. The legislation closes a 21-kilometre section of the disused Tumbarumba railway line, from the site of the intermediate station at Rosewood to the terminus, clearing the way for the establishment of the state's first rail trail. (See July 2017 RD, page 51.)

Lisa Glastonbury, chair of Wagga Rail Trail Inc., has welcomed the move, saying "the rail trail concept has now been brought into law in NSW, setting a precedent for the future establishment of a network of trails". "The NSW government has set in place a process to ensure that valuable rail corridors remain in public ownership, allowing them to be adapted for use by local communities", she continued. "Our planning has shown significant support for the Wagga Rail Trail with our local community seeking access to safe trails for recreational walking, running and cycling. We look forward to sharing the Strategic Directions & Implementation Plan with the Wagga community in August, as the next stage in the development of the Wagga Rail Trail."

The Tumbarumba-Rosewood corridor is expected to be declared a

crown reserve with Snowy Valleys Council appointed to oversee the trail development.

In June 2015 the council, in conjunction with the local rail trail steering group (Riverina Highlands Rail Trail), obtained a \$4.8 million grant from the NSW government for the construction of the Tumbarumba Rail Trail as a pilot project under the Regional Tourism Infrastructure Fund.

Former deputy prime minister, and well known rail advocate, Tim Fischer said a modern trail network would greatly boost regional tourism. The former Tourism Australia chair said he welcomed the passage of NSW legislation, approving the establishment of a trail between Rosewood to Tumbarumba.

"We'll get the usual knee-jerk attack of opposition", Mr Fischer said. "People thinking ahead about the future, those people will accept the modern dynamic of modern bicycle tourism."

Mr Fischer – a former Farrer MP – said the trails were booming in north-east Victoria and New Zealand. "The Riverina needs to get with it," he said. "Or it will miss the bus, or in this case, the bike."

## High Court rules against Save Our Rail group

The future of Save Our Rail NSW Incorporated (Save Our Rail) and the group's on-going fight to preserve NSW transport infrastructure, with a particular emphasis on the Newcastle Rail Line, has been dealt a critical blow, with the High Court of Australia rejecting the group's bid to appeal a ruling in favour of the Hunter Development Corporation (HDC). (HDC is a NSW State Government organisation that reports to the Minister for Planning.)

On Thursday 15 June the court dismissed Save Our Rail's application against a NSW Court of Appeal ruling handed down in December 2016 in favour of the HDC, and ordered it to pay costs.

The decision leaves Save Our Rail owing the state government an estimated \$800,000 to \$1 million, though it would be unusual for the government to pursue the full payment.

However, Save Our Rail's president Joan Dawson and vice president Kim Cross defended the legal action, and said the group would remain a force in public life.

"Nothing Save Our Rail has done has been for its financial gain or that of its members, and it has been transparent in all dealings," Ms Dawson and Ms Cross said in a statement. "Members of SOR are proud of what we have achieved and will continue to fight for improved transport in the Hunter."

Michael Cassel, the HDC chief executive, lauded the court's ruling at a 15 June Newcastle meeting of the Urban Development Institute of Australia. "Now hopefully, fingers crossed, that's it. No more Save Our Rail debacles to deal with," Mr Cassel said. He said the numerous legal challenges by Save Our Rail over the years against the removal of Newcastle's heavy rail line had "changed nothing".

A Transport for NSW spokeswoman said the department was "pleased the High Court's decision finally brings this matter to an end". "The NSW government just wants to get on with the job of delivering better transport for the people of Newcastle and the Hunter region," the Transport spokeswoman said.

The ruling was the third legal setback for Save Our Rail. In December 2016, three judges of the NSW Court of Appeal rejected the group's bid to set aside a November 2015 ruling that confirmed the NSW government didn't need legislation to close and remove the two kilometres of line between Wickham and the terminus at Newcastle station. Save Our Rail argued that the November 2015 decision was "moot", since Parliament had already passed legislation letting the government cut the rail line.

The group was ultimately ordered to pay the government's costs in the November 2015 decision. It then lost a costs decision with the

December 2016 Court of Appeal ruling, and another as a result of the unsuccessful High Court of Australia application.

Save Our Rail president Ms Dawson has previously suggested the costs are too high to repay, and has accused the government of seeking to punish the group. The group has also said it has never received a legal bill from the state government.

Amid the legal wrangling, much of the rail line between Wickham and Newcastle has been removed.

## 23rd Annual Our Town Model Show

9am to 5pm Saturday 9 September and  
9am to 4pm Sunday 10 September 2017

Newcastle Jockey Club (cnr Chatham Road and  
Darling Street Broadmeadow). Lots of FREE parking.

Admission: \$10 adults, \$5 child/conc (5-16)  
and \$25 family. Children under 5 are free.

If travelling via train:

Access from Broadmeadow Station  
via Chatham Road and Darling Streets

Access from Hamilton Station  
via Beaumont and Darling Streets

An hourly courtesy bus will be shuttling between  
Broadmeadow Railway Station and the venue  
during the exhibition.



**Above:** Of a dwindling breed, Pacific National's 48162 is seen here in Grafton Yard on Wednesday 29 March. The remaining members of PN's Goodwin/ALCo 48 Class branch line fleet are regularly rotated through stints at Grafton for shunting wagons between the main marshalling yard and the Sunshine Sugar silos across the Clarence River in South Grafton. They are usually transferred up on No.4621 freight and back on No.6422, and normally this is the only regular operation of the 48 Class on the North Coast line beyond Telarah. Chris Walters

**Below:** A favourite with rail photographers, Qube's intermodal service No. 1311 from Port Botany to Junee/Harefield in southern NSW is seen on Friday, 23 June running through the disused station at Galong, between Yass and Harden, with CSR/MTU locomotive QBX 001 leading CFCLA's CM Class Motive Power/Cummins units 3311 and 3307. The train will be split at Junee and each half will be forwarded to Harefield to unload/load at the grain siding before reuniting at Junee for the run back to Port Botany with output from the Visy paper and cardboard plant at Tumut, plus other freight. Galong was the junction for the now closed line to Boorowa. John Hoyle





NSW Trainlink has begun painting the Endeavour railcars, used in the Newcastle area, into the current corporate colour scheme. On Monday 26 June, Endeavour railcar set 2852/2802 is seen approaching Maitland Station in the NSW Trainlink colour scheme. Graham Attenborough

# Positions Vacant

The Australian Railway Historical Society (NSW Division) is Australia's oldest Railway Historical Society, having been established in 1933.

The Society has come a long way since the old Railway Circle days. It has laid the foundation of the transition to the brave new digital world.

Conscious of its past and aware of the challenges of the future, the Society is inviting applications to fill two key positions.

The Society operates with a mix of volunteers and employees.

## GENERAL MANAGER

The position reports to the ARHSnsw Board.

### Key Competencies include:

- People management and interpersonal skills
- Business management and marketing knowledge
- Retail management
- Written and spoken communication
- Working understanding of software including MYOB, Adobe Suite, MS Office, etc.

## RAILWAY RESOURCE CENTRE MANAGER

The position reports to the General Manager.

### Key Competencies include:

- People management and interpersonal skills
- Written and spoken communication ability
- Working understanding of MS Office and related software
- Archive management
- Image and document storage, retrieval and restoration.

Position Descriptions and Organisation Charts available on request

Applications close:  
Friday 29 September 2017

Please contact Grahame Thurling at -  
[grahame.thurling@arhsnsw.com.au](mailto:grahame.thurling@arhsnsw.com.au)

## Around Sydney

### 'Revitalisation' of Central Station underway

Three groups have been shortlisted to tender for the revitalisation of Sydney Central Station (see May 2017 *RD*, page 13).

On Sunday 11 June NSW Minister for Transport and Infrastructure Andrew Constance announced that the shortlisted groups invited to tender for the Central Station Main Works contract are:

- Laing O'Rourke Australia Construction Pty Ltd,
- CPB Contractors Pty Ltd and John Holland Pty Ltd joint venture; and
- Lendlease Engineering Pty Ltd/Lendlease Building Pty Ltd.

The contract, which is expected to be awarded in the first quarter of 2018, includes construction of Central Walk, a 19-metre wide concourse from Chalmers Street, linking to new Sydney Metro platforms under Central. The concourse will also provide easy escalator access to existing heavy rail platforms 16 to 23.

"Central is the backbone of our public transport network with more than 250,000 people passing through the station every day," Mr Constance said. "But that number's expected to grow to 450,000 in the next two decades, and we need to ensure better transport connections are in place to help people get around."

Mr Constance said that the works are the first step towards revitalising Central Station. "By combining the works of the metro platforms and Central Walk we can deliver both projects at the same time and minimise the disruption to customers", Mr Constance said.

### New, card-activated, bike shed for Edgecliff Station

Cyclists using Edgecliff Station will benefit with work due to commence on a new Opal card-activated bike storage shed with 50 new spaces. The Opal-activated free bike shed will make it easier for commuters to ride to the station and store their bikes before commencing their rail journey. (Edgecliff station is located on the Eastern Suburbs line approximately 4.8 kilometres from Sydney Central Station.)

"With more and more people choosing to ride to stations, we are making sure there are great facilities for them to lock up their bikes securely," said NSW member for Vaucluse Gabrielle Upton on Tuesday 27 June. "Using the new bike shed is easy. All customers need to do is link their Opal card through the bike lockers website and they'll have access to any of the bike sheds on the train network."

The new bike sheds can only be accessed using an activated Opal smart card and there are also electronic readers inside the shed to reduce any unauthorised access or tail-gating.

The bike shed is being delivered through the NSW Government's Transport Access Program, which delivers safe, modern, secure and accessible transport infrastructure across the state, and the Bike and Ride initiative that is part of Sydney's Cycling Future – a plan to make bicycle riding a more convenient transport option.

Customers can register their Opal card for bike shed access, arrange shed hire and find the most convenient bike shed location by visiting [www.bikelockers.com.au](http://www.bikelockers.com.au).



Sydney's Central Station viewed from the top of The Peak apartment block located above Paddys Market on the evening of Wednesday 14 June. Construction work on Eddy Avenue for the South-east Light Rail can be seen in the bottom left corner. Philip Vergison



Meeting of trams – 2116 drops down the steep grade from the Sydney Station concourse across Hay then Pitt Street on the right and then out to Dulwich Hill, as number 2123 to complete the loop to start its next trip to the same destination, on Tuesday 4 July. Shane O’Neil

## Port Botany Rail Line upgrade passes halfway mark

On Friday 23 June the Federal Minister for Infrastructure and Transport, Darren Chester announced the Port Botany Rail Line upgrade (Stage 3) has passed the halfway mark, with more than 55 per cent of the works complete.

Completed works include:

- 1.5 kilometres of track reconditioning;
- 9.9 kilometres of concrete re-sleepering;
- 8.4 kilometres of new rail;
- Six kilometres of new drainage; and
- Two new retaining structures

Minister Chester said the project was helping meet the growing demand from the freight industry for rail transport to Port Botany. “Loading more freight on to rail is also great news for Sydney motorists, with every train improving road safety, reducing congestion and saving time for drivers,” Mr Chester said.

“In the last six months alone, new freight loaded on to rail has taken the equivalent of more than 270 trucks a week—or more than 7,000 trucks—off the roads around Port Botany.

“The most effective way to improve Port Botany’s efficiency and productivity is by enhancing the rail network and pushing more of the freight task through the port on to rail.

“This project offers improved access and connectivity for rail freight operators—and in taking freight off the roads is good for both the people and businesses of New South Wales as it ultimately assists in lowering the cost of transport.

The \$75 million Port Botany Rail Line upgrade (Stage 3) project is fully funded by the Australian Government and is scheduled for completion in 2019 (see August 2015 *RD*, page 13).

## Epping to Chatswood line closures a windfall for office landlords

The temporary closure of three stations at the booming Macquarie Park residential precinct and business park for Sydney metro Northwest construction will provide office landlords with parking rental windfalls, Colliers International says.

Macquarie Park, Macquarie University and North Ryde stations will all close from mid-2018 for seven to 18 months, as part of the Metro station upgrades. This will shut the Epping to Chatswood line and force many employees to drive to work. Office landlords in Macquarie Park have begun working with DIVVY Parking, a tech company that runs an application to connect drivers with unused parking spaces in their buildings, potentially making a 10 to 20 per cent profit on rents.

“In Macquarie Park in particular, we are working with large tenants to maximise efficient use of their parking assets, as well as offering alternative overflow parking in nearby locations, all booked through a single, easy-to-use app,” DIVVY chief executive Nick Austin said.

Rents for car spaces in Macquarie Park are between \$1800 a year for an uncovered or on-grade parking space, and \$3000 for a covered car space, Colliers International’s Dan Walker said.

“The closure of train stations means demand will increase for parks. We can expect these car park rents to surge to 10 to 20 per cent higher in the near term as companies who occupy space in Macquarie Park consider how their staff will commute to and from work,” he said.

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Tangara Set T129 rounds the Up Illawarra curve under Forest Road, Arncliffe, on Sunday 11 June, as it passes through the big cutting, formed when the tunnel was opened out in the amplification work on the Illawarra Line during the time of the First World War.  
Shane O'Neil



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Seen on Monday 5 June, Genesee & Wyoming Australia locomotives FJ104 and FJ105 are former WAGR J Class Clyde/EMD units built in 1966, now working as shunters in Alice Springs. Scott Mitchell

## News

## Queensland

### Communication failure causes Brisbane peak hour rail chaos

Queensland Rail came under fire on Wednesday 28 June when an electrical fault shut down the southeast Queensland network, sparking peak-hour chaos and hours of delays.

It is understood a circuit breaker tripped and caused a communications failure which stopped all Queensland Rail services from 5.12pm to 6.30pm, but a lack of information led some commuters to initially fear a security threat.

Speaking at a media conference on the Gold Coast on Thursday 29 June, Queensland's acting Rail Minister Steven Miles said the service disruption was "very disappointing". "Queenslanders have a right to be concerned," he said. "Clearly this isn't good enough. It's not what we want to see."

He said the incident was the subject of a review, including concerns frustrated commuters were left in too long without being given explanations or updates on the situation. "This was a pretty rare fault," he said.

QR chief executive Nick Easy said the issue was caused by a loss of power at a Mount Coot-tha radio tower (located approximately six kilometres of the Brisbane CBD) and apologised to customers. "Just after 5pm... we experienced a communication issue between our Control Centre and our network. Trains were suspended between Brisbane Central station and Toombul (North Coast line), Doomben (Pinkenba line), Mitchelton (Ferny Grove line) and the Airport line. Major delays were experienced across all lines as a consequence. "Our crews worked as quickly as possible to resolve this issue and communication and services were restored at approximately 6:30pm.

"Our early investigations indicate that the issue was caused by a loss of power at a radio tower on Mount Coot-Tha. Our crews were

on-site at Mount Coot-Tha at approximately 6:20pm and identified that our tower site had lost power. They immediately worked to rectify this and trains resumed running approximately 10 minutes later. "We will undertake a full investigation to understand the cause of the incident and ensure a similar incident does not happen again."

Mr Easy again promised to get to the bottom of the failure, saying Queensland Rail investigators will investigate how a secondary power supply for the Mt Coot-tha communications tower failed. Mr Easy told ABC Radio there was a "redundancy" system in place if the primary telecommunication facilities was to lose power, but he is unsure how long it lasted for. "There still was a problem that had to be rectified so our investigation will have a close look at that," he said. "Clearly our objective is to ensure this doesn't happen again, I am confident that we will be able to get to the bottom of what occurred and ensuring not only the primary but the secondary system will ensure on-going communications moving forward."

Mr Easy reiterated that once Queensland Rail technicians were able to locate the source of the problem, they were able to fix it quite quickly. "My suspicion here is the investigation will lend itself to what type of warning or alarm systems are in place when you move from a primary to a secondary source," he said.

While Queensland Rail is in the process of moving towards a digital radio communications system, Mr Easy said it did not contribute at all to the failure.

All commuters who travelled on Brisbane Citytrains after 5pm on 28 June received refunds on any fares paid.

## Queensland Government commits to Cross River Rail

The Queensland Government will deliver one of Queensland's biggest ever infrastructure projects, Cross River Rail, fully funding the \$5.4 billion project in the State Budget. The 2017-18 State Budget allocates \$2.8 billion over the forward estimates, with a further \$2.6 billion to be committed in future Budgets.

Premier Anastacia Palaszczuk said the government will build Queensland's number one infrastructure priority Cross River Rail.

"It has been almost a decade since Cross River Rail was first put on the agenda and I'm proud that I will be the Premier to build this project," Ms Palaszczuk said. "The importance of Cross River Rail for the future of South East Queensland is unquestionable - industry experts and the community agree that we need this project and we need it now. "That is why my government is fully funding the \$5.4 billion Cross River Rail project. "However, we are not shutting the door on other sources of funding – the Cross River Rail Delivery Authority will continue to look at options to partner with the private sector and we expect to secure funds from future Australian Governments."

Deputy Premier and Minister for Infrastructure Jackie Trad said that Queensland needs Cross River Rail. "This is a project that will transform the South East, taking thousands of cars off our roads and getting people home faster," Ms Trad said. "Without it, we won't be able to build the future vital connections to our growing regions, including the Sunshine Coast, Flagstone and Springfield lines because we simply won't have the capacity across our one inner city river crossing, the Merivale Rail Bridge. "Just last week, I joined with Lord Mayor Graham Quirk to launch the Connecting Brisbane strategy which demonstrates how vital Cross River Rail and Brisbane Metro are for an integrated public transport network. "I'm also pleased to announce that John McEvoy will be joining the Cross River Rail Delivery Authority board as the Brisbane City Council nominee."

Treasurer Curtis Pitt said Cross River Rail will deliver a significant boost to the economy in the South East and throughout the state, boosting the economy by \$70 billion.

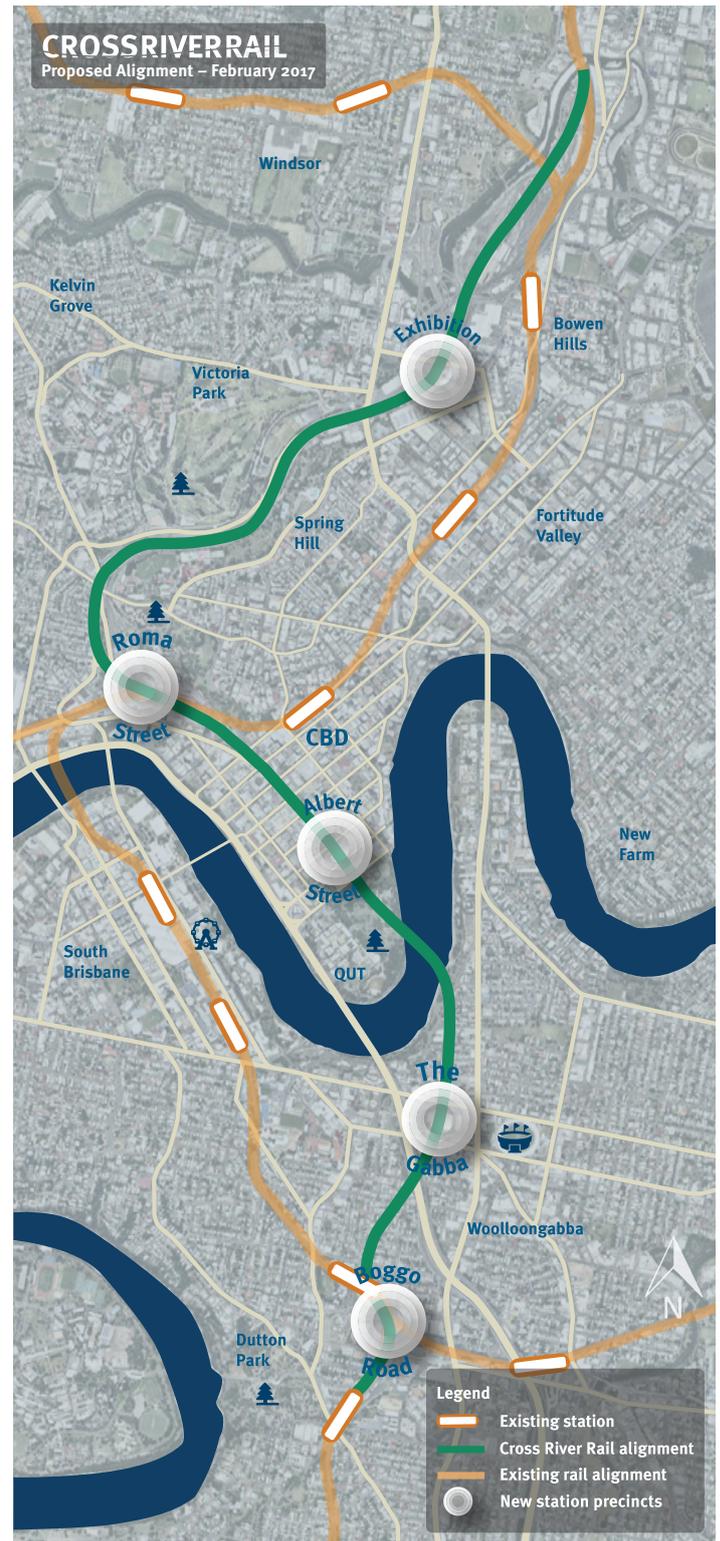
Since 2015, the Queensland Government has re-scoped the project, published the new alignment, submitted the industry peer-reviewed business case to the Commonwealth and secured the necessary major state approvals from the Co-ordinator General.

Cross River Rail is a new 10.2 kilometre rail line to be built between Dutton Park (5.9 kilometres south of Brisbane Central on the Beenleigh Line) and Bowen Hill (2.65 kilometres from Central on the North Coast line). It will feature 5.9 kilometres of tunnel under the Brisbane River and Brisbane CBD. Cross River Rail will allow the rail network to expand, offering faster travel times across South East Queensland:

- There will be four new underground stations at Boggo Road, Woolloongabba, Albert Street and Roma Street and two upgraded stations at Dutton Park and the Exhibition Showgrounds.
- Commuters will save up to 15 minutes if travelling from southern stations such as Beenleigh
- Commuters will save up to eight minutes if travelling from northern stations such as Petrie
- Commuters will save up to six minutes if travelling from western stations such as Ipswich
- Commuters will save up to 14 minutes if travelling from eastern stations such as Cleveland

On Wednesday 14 June Ms Trad announced in State Parliament that a version of the business case for the project would be released to the public. "I issued a ministerial direction to Building Queensland to prepare a public business case for release within two months, which will naturally exclude all of the commercial-in-confidence material," Ms Trad told the house.

On the same day the government confirmed that the former GoPrint site at Woolloongabba will be transformed into a Cross River



Rail stop and an interchange with Brisbane City Council's Brisbane Metro.

Queensland Opposition Leader Tim Nicholls claimed the actual cost of the project would be much more than \$5.4 billion, and the government was being reckless by going it alone.

"The cost of Cross River Rail is going to be more like \$14 billion," he said. "It would be like building a hospital and not having the beds and the doctors."

But Ms Trad says outlining the capital investment has always been the standard way of costing projects, including when the Liberal National Party was in office.

Work is expected to start on the Woolloongabba station in September this year.



On a beautiful Monday morning, on 5 June, six-motor EMU Sets 69/61 depart Eden's Landing on the Beenleigh/ Gold Coast Line with CityTrain run No. 1E65 to Ferry Grove. EMU 61 is one of a only a few units remaining with door handles, and is rumoured to be among the first batch of units that will be retired, when replacement EMU sets become available. Michael James

## Introduction of NGR trains will bring passenger service changes

Queensland Rail is to recruit additional station staff to assist mobility-impaired passengers using the six-car EMUs (Electric Multiple Unit) being supplied to Queensland Rail under the New Generation Rollingstock (NGR) program.

The first of 75 sets are expected to enter service later this year, Queensland Rail CEO Nick Easy confirmed on Tuesday 27 June. He said Queensland Rail was working 'closely' with the Bombardier-led Qtectic consortium and other stakeholders including the Department of Transport & Main Roads "to address design issues with the new fleet".

The braking problems which saw deliveries suspended earlier this year are reported to have been solved. "While this work is underway, it is important that we continue to prepare our network so that they enter service seamlessly this year", Mr Easy commented.

Queensland Rail plans to put the first NGR units into service on the Airport and Gold Coast lines. Mr Easy said the Gold Coast and Airport lines had been chosen to meet higher patronage demand and provide improved customer service during the 2018 Gold Coast Commonwealth Games.

"Visitors from every corner of the globe will be coming to the Gold Coast for the 2018 Commonwealth Games and we plan to have our newest,

most advanced train fleet operational to serve them," Mr Easy said.

Older Queensland Rail EMUs operated in pairs of three-car sets, with the guard positioned in a centre cab. However, the six-car NGR sets will operate with the guard located at the end of the train rather than the middle, resulting in changes to the way boarding assistance is provided.

"We have considered this closely and have thoroughly consulted with our people, stakeholders and the disability sector to ensure all customers will continue to be well supported. The assisted boarding point will remain in the middle of the platform, so the key change as part of the operating model is that station staff, rather than the guard, will provide assistance to customers when boarding the NGR train", Mr Easy said.

To support this change, stations on the Gold Coast and Airport lines will be staffed by customer service employees from first service to last service, meaning 21 additional station roles will join the existing team of 650. "As well as being able to provide increased assistance to customers, this change will also mean amenities like ticket windows and toilets will be open for significantly longer periods – something our customers have told us they would like to see", Mr Easy said. "Our customers' safety and satisfaction are our highest priorities and I am confident that this change will deliver improvements in both of those areas."

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**Above:** It's not often that you see a diesel locomotive towing an electric train in Brisbane. At Sunnybank, on Saturday 17 June, Queensland Rail's 1754 and 2410 tow Citytrain IMUs 162 and 161 after their pantographs were damaged in an earlier incident with the overhead wires. Seen to the left is SMU 232 trailing 225, which was trapped until the power returned. Anthony Evans

**Below:** Pacific National Queensland EDI/EMD unit PN 012 powers through Platform 3 at Carseldine, in Brisbane's northern suburbs, running 82P7 intermodal freight to Townsville on Thursday 22 June. Will Heinemann





**Above:** On Monday 12 June, 2305 and 2301D, with a loaded coal service, sit in Gowrie loop as 2388D and 2371 ease past on the Main with an empty coal train, just west of Toowoomba. Steve Munro

**Below:** On Saturday 24 June, Clyde/EMD units 2473, 1732 and 1724 triple-head PW57 *Spirit of the Outback* northbound through Palmwoods. 1724 was to be detached at Emerald for use on QR work trains. Ray Miller



## Transport initiatives feature in 2017-18 SA Budget

A continuation of the electrification of the Gawler line from Salisbury to Gawler, the upgrade of the Oaklands crossing to separate road and rail traffic, and funding to increase services on the Gawler, Outer Harbor, Belair, Tonsley and Seaford lines are major transport initiatives announced in the South Australian 2017-18 budget, which was released on Wednesday 21 June.

Extension of the Gawler line electrification from the intermediate station of Salisbury (20.2 kilometres from Adelaide station) to Gawler (39.8 kilometres from Adelaide) received funding of \$242.5 million over the forward estimates (with an estimated total cost of \$462.5 million). The project includes replacement of the signalling system between Salisbury and Gawler and the purchase of 15 additional three-car electric multiple unit trains.

The electrification extension builds on the \$152.5 million already committed by the South Australian Government to electrify the Gawler line from Adelaide station to Salisbury (see July 2017 *RD*, page 20).

The Oaklands crossing project, which was previously announced on Wednesday 7 June, will separate road and rail traffic with an underpass under Diagonal Road, 12.8 kilometres from Adelaide on the Seaford line.

The existing Oaklands Crossing imposes congestion and traffic delays on Morphett and Diagonal Roads due to the operation of boom gates for trains along the Seaford rail corridor. The boom gate operations restrict road traffic movements across the rail line for approximately 25 per cent of the peak traffic periods. Traffic movements for the nearby Westfield Marion shopping centre, the SA Aquatic and Leisure Centre and GP Plus facilities further contribute to pressure on the road network around the level crossing.

On average almost 42,000 vehicles use Morphett Road each day south of the Oaklands Crossing. North of the crossing an average of 33,200 vehicles use Diagonal Road and 8700 use Morphett Road.

Trains have speed restrictions approaching the existing Oaklands Station due to uncontrolled pedestrian/cyclist movements across the rail corridor at Diagonal Road and adjacent to the rail station platform.

The \$174.3 million project is being jointly funded by the Australian Government - \$95 million, the South Australian Government - \$74 million and the City of Marion - \$5 million.

The budget also committed \$22.4 million over four years to increase services on the Gawler, Outer Harbor, Belair, Tonsley and Seaford lines.

New timetables to be released later this year include:

- Gawler, Outer Harbor, Seaford and Tonsley, and Belair lines running to a 30-minute frequency instead of 60 minutes during weeknights; and
- An increase of peak-hour services on the Tonsley line to a 20-minute frequency, instead of the current 30-minute frequency during peak periods.

Speaking after the release of the budget South Australian Minister for Transport and Infrastructure Stephen Mullighan said;

“This Budget continues the State Government’s record investment in our public transport network. We want more South Australians to use public transport, which is why we are continually expanding and improving our network. For people who work late for a living, like those in essential services and hospitality, these additional services will make getting home easier. Later services during major events will mean people can enjoy our amazing festivals and events for longer and get home safer and sooner.”



GWA's UGL/GE units GWU004, GWU005 and EDI/EMD unit FQ03 are loading a grain train at Taillem Bend, on Monday 26 June. Steve McNicol



**Goninan/GE unit GL103 and Wabtec/Cummins unit CM3309 on Train No.1501 at Two Wells on the shortest day of the year, 21 June. The green containers carry ore from Broken Hill to Adelaide. This was an empty service running to Broken Hill via Bowmans, where the double stack containers will be dropped off for the Balco service. Scott Mitchell**

## ARTC, state and local government co-operation re-opens Eden Hills carpark

The Eden Hills community will soon re-gain access to a parcel of Australian Rail Track Corporation (ARTC) land, thanks to positive collaboration between ARTC, the City of Mitcham Council and the South Australian Department of Planning, Transport and Infrastructure (DPTI). (Eden Hills is located on the Belair line 14.2 kilometres south of Adelaide station.)

The area, adjacent to the railway line off Willora Road, Eden Hills, was being used as a makeshift carpark until ARTC was required to close it as it posed a risk to passing trains.

The City of Mitcham has been working proactively with ARTC and the DPTI to re-open the space and will project manage the work.

Jamie Threader, ARTC's Melbourne – Crystal Brook Corridor Manager, said the agreement is an example of cooperation resulting in a positive outcome for the community.

"We will lease the land to Council, allowing them to manage it and ARTC will fund the installation of a new fence to help keep the community safe," Mr Threader said.

Glenn Spear, Mayor of the City of Mitcham said they recognised commuters accessing the Eden Hills station and parents accessing the Eden Hills Primary School were heavy users of the area.

"We have agreed to fund the cost of preparing the site and laying a rubble surface, making it easier for all vehicles to access it," Mr Spear said.

The Department of Planning, Transport and Infrastructure (DPTI) will fund a bitumen entrance in a safer location, removal of vegetation and a concrete kerb to improve safety. DPTI has a strong community focus and is pleased to work in collaboration with ARTC and Mitcham Council in the best interests of residents to deliver such a positive community outcome.

Works were expected to be completed by the end of July.

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Above: SCT013 and SCT014 haul No.3PG1 Perth to Parkes freight through Yorkeys Crossing on Thursday 15 June. Scott Mitchell  
Below: On Monday 3 July, stunted desert foliage frames Clyde/EMD 'Streamliners' GM37 and GM43 on works train 8M42S during early morning rail unloading operations at the 220 km post, near McLeay, between Port Augusta and Pimba. Malcolm Holdsworth



## New station for Port Adelaide

Work is to start next year on a new rail line into the heart of Port Adelaide with a new station to be built in Baker Street, close to the Dock One residential precinct.

Train services into the centre of the Port Adelaide were discontinued in 1981, and the old Port Dock Station was demolished in 1989, making way for a police station and courts on the site.

South Australian Transport Minister Stephen Mullighan said a modern station would give impetus to the rejuvenation of the suburb.

“Better access to public transport will encourage more people to come to live in this unique waterfront district and also encourage people to visit the Port,” he said. “Having train services close to the new housing development, but also close to where we are relocating 500 public servants to work, will be a huge boost for the centre of the Port.”

The SA Government has allocated \$16.4 million in the 2017-18 state budget for the new rail station which will be served by a 1-kilometre branch off the existing Outer Harbor rail line at Grand Junction Road before the line crosses Port Road.

Mr Mullighan said the new service would not interfere with operations of the National Railway Museum, which is in the same part of Port Adelaide. “We’ve got a lot of work to do with the museum to make sure that what we’re doing is a benefit to them and doesn’t harm their operations in any way,” he said. “We also need to talk to the council and some of the other land owners to make sure we’re delivering this in a way that benefits everybody.”

National Railway Museum executive officer Bob Sampson said the new line would be a boost for both the attraction and the wider area. “Our railway museum has been established at Port Adelaide for almost 30 years and this announcement to bring suburban passenger services into the heart of our city is a huge benefit for Port Adelaide’s businesses, events and local attractions,” he said. “Whilst there are some important business and operational issues that the railway museum is working through with [the Department of Transport], we remain positive that the eventual outcome will be great for both our museum and those who live, work and enjoy Port Adelaide as a whole.”

Port Adelaide-Enfield Mayor Gary Johanson said the rail project would improve access to the Port for growing numbers of office workers, residents and tourists. He added that the existing station was at the

quiet end of Port Adelaide away from the waterfront. (Port Adelaide Station is located in Portland Place on the Outer Harbor line, 11.7 kilometres from Adelaide station.)

“We’re going sort of back to the future, or back to the past almost, but looking at the future and it’s going to be very well received by tourists because it’s going to deliver people right into the heart of the Port around the museum precinct,” he said.

South Australian Treasurer Tom Koutsantonis said it was part of ongoing efforts to improve Adelaide’s public transport network.

“Three years ago this Government made a commitment to keep building South Australia [and] since then we have invested hundreds of millions of dollars to improve our public transport network,” he said. “This budget is capitalising on the work we’ve already done to encourage more people to catch buses, trains and trams.”

## Pedestrian safety upgrade for Seaford line

Pedestrians will get safer passage across key railway crossings as part of a project to prevent accidents and near-misses on the suburban Adelaide’s Seaford line. However, five other crossings will be closed to reduce journey times and improve traffic flow.

The South Australian Government will install electronic pedestrian gates at Seventh Avenue – Hove (at the eastern end of Hove station), Dunluce Avenue – Brighton, Beach Road – Brighton; and at the southern end of Christie Downs Station.

Crossings at King Street – Brighton, Pine Avenue – Seacliff, Hallett Cove station, Carlton Street – Oaklands Park; and at the northern end of Christie Downs station, will close.

South Australian Transport Minister Stephen Mullighan said upgrading some crossings while removing others would “significantly improve safety along the Seaford rail line, while also improving the reliability of trains and reducing the journey time”.

The project, part of the government’s Railway Crossing Safety Strategy, will cost \$2.5 million. Work on the changes will start in the coming months.

Four people were killed and six people were seriously injured at railway crossings across South Australia between 2011 and 2016. Rail operators reported 741 near-misses during the same period.

EDI/EMD units SCT 012 and SCT 004 are seen hauling 3MP9, Melbourne to Perth freight, at Pratt Road railway level crossing, near Two Wells, on Wednesday 7 June. Behind the fuel tanker and crew car is Watco Australia Clyde/EMD locomotive G511, being hauled dead attached to a new assignment out west. Mark Roberts





**Above:** A beautiful winter's morning in Tasmania's Midlands, Monday 19 June, finds the unusual sight of a daytime train winding around the Tin Dish Deviation between York Plains and Antill Ponds. These extensive works were carried out in 1931. DQ Class units 2006 and 2002 can be seen returning their empty ballast rake towards Conara Junction after a trip to the Nala/Andover area for ballasting work. Steve Bromley  
**Below:** A driver shortage saw the Boyer shunt on Wednesday 21 June take loading to Boyer, but not return with the empty coal hoppers as usual. The two TR Class units were instead added to 432 Boyer to Burnie paper train. TR02, TR12, TR15 and TR13 are seen at Millvale at 3.27 that afternoon. Bruce Tilley





Sporting its new Public Transport Victoria livery, V/Line Clyde/EMD N Class unit 457 starts out of Springhurst on Sunday, 18 June with No. 8615 Albury passenger train comprising car set SN8, also in the new livery. The service was timetabled to depart Melbourne at 12.05 pm. Springhurst was once the junction for the 23 kilometre line to Rutherglen and Wahgunyah. John Hoyle

## Massive boost for Victorian Regional Rail

The Federal Government has agreed to a major funding boost towards Victoria's Regional Rail package, following a dispute over infrastructure spending.

On Monday 26 June, the Commonwealth agreed to provide \$1.42 billion to fund the network upgrade following talks between Victorian Public Transport Minister Jacinta Allan and her federal counterpart Darren Chester.

In a letter seen by the ABC and Fairfax Media, Prime Minister Malcolm Turnbull said Victorians deserved better public transport and that was why he had agreed to the funding increase.

In May, Victorian Premier Daniel Andrews criticised Mr Turnbull for not fully funding the project, saying it had placed the regional rail plan in jeopardy.

Victoria announced the rail project believing it was owed \$1.45 billion after securing the long-term lease of the Port of Melbourne for \$9.7 billion under the Commonwealth-States Asset Recycling initiative. However, Canberra only committed to handing over \$887 million, infuriating the State Government and prompting an ongoing disagreement between the state and federal governments since the sale of the port last year.

While the new funding was about the same amount as Victoria claimed it was owed, the Prime Minister said it had come from the federal infrastructure budget rather than the asset recycling scheme.

Mr Andrews said the additional funding was a "win for regional Victoria and a win for jobs". "This is a once-in-a-generation investment that will upgrade every single regional passenger line in Victoria."

The project covers every regional rail line in the state including:

- \$555.6 million for upgrades to the Ballarat rail line
- \$435 million for the Gippsland rail line
- \$140 million for the North East rail line
- \$110 million for the Surf Coast rail, including the Waurn Ponds duplication
- \$114 million for the Warrnambool rail line
- \$91 million for the Bendigo, Echuca rail line
- \$95 million for the Avon River bridge upgrade
- \$20.2 million for the Murray Basin freight rail
- \$10 million for the Shepparton freight network planning

Victorian Transport Minister Jacinta Allan said the State Government would put the money to work immediately.

"We can get things moving straight away, that has always been the message to the Federal Government ... whether it's upgrade of Ballarat line, other works to Warrnambool, Gippsland or the north-east."

Federal Transport Minister Darren Chester said the money was held back because the Commonwealth needed more detail from Victoria. "What we're interested in is details on the work required," he said. "In the initial stage, Victoria sent a one-and-a-half-page letter demanding money. They have been giving us detail now and background – we're pleased to be on board."

However, not all regions are satisfied with the funding allocation, in particular those who use the North East line to the NSW state border at Albury, which consistently boasts the most unreliable passenger rail service in Victoria.

Border Rail Action Group chairman Bill Traill fears that an upgraded and more reliable North East line could still be more than three years from reality, and new rollingstock could be up to another nine years away despite the additional funding.

Mr Traill said it was inevitable the project would have to be staged, but it meant the track upgrade needed to be protracted over three years and was due for completion in the 2019-20 financial year.

"This unfortunately reinforces the tactical delay position of the Victorian government on rolling stock: 'you finish the track and we'll buy new trains'," he said. "BRAG's position is that as the track is wholly owned by a Commonwealth entity, the Australian Rail Track Corporation; it remains their responsibility to maintain it. However, we are unequivocal about the Victorian government's need to come to the party by backing the federal initiative on the track with funding to replace rolling stock on the Albury line."

The Regional Network Development Plan (see July 2016 RD, page 20), released in May 2016, which included a timeframe of "up to 10 years" to "procure and roll out next generation of regional trains".

Mr Traill said Premier Daniel Andrews' comment that the funding paved the way for better services in the North East "clearly represents no commitment whatsoever to the acute need for rolling stock replacement on the Albury line".

## Community rail buildings program wins national award

VicTrack's community rail buildings refurbishment program, delivered in partnership with the Victorian Government, was a winner at the prestigious Property Council of Australia's Innovation and Excellence Awards.

The Community Use of Vacant Rail Buildings Program won the national award for 'Best Government Leadership' which recognises significant innovation and excellence by government in dealing with the property investment and development industries.

The program revitalises historic vacant rail buildings across regional Victoria so they can be opened up to the community and enjoyed. VicTrack works with local councils and its communities to explore ways for vacant station buildings to be transformed into much needed affordable spaces.

So far the program has restored 16 buildings in 14 townships over four years. The revitalised buildings now offer a range of community uses, including arts hubs, offices, galleries, museums, community health hubs and performance spaces. "Working hand-in-hand with local communities, we are giving people in regional Victoria much-needed spaces to use, and turning once vacant station buildings into active community hubs", said Peter Chau, General Manager Property Group, VicTrack.

Recognition from the Property Council of Australia is a further accolade for the program, which has already received local heritage awards for works at Newstead and Chiltern.

The Community Use of Vacant Rail Buildings Program was delivered by VicTrack on behalf of Public Transport Victoria until 2016. It is now fully funded by VicTrack, and has a current pipeline of projects to be delivered in Dingee, Murtoa, Harcourt, Stawell, Willaura and St. Arnaud.

The most recently completed project at Avoca transformed the station building into a community arts and garden precinct (see March 2017 RD, page 24).

For more information, please visit: [www.victrack.com.au/projects/key-projects/community-use-of-vacant-rail-buildings-program](http://www.victrack.com.au/projects/key-projects/community-use-of-vacant-rail-buildings-program)

## Ballarat Line Upgrade ramps up

Some major construction companies are vying to bid on the \$518 million Ballarat Line Upgrade project. The project includes;

- duplication of 18 kilometres of track between Deer Park West and Melton,
- upgrading Rockbank station and extending platforms, constructing a new pedestrian link between platforms and building a new car park,
- additional platforms at Bacchus Marsh and Ballan stations, with new pedestrian links between platforms,
- new stabling facilities at Maddingley, and the removal of stabling facilities at Bacchus Marsh,
- a five-kilometre passing loop at Ballan,
- a new four-kilometre Spreadeagle passing loop, near Millbrook, making it possible to close the existing Bungaree loop (the former main line), and remove five level crossings; and
- duplication of three kilometres of track east of Warrenheip Junction.

The five bidding companies are:

- John Holland, Arcadis, KBR
- Laing O'Rourke, AECOM
- Lendlease, Coleman Rail, SMEC
- CPB Contractors, WSP
- TRANSFORM (McConnell Dowell, RCR O'Donnell Griffin, Arup, GHD)

Evaluation of the bids is well-advanced and a decision will be made shortly on a preferred bidder. The contract is expected to be awarded later this year.

The Ballarat Line Upgrade is being delivered by the Melbourne Metro Rail Authority (MMRA).

Preparatory works are gaining momentum, with nearly 90 boreholes dug since February to provide information about the ground conditions along the Ballarat line. Further site investigations including geotechnical drilling, service locating and ecological assessments will be carried out in the coming months to inform the project's detailed design.

The Ballarat Line Upgrade will create up to 400 jobs during construction, with apprentices, trainees, and engineering cadets making up at least 10 per cent of the project's total labour hours.

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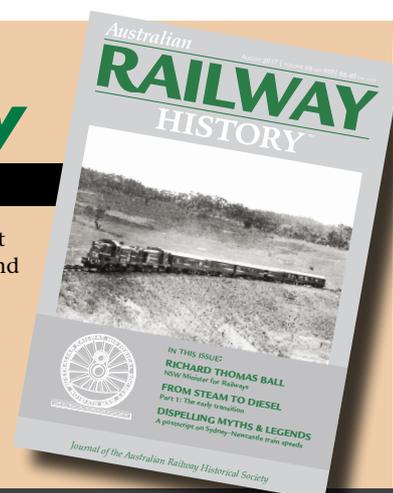
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Neville Pollard opens the August issue of *Australian Railway History* with his account of the career of the prominent politician and Minister for Railways, Richard Thomas Ball. It explores Ball's role in enhancing services on rural branch lines during his extended parliamentary career.

David Matheson contributes Part 1 of his three-part account of the transition from steam to diesel and electric locomotives on Australia's

government railway systems. This initial element reviews the early initiatives to introduce diesel and electric locomotives of the various government systems while providing a statistical analysis of the transition on each system.

Alex Wardrop rounds off the issue with a follow-up on his previous article 'Dispelling Myths and Legends' with a comparison of steam and electric trains' times for the Sydney to Newcastle journey.





On Monday afternoon 26 June, the driver of a three-car Vlocity Set checks his mirror in readiness for departure from Woodend (about half-way through its journey) with an Up Bendigo to Southern Cross passenger service. Steve Munro

## Around Melbourne

### Union signals problems for rollout of Victorian high-capacity trains

Industrial unrest has struck Melbourne's high-tech next-generation trains two years before the first of them is due to hit the tracks.

The Rail, Tram and Bus Union, which represents Metro Trains Melbourne's drivers has instructed its members not to co-operate with the rail operator in its preparations for the arrival of the 65 trains to Melbourne's network from mid-2019.

The high-capacity trains will include a number of "semi-automated" features, which the union fears could usher in a de-skilling of drivers and subsequent loss of conditions among its ranks. It is intended that each of the new trains will be capable of semi-automated operation of some functions that are currently the exclusive preserve of qualified train drivers, additionally some train functions will be capable of being remotely controlled.

The Rail, Tram and Bus Union's assistant divisional secretary, Jim Chrysostomou, said the union merely sought a "transparent conversation" with Metro about what impact the new trains would have on drivers' roles, but had been given the cold shoulder.

"It could lead to a replacement of the driver's role," he said.

In an act the union took as a sign the company intends to freeze it out of planning, Metro Trains blocked Mr Chrysostomou from attending a meeting it held on 7 June with a group of its drivers and with Evolution Rail, the consortium that will deliver the 65 high-capacity trains.

In two circulars issued to union members Mr Chrysostomou said Metro had "refused the union entry to the building and would not enter into discussions about the next generation train". The company

had also sought to sidestep the union and directly appoint its own employee representatives in planning for the trains' arrival, he said.

He advised the locomotive division's 1700-strong membership base to reject any such approach from Metro. "If you are requested to participate in matters relating to the next generation train, kindly decline and refer the matter to the union," Mr Chrysostomou said.

Metro responded that Mr Chrysostomou, who is not a Metro employee, showed up unannounced and uninvited. The RTBU had a forum for raising industrial concerns, the company said.

"We regularly support our drivers' learning and development with any new process, system or fleet types and the introduction of High Capacity Metro Trains is no different," Metro spokeswoman Sammie Black said.

It is understood that Metro Trains Melbourne has produced an industrial relations strategy, which the union has obtained, which notes that the high-capacity trains project will require changes to drivers' established work practices.

"These include restrictive provisions around rostering, route running, training, depots, train preparations, demarcation issues around the performance of work and provision of contract labour," the strategy states.

The 65 high-capacity trains are to be built as part of a \$2.3 billion public-private partnership with the Victorian government that also includes construction of a state-of-the-art maintenance depot in Pakenham East. The trains will initially run on the Cranbourne-Pakenham corridor, and then through the new Metro rail tunnel once it opens in 2026 and on the Sunbury line.

## Solar power for Melbourne's newest stations

During June more than 600 solar panels were installed at four of Melbourne's newest railway stations:

- Gardiner (Glen Waverley line - 10.6 kilometres from Southern Cross),
- Ormond (Frankston line – 13.7 kilometres from Southern Cross)
- McKinnon (Frankston line – 14.5 kilometres from Southern Cross); and
- Bentleigh stations (Frankston line – 15.3 kilometres from Southern Cross).

Project contractor John Holland, in conjunction with Energy Australia, has installed 625 solar panels as part of the construction project's sustainability rating.

The new stations were built as part of a \$524 million Level Crossing Removal Authority (LXRA) project to remove four level crossings at Burke Road - Glen Iris, North Road - Ormond, McKinnon Road - McKinnon and Centre Road – Bentleigh. The level crossing removals were completed in 2016.

The new solar panels will be used to power ticket machines, platform and station lighting, and security systems. They can be moved or adjusted if required and, in the case of Ormond, McKinnon and Bentleigh will also offset power usage at other stations along the Frankston line.

Having solar panels on stations isn't new, but LXRA's work has helped to define the standards and processes for future application. Thanks to the Alliance's work with Metro Trains Melbourne and energy providers, solar power on stations could become the norm, rather than the exception, in future.

This commitment to energy efficiency helped LXRA recently win an Infrastructure for a Strong Climate Future Award. The award, administered by the United Nations Association of Australia, rewarded projects that minimised construction impacts on the environment. The solar panels at all four stations became operational by the end of July.

## Council pushes to use soil from level crossing removal works to create playing fields

Kingston City Council (located in the middle and outer southern suburbs of Melbourne – approximately 20 kilometres south of the Melbourne CBD) has identified a green wedge site for a new regional sports ground. The council said a 34ha area, the former Delta sand extraction plant in Heatherton, could be converted into a sports hub, meeting growing demand for playing fields.

It put forward the idea to local state MPs at a briefing recently, arguing "now is the perfect time" to build a much-needed sports venue because upcoming level crossing removal and Metro Tunnel works presented an opportunity to source large amounts of soil for the project.

Council chief executive John Nevins told the Moorabbin Leader once the soils had been subjected to stringent testing, it could be used to prepare the Delta site for construction.

In advocating to MPs, the council highlighted the explosion of women's participation in sport which posed challenges such as accommodating women's matches on already "overused grounds" and providing facilities traditionally built for men only.

Mr Nevins described the proposal as an innovative, cost-effective solution. "Purchasing of soil for local projects can cost millions in ratepayer funds," he said.

The council saved almost \$2 million in the transformation of Clarinda's Elder Street landfill into parkland after it sourced soil from the Ormond, Bentleigh and McKinnon level crossing removal projects.

## Three northern lines exceed peak capacity

The Andrews government has been warned by Metro that three of Melbourne's metro lines have breached peak hour capacity, with three others to follow within the next two years.

The overcrowding and frequent disruptions experienced during the morning peak on the Sunbury, Craigieburn and Upfield Lines will soon become common on the lines to Cranbourne, Pakenham and Werribee.

The rail operator has proposed bypassing the City Loop more often in the peak and running trains direct to Flinders Street Station or Southern Cross Station instead, as a way to squeeze more capacity out of the network. It says the problem is most urgent on the group of lines serving Melbourne's booming north-west. The Sunbury, Craigieburn and Upfield Lines share of one of the City Loop's four tunnels and all are experiencing rapid patronage growth.

Metro said "The Northern Group faces immediate challenges with a number of lines currently operating at capacity". "There is an urgent need to develop a solution for the Northern Group to ensure that there is sufficient capacity on this group until the commissioning of Metro Tunnel in 2026."

According to Metro's 2016 Strategic Operational Plan, leaked to Fairfax Media, Metro has set a target to run 95 per cent of trains on time by 2026. However, it has warned the government that Melbourne's rail network will require significant taxpayer investment to remedy a host of problems, such as peak hour congestion in the City Loop, bottlenecks, and ageing rolling stock and signalling systems, if this goal is to be achieved.

## Memorial unveiled for lives lost at Victorian level crossings

Victorians who have tragically lost their lives at level crossings are now remembered at a memorial dedicated at St Albans station on Sunday 4 June. (St Albans is located on the Sunbury line 17.8 kilometres from Southern Cross station.)

Victorian Premier Daniel Andrews joined Federal Member for Maribyrnong Bill Shorten, State Member for St Albans Natalie Suleyman, and local resident and advocate Dianne Dejanovic, to unveil the memorial at the new St Albans station, which was opened on 1 November 2016 as part of a grade separation project that removed the Main Road level crossing (see November 2015 RD, page 25).

The memorial is part of a garden at the entrance of St Albans Station with a plaque stating:

*In memory of all those who have lost their lives at level crossings across Victoria. Forever in our thoughts.*

The garden and memorial will serve as a permanent place for Victorians to remember loved ones and leave floral tributes.

Speaking at the dedication Premier Andrews commented that too many Victorians have lost their lives at level crossings just like this one – "today we pause to remember them and their loved ones."

Before the Main Road, St Albans level crossing was removed in 2016; it was one of Melbourne's worst, with two fatalities and dozens of near-misses in the past decade.

Dianne Dejanovic, who lost her son Christian at the level crossing in 2012, has long campaigned for its removal. Christian Dejanovic was killed in 2012 when he ran across the tracks to save a young girl. He was posthumously awarded a Bravery Medal by the Governor General earlier this year.

## Local councils support light rail for Perth's south

A light rail system linking Murdoch to Fremantle and a circular route in Rockingham are being championed by a group of councils in Perth's south.

The South West Group — comprising Cockburn, Fremantle, East Fremantle, Kwinana, Melville and Rockingham councils — believes light rail can ease traffic congestion and spark high-density development.

A study commissioned by the organisation identified priority corridors that could be developed by 2030 and attract private-sector funding through value capture and land-use rezoning.

The proposed Murdoch to Fremantle line — running along South Street between Kwinana Freeway and the port town — was deemed the highest priority. (The suburb of Murdoch is located south of the Perth CBD. Murdoch station is served by the Mandurah line. It is situated 13.8 kilometres from Perth station, inside the median strip of the Kwinana Freeway.)

This was followed by a loop service linking Rockingham railway station and the coast. (Rockingham is located on the Mandurah line 43.2 kilometres from Perth.)

Other routes considered included Canning Bridge-Fremantle, Cockburn-Fremantle and Warnbro Sound Avenue.

The group of councils will now look at patronage numbers and land value increases ahead of deciding whether to develop detailed business cases to present to the Federal and State governments.

South West Group director Mick McCarthy said there are a number of direct benefits for local governments taking a lead role in light rail planning as it enables the integration with local planning schemes and land use development plans around the network. In addition, State Governments set population, dwelling and employment forecasts at the local government level as part of planning for growth.

Fremantle Mayor Brad Pettitt said councils had a role to play in the planning of mass transit systems by ensuring space was reserved for the route and rezoned at “transport hubs”. “When you have got areas like Fremantle, Murdoch and Melville, which are already built up, it's much harder to retrofit heavy rail than it is light rail,” Mr Pettitt said. “We need to make a really good business case as to why the south west region needs to be part of future Government thinking and budgets.”

The McGowan Government has pledged to start work on planning and costing a light rail route, with a route linking Curtin University in Bentley and the University of WA in Crawley one option.

## Mandurah Station goes solar

The Mandurah railway station has joined ranks with the thousands of households in the region who are focused on energy efficiency by installing solar panels to meet its growing energy needs. (Mandurah Station is the terminus of the Mandurah line. It is situated on the Transperth network, 70.1 kilometres from Perth station.)

In a first for the Public Transport Authority of Western Australia (PTA), Mandurah was fitted with \$15,000 worth of solar panels in the pilot program that could be rolled out to every station in the network.

The PTA and Synergy, Western Australia's leading energy generator and retailer, have partnered for the project designed to reduce energy costs and impact on the environment. Synergy chief executive Jason Waters said the initiative was a first for Western Australia and the business was proud to be involved with the project, which saw forty six 260W solar panels installed on the station roof on Friday 23 June, at a cost of \$15,000.

PTA spokesman David Hynes said the project would reduce energy costs at Mandurah Station by more than \$3200 a year, with the solar panel system repaid in four years. Mr Hynes said the Authority would closely monitor results at Mandurah with a view to considering more solar panels around the network. “This is entirely consistent with the environmentally friendly and sustainable nature of public transport,” he said.

## Brookfield Rail completes three-year upgrade program in Merredin

The Thursday 1 June completion of a turnout installation in Merredin marked the end of a three-year upgrade of rail infrastructure in the town, which located 284 kilometres east of Perth on the Eastern Goldfields Railway (EGR). The final turnout installation involved over 30 Brookfield Rail employees and local contractors from Merredin, Northam and the Goldfields working through a single 10-hour shut down of the EGR, with minimal disruption to services along the network. The \$3 million upgrade was carried out between the Mary and Barrack Street level crossings and involved the installation of 3,000 concrete sleepers, two new turnouts and an upgrade of the Barrack Street level crossing.

The EGR is a vital section of the transcontinental freight rail network, providing the only rail connection to the east coast of Australia, transporting around 80% of all containerised freight, and providing bulk minerals and grain customers with access to Fremantle and Kwinana ports.



**Watco Australia Clyde/EMD locomotive HL 203 has arrived at Midland with an empty ballast train from the Avon Valley on Saturday 4 March and is about to reverse into Flashbutt siding. HL 203 entered service in 1969, as NSW Railways' 42203. Watco is now contracted to provide track maintenance trains for infrastructure manager Brookfield Rail. Graham Barnes**

# P Class withdrawal

David Campbell



**I**n the end, it all comes as a bit of a shock. Like a lot of things about the P Class (their transition from series into parallel being one). The boss muttering "...oh yes, and by the way, we won't be running those push-pulls after August..."

Many things were happening in the early 1980s with the Victorian passenger fleet. Unlike other states, the network was being expanded, and demand for more services again was strong. Acting against this was the age of the fleet; the locomotives were up to 30 years old, the carriages were in some cases almost 80. The infamous BPL carriages remained in regular use; their flimsy construction making for some exciting trips, but not necessarily in a positive way. The newest vehicles in the fleet were four 600hp Tulloch-built railcars, two of which had been originally disposed of by New South Wales.

Under the title of a 'New Deal For Country Passengers', the railways were dragged into the 20th century. This project was actually quite an impressive update of all manner of things relating to country passenger trains, and featured the introduction of the 'N' type passenger carriages, new N Class locomotives and the re-building of the B Class as A Class (this last job was altered into construction of additional N Class units).

This new rolling stock allowed for all sorts of improvements, both for the operator and the passengers. For the first time, practically all long-distance trains were fully air-conditioned, while maintenance and shunting workloads were reduced.

The shorter-haul services were also upgraded, but not to the same degree. Perhaps by now the money was running low; maybe they were unsure whether all this work would yield returns; whatever the reasons, former suburban electric 'Harris' carriages were extensively re-built, fitted with air-conditioners, toilets, and power-closing doors, and brought into loco-hauled service, running typically to Sunbury, Bacchus Marsh, Seymour and Geelong. The railcars on the Stony Point and Leongatha lines were also replaced with these carriage sets. Locomotives were required to haul these carriages, but with the bigger

power locos already occupied there was a need for something for these trains. The 'H' carriages required independent power for lights, air-conditioners, etc, whether provided from purpose-built power vans or from locomotives. Unlike other carriages, they lacked their own power supplies (such as underfloor generators).

The first-series T Class locomotives were selected for upgrade to haul these trains. Known to all as 'flat-tops', these locos featured a longer frame than later T Class units, and this extra space was required for the rebuild, as it provided room for the head-end power engine. The original locomotives were built by Clyde Engineering in New South Wales in 1955/56 using EMD engines and equipment.

The area above the catwalk was extensively changed. The 8-cylinder 567 engine was replaced with a 645E, 26L brakes replaced the old A7EL, and the traction motors and main generators were upgraded. The pneumatically-operated high voltage electrical switches and controls were replaced with motorised versions. Importantly, a head-end power unit was fitted, between the re-located engine and cab. Crew comfort was improved with a raised cab featuring better visibility and access as well as having air-conditioners fitted.

All this work altered the external appearance of the locomotive considerably, although the changes below floor level were less visible. After introduction in 1984, these units were soon put to good use running the shorter trips to outer suburban and nearby regional areas. The standard train configuration was a P Class hauling three of the 'H' type carriages, although they could run four or even five cars, the load being limited more by the capacity of the head-end power unit than the locomotive's hauling power.

By the early 1990s, one train each afternoon was being made up as a 6-car set, running the 17:19 Sunbury service with a P Class at each end of the train in push-pull mode. The carriages were set up so that the standard loco jumper cable was connected through, so that the rear unit could be controlled from the leading cab, while each of the head end power units would supply three carriages only.

Some wit sighting this particular train christened it 'the poor man's XPT' – a name that immediately stuck.

The whole concept was expected to be required for perhaps as many as 15 years; both the carriages and the motive power were originally built from 1955, so you couldn't really expect all that much. That was in 1984.

Unfortunately, the usual Victorian problem manifested itself. People kept boarding the trains, and as they filled up a carriage they demanded more trains. Brutal politics didn't help; the destinations served tended to be politically marginal, and the local Members were hardly likely to allow their train services to be reduced. The poor railway managers had to balance the competing interests of the passengers' demands for more services with the chronic lack of funding, so new trains were deferred and those old trains kept running.

During the 1990s, Sprinter railcars were introduced, the railways were corporatised and later privatised (the passenger network being taken back again by the State Government a few years later after the private operator abandoned the franchise at short notice). And still those P Class kept going. The privatisation process had seen the fleet split; five (19 – 23) were assigned to Freight Victoria (which became Freight Australia), while the first eight (11 – 18) remained with V/Line, becoming exclusively passenger units.

V'locity railcars were introduced in 2005 as part of the Regional Fast Rail Project. It was thought then that a fleet of 30 trains, in 2-car formations, would pretty much end all loco-hauled workings. That was back then; unfortunately those annoying passengers kept choosing to travel by train, and those 60 carriages were just not enough. As I write, the V'locity fleet comprises 66 sets, each of 3 cars, representing an increase in carriage numbers of over 300%, yet they remain crowded in peak times, and it seems likely that demand will only continue to grow. Fortunately, V'locity trains are still being manufactured and delivered.

Mind you, there have been some changes to locomotive workings. The four members of the A Class were withdrawn with some ceremony in 2013, before A 66 was gradually returned into occasional, then daily use. The use of P Class was certainly in decline, with the trains re-configured so that two 6-car train sets were operated, both using P Class in push-pull mode. By then, these remained the only P Class

workings. At this stage, the two trains were stabled overnight at Bacchus Marsh, each running a single morning peak Up train and an evening peak Down service, laying over in Melbourne between peaks.

With a fleet of eight and only four required for the daily program, the surplus of these locos allowed one member to be converted to standard gauge. The unit was intended as a shunt loco, but with sufficient power to be able to rescue a full standard-gauge passenger train consist (including its locomotive) should one fail in running. The head-end power unit fitted on the P Class was never going to be enough to supply head-end power to five of those big 'N' carriages; the use was intended solely for unplanned recovery moves. 13 was the lucky loco chosen, and it has since spent a fairly quiet life pottering around South Dynon, interspersed with the occasional trip towards Albury. P 13 sometimes runs empty car moves between Southern Cross and South Dynon, or shuffles carriages around for maintenance, but mostly keeps well out of sight. Those of us who have run it on the main line swear that it rides better than an N Class on the notoriously poor quality track to Albury, but sadly it seems that they won't be transferring the rest of the fleet onto the standard gauge.

The opening of the Regional Rail Link lines in 2015 saw their workings changed, with the two trains being stabled overnight in Melbourne. Space limitations at Bacchus Marsh saw both of them programmed to run as empty cars to Bacchus Marsh in the early morning before running their Up passenger services, thence across to South Dynon or the Storage Yard for a rest between peaks. The trains in the afternoon would run a Down revenue service to Wyndham Vale, returning empty to Southern Cross for overnight.

These locomotives are the last non turbo-charged machines to run regular commuter trains in Australia. They make a terrific sound with that lovely old EMD engine chattering away, and a few friends have remarked that this was the best diesel experience in Australia.

The loco appearance is interesting. Some carry the immediate past 'melted cheese' corporate colour scheme of red, yellow and grey (P 17 being the last unit to be re-painted in this colour in early 2017), while others remain in the earlier red/blue/white colour, and quite shabby they are starting to look as that red paint fades. 11, 12, 15 and 17 wear the red/yellow/grey colours, while 13, 14, 16 and 18 remain in the so-called 'heritage' colours (red/blue/white).

**Above left (page 28):**  
P 17 runs around the famous 'bull farm' curve between Parwan and Bacchus Marsh leading a Down service on Saturday 8 March, 2014.

Ken Hambleton

**Right:** P 17 again, this time in original V/Line tangerine colours, ready to depart the old Spencer Street station on a 17:19 Sunbury train in around 1990. Ken Hambleton





I could not say that they are a lovely locomotive. Short end leading probably doesn't look too bad, but when running long end leading they (subjectively) look quite ugly. They seem to lack the trimmings of other similar units such as the T or X Class. To me they just look like a big slab of steel, a blank canvas waiting forlornly for some artistic type to enhance.

Goodness knows what the passengers thought of them. Loud, smelly, ugly. Did the passengers catching their first trains to Tarneit and Wyndham Vale after the Regional Rail Link tracks opened in 2015 realise that their long-awaited train was older than most of them? Perhaps they were impressed with their exhaust sound; a loud, almost excited crackle of that non-turbocharged engine, especially as it notched up. The sounds of them departing Southern Cross Station in the evening peak on a quiet night has been marvellous, with that massive unrefined sound echoing back off the nearby high-rise buildings surrounding the station. Not just the railwaymen would stop to take that sound in.

In later years their reliability had diminished, and ultimately this prompted their withdrawal. On several of my trips in the last year or so I have experienced engine faults, usually of the trailing unit, and a trip of half-an-hour listening to alarm bells sounding continually is not

pleasant. Then again, when they ran well they really were a pleasure to drive, and their ride quality on the higher quality RRL tracks was quite satisfactory, especially after a trip from Albury on the standard gauge the night before! Their speed told against them as well; they could certainly get to 100km/h (well, eventually), but when trying to slot in amongst dozens of trains trying to run at 160km/h they too often just got in the way.

As a driver, it is of course different. Arguments abound about them; some do all they can to run short-end leading, while others much prefer to run long-end leading. There is only one control stand, which is arranged to suit long-end leading; when running short-end leading the driver is constantly twisting around to access the controls. Personally I find them more comfortable long-end leading, but you do get much better visibility short-end leading. The arrangement was typical of old Victorian Railways ideas; chronic under-investment made us tolerate such inconveniences, unlike those luxury locos, such as the 48 Class of NSW, where a caring management provided a second control stand.

They could prove to be very rough on the passengers, and particularly in that push-pull mode. The locos would make transition (where the traction motors would be switched automatically from series into parallel)



**Above:** Running long-end leading, P 20 runs an Up Leangatha service near Koo Wee Rup one Saturday afternoon in 1988. David Campbell

**Left:** P 17 was the last of its class to be painted in the 'melted cheese' colour scheme. On Thursday 2 February, the paint was still fresh as, assisted by P 12, bookending Sets SH27 and SH35 in 'Poor Man's XPT' mode, it rounded Parwan Curve with No.8122 Bacchus Marsh to Southern Cross service. Ewan McLean



at around 15km/h, but each locomotive was different. Some would make the transition smoothly, others less so. A rough transition was something to experience; the loco seemed to suddenly hesitate, before with a massive lurch (it sometimes felt that the whole loco had exploded) it would power up again. One soon learned to hold onto your cup of tea! Worse was when the trailing unit was making transition at a different speed, when the passengers would experience all sorts of shoves and drags as first one engine then the other did its thing.

Sometimes you could get a smooth transition, however that was so much harder when the trailing loco made transition at a different, often higher speed, perhaps a minute later; just when you thought it was safe. You would be relaxed, thinking this thing's not going too badly after all, before the train would suddenly seem to drag back, as if the trailing loco had decided to cut out or its brakes had inexplicably applied, then WHAM! as the second locomotive tried to overtake the first. Goodness knows what stresses of tension and buff the poor carriages had to endure.

They actually took a bit of driving as well; they never had dynamic brakes, let alone modern EP equipment, so all stops were made exclusively using the ancient but ever-reliable Automatic Air Brake.

Fortunately, both locos and carriages always seemed to have good brakes, so the trains could compensate for their slow acceleration by faster approaches into stations.

As I write this, the timetable changes planned for late August are expected to see the class withdrawn, at least from broad gauge passenger workings. P13, almost forgotten on the standard gauge, might (hopefully) hang around quietly for a while yet. I guess the final revenue runs will be the 16:50 and 17:15 Wyndham Vale services, each returning empty cars to Southern Cross. After that, I guess a period in storage, then ultimately disposal. Where to? When? Who knows?

You might consider this to be fair warning. You probably only have a few weeks to ride behind these locos for the last time, so if you get the chance, I recommend you take it. Take whatever photos you can before this piece of history disappears. Unfortunately at the time of writing I don't have final dates. Every time I ask the question, I get a different answer. Perhaps I have already driven my last trip on one, blissfully ignorant. Maybe one set will hang around into September. Or maybe even until the next timetable change, whenever that is.

Then again, the chronic shortage of regional trains in Victoria might yet see another reprieve...

**Above:** The Avalon Air Show would see the class drafted in to run extra services conveying thousands of patrons between Melbourne and Lara. Here we see two such trains, with a pair of P Class in push-pull formation, on 15 March, 2009. Ken Hambleton  
**Right:** Standard-gauge P 13 shunts around South Dynon loco Depot around midnight on Wednesday 30 March, 2016. David Campbell





# SCT's Bromelton and Barnawartha terminals bring growth for rail

Text and images by John Hoyle  
Track Drawings by Graham Vincent

The opening in the last 12 months of new SCT Logistics intermodal terminals at Bromelton (49 kilometres south of Brisbane's Acacia Ridge rail terminal) and Barnawartha (near Wodonga in north east Victoria) has brought new business to rail on Australia's interstate network and demonstrated that rail can compete with road if the mix of reliability, distance and appropriate terminal facilities is right. SCT has already cemented its position in the Australian rail freight scene hauling palletised freight in vans between purpose-built rail/road terminals – freight activity that other interstate rail operators have not pursued to any extent. The addition of two terminals designed for interchanging this type of freight, as well as the traditional shipping container, has further enhanced SCT's position as a major player in interstate rail freight.

## **Bromelton – from paddock to terminal in 12 months**

As reported in the March 2017 *Railway Digest* (page 30/31) SCT Logistics opened its \$30 million Bromelton intermodal facility for business on 23 January this year when the first train arrived from the company's Altona (Melbourne) terminal at 4.30 am. It would be an understatement to say that the opening of the terminal in time for the first train was something of a miracle given that Aurizon had given SCT just 12 months (the minimum period set out in the contract) to cease using Aurizon's MB7/BM7 services for the haulage of SCT vans between Melbourne and Brisbane. In a situation that can only be described as 'cutting it fine', the contractor for the terminal's internal track, Downer Rail, completed the last rail weld at 5.00 pm on Sunday, 22 January and track tamping was finished just two hours later. By this time the first SCT service was well on its way to Bromelton. The connecting turnout and associated signalling on the Australian Rail Track Corporation's main line was commissioned on 6 January.

Fortunately, SCT's property arm, Blanalko Pty Ltd, had set in motion preliminary designs and Development Application preparations in September 2015 with a view to complete the terminal by August 2017. However, Aurizon's notice meant that the completion date had to be moved back to 23 January. The building contract was awarded on 29 March 2016 and the rail contract on 20 April 2016. Relatively good

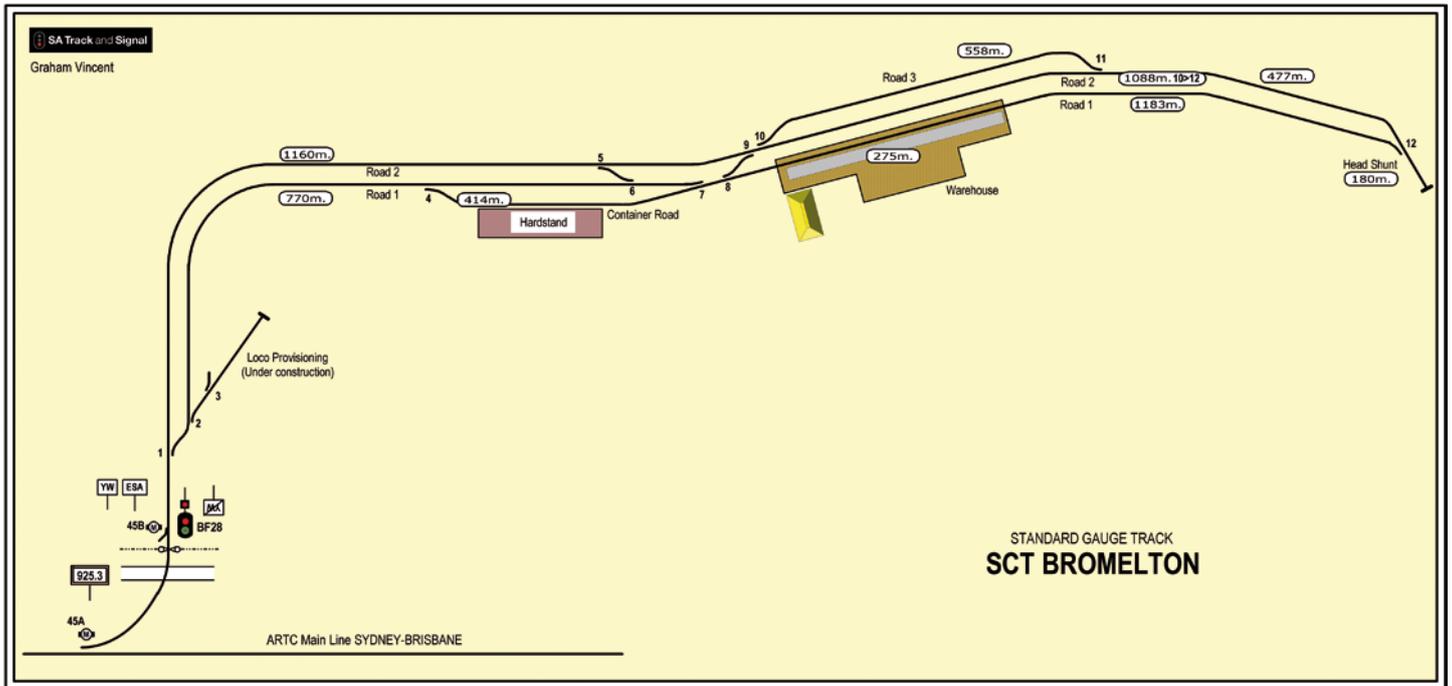
weather during the construction period helped to meet the deadline dictated by termination of the Aurizon contract.

Further illustrating the tight schedule, the terminal was only connected to the power grid on 10 June. Prior to that it was using its own generator, which will still provide back-up if necessary. Drainage and landscaping works were still in progress around the site during June. During the earthmoving phase around 5,000 Aboriginal artefacts were found, illustrating the importance of the site to indigenous people. A timber and glass display case, assembled by some of the local Aboriginal people, now has pride of place at the entrance to the terminal's office. It will display some of those artefacts. The terminal currently employs five aboriginal people.

Into the fray stepped Kevin Turnbull, SCT's State Manager for Queensland, who had the job of overseeing the facility's construction and now presides over its operation. During *Railway Digest's* visit to Bromelton Kevin pointed out that SCT left its Acacia Ridge sidings (now completely vacated by SCT) on 22 January this year and the staff were at Bromelton to welcome the first train early next morning. Kevin, who comes from a road transport and logistics background, said it had been a steep learning curve for all the staff and, in his case, he had to learn the mysteries of rail operations, including what a train examiner does!

Kevin's team now numbers around 100, (including SCT truck drivers) working three eight-hour shifts, Monday to Friday. He says all the employees live in the Scenic Rim local government area (which stretches from south of Brisbane to the NSW border with major population centres at Beaudesert and Boonah) and he has never had to advertise for employees, who fill a wide range of occupations ranging from fork lift drivers to administration staff.

Centrepiece of the 130-hectare site is a 10,500 square metre cross-docking shed which can accommodate 12 of SCT's rail vans on one side and space to unload 18 trucks on the other side, including special curtain-protected docks to load refrigerated freight. Between rail and road loading areas is a large concrete floor where palletised freight is stored before being moved by fork lifts between the two transport modes. The main shed has an adjoining building housing the administrative office, board/training room and meal room. The entire



facility is covered by CCTV cameras closely monitored from the office.

While SCT's rail services are noted for their white vans packed with palletised freight, the company does move containers, and to that end a 5,000 square metre hard stand area is provided as part of the terminal. It is served by a large lift truck to interchange containers between rail and road and the area is also used to allow access for a fuel truck to replenish the SCT class locomotives and the on-train fuel 'tanktainer' that accompanies the locomotives. The wagon carrying the on-train fuel tanker also carries a container to balance the load on the wagon – this container normally also carries freight but it can balance the wagon while it is empty. There is an occasional road movement of freight between Bromelton and SCT's Parkes terminal but overwhelmingly interstate freight arrives and departs by rail.

Commodities passing through the terminal include groceries and other retail items, alcoholic beverages, timber and other building materials. Sand, used for sandblasting, is a more unusual freight item – it is conveyed in large bags. There is a predominance of northbound freight but Kevin says that is gradually changing with growth in freight towards Melbourne, often with the same types of products that travel northwards. Although there had been a northbound freight flow from SCT's Barnawartha terminal to Bromelton since the latter's opening, the first southbound loading for Barnawartha departed Bromelton on 14 June and it is expected that the freight flow between the two terminals will grow. There are currently four services a week between SCT's Altona (Melbourne) terminal. Train crewing has been provided by Engenco subsidiary, Momentum Rail, but SCT is moving to provide its own crews for the Brisbane service.

**Above left (page 32):** SCT Logistic's Bromelton terminal features a hard standing area where containers can be loaded or unloaded from its rail service from/to Melbourne. In this Thursday, 15 June view the lift truck is about to load a container from the hard stand area on to the waiting truck on the right beside the rail wagons. In the background SCT Class locomotives 012 and 006 and the online fuel tanker located on the wagon next to the locomotives have just been refuelled in preparation for their departure that evening with train No. BM9 to SCT's Altona terminal.

**Right:** The heart of SCT's Bromelton terminal is the cross-docking shed which allows the transfer of palletised freight between rail and the storage area to the right before it is loaded on to trucks for despatch throughout south east Queensland. In this Thursday, 15 June view, PGBY 'Multi-Freighter' van 0991H leads a rake of vans being unloaded at the terminal. The shed can accommodate twelve vans at a time.





Emphasising the tight timetable to complete the terminal the trackwork was still being completed by Downer Rail in June. The 'main line' (No. 1 road) and No. 2 road are being extended northwards beyond the main terminal building to join to form a head shunt and a siding (No. 3 road) is also being provided at the same time. A locomotive provisioning siding was under construction in July (see diagram). The completion of the additional rail siding space, totalling 7.3 kilometres, will be accompanied by the arrival of a shunting locomotive, which was planned for July. Currently 12 vans stay overnight in the cross-docking shed but they cannot be moved once the train locomotives depart for Melbourne in the evening. The presence of a shunting unit will remedy this problem as more wagons can be moved through the cross-docking shed. This will

lift the throughput of wagons and allow an increase in night work which will, in turn, make more efficient use of the terminal facilities.

There are plans to operate shuttle trains between the terminal and the Port of Brisbane but Kevin says that will be in the future. In the meantime, Bromelton is cementing its place in the Australian rail freight scene and preparing for growth. The Bromelton facility will offer opportunities for tenants to establish warehouses on the site, located within the Queensland Government's Bromelton State Development area. (The ARTC has purchased 850 hectares of land opposite the SCT site for future terminal development.) As Kevin says, "There are plenty of customers interested in our services". SCT's far-sighted decision to purchase land at Bromelton for a terminal in 2006 appears to have paid off.



**Top:** Although SCT's Bromelton terminal was opened on 21 January this year not all the trackwork to serve the facility was completed by that date. This Thursday, 15 June view shows new tracks are being laid beyond the terminal building in the background to provide greater flexibility and capacity for rail operations at the facility. Downer Rail is the contractor for track laying at the terminal.

**Above:** This view, looking south on the same day, shows the terminal's truck loading/unloading bays that can accommodate up to 18 trucks at a time, including refrigerated vehicles. The rail freight loading area is on the opposite side of the building. The area served by trucks radiating from the Bromelton terminal stretches from the Gold Coast north through Brisbane to Gympie and west to Toowoomba.

## Barnawartha – serving an important regional area

Although smaller than its Bromelton counterpart, SCT's terminal at Barnawartha, 14 kilometres west of Wodonga in north-east Victoria, plays a key role in contributing to SCT's interstate rail services. Officially opened on 13 October 2016, the 23-hectare \$18 million terminal is located on the Wodonga Council's Logic logistics hub and industrial estate. In addition to SCT, the 567-hectare Logic site is home to a Woolworths distribution centre, road haulers Border Express and Cope Sensitive Freight, Northern Victorian Livestock Exchange and Wodonga TAFE Logic campus. The campus incorporates the Driver Education Centre of Australia and provides courses in warehousing and logistics including fork lift driving and courses in heavy vehicle driving. There is a large amount of land still available for development and the Wodonga Council says that during the next 20 to 30 years the Logic development will become home to large-scale industry which will generate significant employment for the region.

Unlike Bromelton's Kevin Turnbull, Barnawartha's terminal manager, Allister Boyce has spent much of his working life with SCT starting at the company's Altona terminal and moving up through the ranks to become state manager at that location. After a short stint with VicTrack he moved to Horsham in western Victoria where SCT had formed a joint venture with Wimmera Container Line to develop and operate an intermodal terminal at Dooen, eight kilometres north east of Horsham. Allister says this background in regional logistics and import/export business proved a sound training ground for his current role at Barnawartha.

The Barnawartha terminal is, in most respects, a smaller version of the Bromelton terminal. The centerpiece is a 6,000 square metre cross dock terminal building featuring rail access on one side of a large concrete floor storage area and truck docks on the other side. Five rail vans can be accommodated inside the shed but the terminal's rail siding accommodation totals around five kilometres (see diagram). A 5,000 square metre container hard stand area is provided east of

the cross-dock shed and although not fully utilised as yet, it provides potential for future business, especially in the export/import area.

As at Bromelton the track was laid by Downer Rail but Barnawartha employs pre-used 94 pound/yard rail and timber sleepers which Allister says is more than adequate for the job. The No. 1 track at the terminal is around 1,800 metres in length and access to the Australian Rail Track Corporation's main line is provided at both ends enabling SCT's Melbourne – Brisbane services easy access to pick up or drop off wagons in either direction.

Prior to the opening of the Bromelton terminal SCT operated rail shuttles between Barnawartha and Melbourne but that role is now fulfilled by the company's Melbourne – Brisbane services (MB9/BM9) all of which are scheduled to stop at Barnawartha. Around one hour is allowed in the timetable for trains serving the terminal. Allister says that the main line locomotive drivers have been happy to do the terminal shunting, which has made life easier in terms of organising rail activity at the terminal. MB9/BM9 services normally have a crew change at Wagga Wagga.

Allister said he currently employs 15 staff, all on an extended day shift and, like Bromelton, he has never had to advertise to fill positions. Multi-skilling is a key aspect of the site's operations with tasks such as driving the shunting locomotive and fork lifts often being performed by the same people. Most of the truck operations are outsourced to APP Logistics with SCT operating just one truck.

The Barnawartha terminal's catchment area is, in terms of population, much smaller than that at Bromelton but it serves customers as far north as Wagga Wagga and south to Shepperton. Although freight is mainly outward bound, commodities arriving at the terminal by rail can come from as far away as Perth. Commodities passing through the terminal include groceries like canned fruit, pet food and hardware. Allister said that around 34,000 tonnes of freight has moved through the terminal since its opening last October.



The 'heart' of SCT's Barnawartha terminal operations is the cross-docking shed where palletised freight is transferred between the company's vans and trucks. In this Monday, 19 June view staff prepare to use the fork lift to load the vans from the freight storage area to the right. Trucks deliver the freight, which includes groceries, pet food and hardware items, to the storage area where it is scanned before being loaded in to the rail vans.



Unlike other Australian intermodal rail operators the backbone of SCT's rail activity is not container movement but its fleet of vans, which are used to convey palletised freight between its terminals. The vans' large doorway area facilitates easy access to load or unload the vans with a fork lift. In this Monday, 19 June view a line of the company's vans occupy the main siding leading in to the cross-docking shed at the Barnawartha terminal.

SCT has formed a partnership with international port services and logistics company DP World, headquartered in Dubai, United Arab Emirates, which Allister says will boost import/export activity through SCT's terminals. In March this year SCT and DP World held an information session at Barnawartha (as well as at SCT Parkes) for customers to ensure an improved level of freight service is provided between the Albury/Wodonga region and the Port of Melbourne.

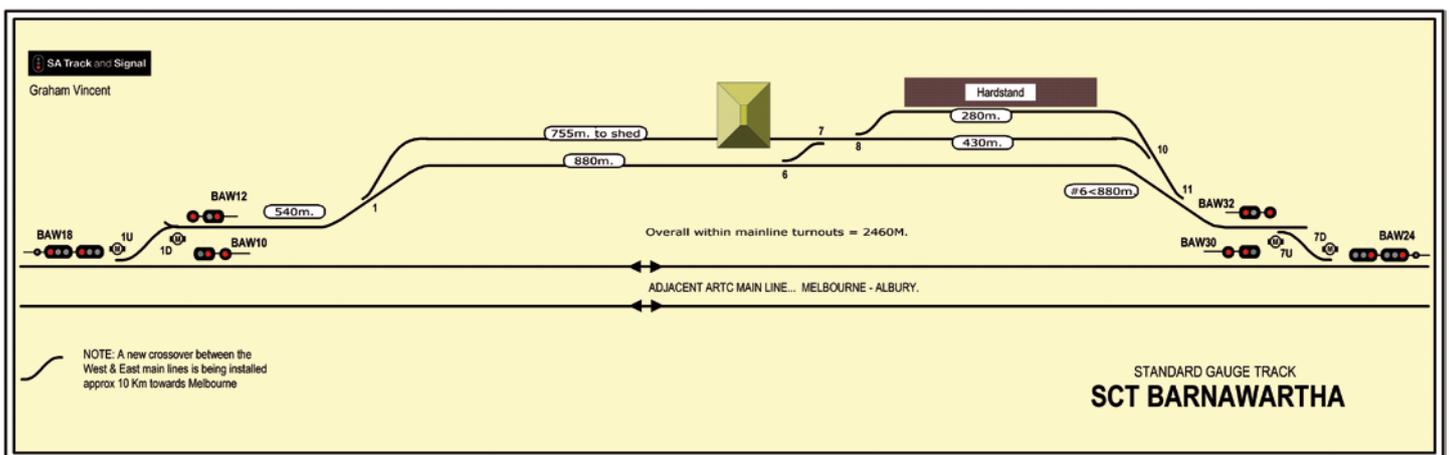
The site has adequate space for future warehouse and property development, providing the potential for business growth through the terminal.

When asked about what effect the SCT terminal might have on the Ettamogah Rail Hub, located 10 kilometres north of Albury, Allister said there was enough business for both and the presence of two intermodal terminals in the area would be good for rail. Allister said

that the Barnawartha terminal, because of its regional location, has a limited catchment compared with SCT's capital city terminals but there is 'customer interest' which bodes well for the future of the terminal and its contribution to shifting freight from road to rail.

Established in 1974, and initially operating rail services between Melbourne and Perth, SCT has grown in to a significant rail transport company with its trains now operating from Brisbane (Bromelton) to Perth via Barnawartha, Melbourne (Altona), Adelaide (Penfield) and Perth (Forrestfield) and from Parkes in western NSW. It seems that the company is living up to its motto 'on the right track'.

Special thanks are due to Kevin Turnbull, Allister Boyce and Cindy Pappas for facilitating *Railway Digest's* visits to the SCT Bromelton and Barnawartha terminals.





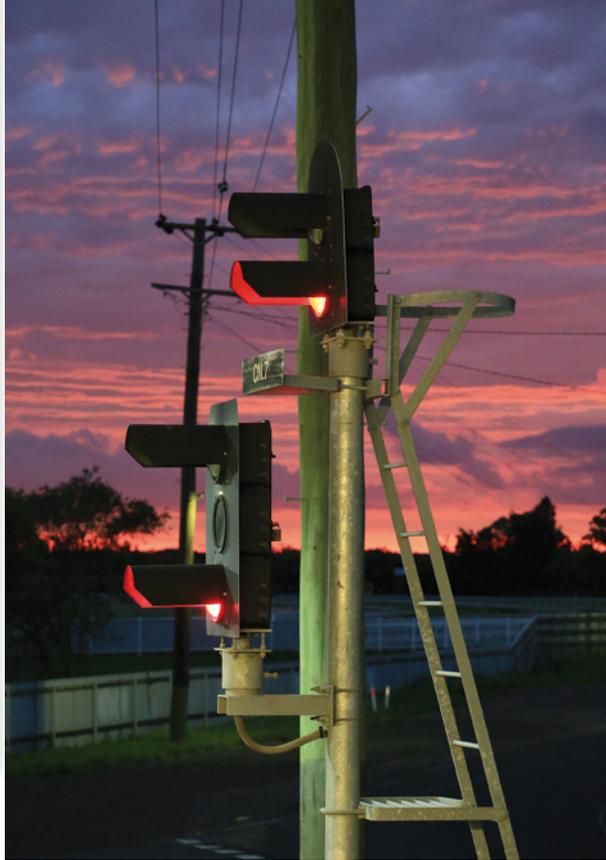
**Above:** SCT employs 1956-vintage Clyde/EMD T Class 414 *Georgia McKinnon* as its shunting unit at the Barnawartha terminal. This locomotive was originally owned by BHP for use at its Whyalla (narrow gauge) and Coffin Bay (near Port Lincoln, standard gauge) lines where it was numbered DE02. After a number of years in storage the locomotive was rebuilt for SCT with a new cab and nose based on the former Victorian Railways T Class, and used as a shunter at the company's Parkes terminal. It was then transferred to Islington Workshops for repair after a major failure in 2009 and was subsequently stored. It has also seen use at SCT's Penfield terminal. In this Monday, 19 June view the much-travelled unit is shunting three 'Multi-Freighter' vans in to the main terminal shed at Barnawartha.

**Below:** The morning sun catches the truck unloading area at SCT's Barnawartha terminal on Monday, 19 June. Curtain-sided trucks are used for ease of unloading the palletised freight which SCT specialises in hauling by rail and road. Some of the palletised freight can be seen on the ground between the two trucks.



# Signalling & Infrastructure

Compiled by  
David Campbell,  
Graham Vincent and  
David Whiteford



Signal CN7 at Clarendon, on Sydney's Richmond Line, is seen showing double-red at sunset on Sunday 12 February. Dominik Giemza

## New South Wales

### General

#### Network Control boundaries

Commencing 10/07/2017, a new Train Control Board will be introduced at ARTC's Network Control Centre South (Junee). The Board will normally be used during day shifts to supplement the Main South A Board. When operating, the new Board (designated "Main South 'D' Board") will control rail movements between Medway Junction (exclusive) and Harden (exclusive); at these times the Main South "A" Board will control moves between Berrima Junction and Medway Junction (both inclusive), also between Moss Vale and Unanderra (exclusive).

#### Signal Box Boundaries

The control of signals and points in the Olympic Park / Lidcombe / Flemington areas was transferred from the Strathfield Signal Box to the Homebush Control Centre from 05/05/2017. The areas operated have been divided into three segments, which can be operated by two users. The Flemington Signaller Area controls the Down and Up Suburban, Down and Up Main, Down and Up Flemington Goods, and the North Strathfield Goods lines, generally between 13.5km (Flemington station) and 15.0km (Lidcombe station), as well as the Down and Up Homebush Bay East Fork lines to approximately 15.4km. The Lidcombe Signaller Area controls the Down and Up Main, Down and Up Suburban, Down and Up Main South, Down and Up Flemington Goods, Down and Up Enfield East Fork, and the Down and Up Homebush Bay West Fork lines, generally between 15.0km and 18km (Auburn station), also on the Main South to 18km (Regents Park station), also the first portion of the Homebush Bay West Fork lines. The Olympic Park Signaller Area is operated by the Lidcombe User, and controls beyond the Homebush Bay East and

West Fork lines. The existing Olympic Park ARTICS Panel at Strathfield, and the Lidcombe and Flemington NX Panels at Strathfield were decommissioned.

**Main North line** As part of the Advanced Train Control Migration System Project, new signage "BEGIN ATP" and "END ATP" respectively was provided for Down trains running on the Up Main line, and for Up trains running on the Down Main line between Narara and Warnervale on 17/07/2017. The signs were installed on the rear of the existing "BEGIN ATP" and "END ATP" signage at Warnervale (105.100km) and on the Down Main line at Narara (85.070km), while the new "BEGIN ATP" sign facing Down trains on the Up Main line at Narara was installed on the rear of the relocated "END ATP" sign for Up trains on the Up Main line (which was relocated from 85.595km to 85.568km).

**Airly Loop Junction – Kandos** This section of railway was temporarily booked back into service on 20/05/2017 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. Following the departure of the last train on Sunday 21/05/2017, the STOP Block was reinstated at 213.768km, and the line between Airly Loop Junction and Kandos was again booked out of use.

#### Ardlethan (Temora – Griffith line).

Commencing 01/07/2017, and in conjunction with level crossing upgrade at Mirrool Street, new Main Line Indicators "X" (facing Down trains at 555.696km) and "Y" (facing Up trains at 555.726km) were provided. The MLI's were provided to prevent unnecessary operation of the level crossing warning equipment while trains are shunting.

#### Barellan (Temora – Griffith line).

Commencing 12/05/2017, the Up end points

into the Barellan Wheat Siding, operated from Frame J, were relocated 520m in an Up direction from 586.740km to 586.220km, extending the available length of the Wheat Siding by 520m. Frame J was relocated accordingly. In conjunction with this work, the Down Location sign was relocated from 583.441km to 581.250km; the Down Yard Limit sign was relocated from 585.440km to 583.250km, and the Up Shunt Limit sign was relocated from 585.940km to 583.750km. The Frame K points (Down end access into the Wheat Siding) and the Frame J points were temporarily booked out of use to allow this work to progress.

Commencing 19/05/2017 at the Barellan Siding location (station site), the Down Loop was booked out of service, and the points accessing this track from the Silo Siding were removed. Frame D (Down end of yard) was altered to become a 2 lever Frame, with the lever controlling the turnout between the Silo Siding and the Down Loop removed. Frame F (Up end access into yard) was booked out of service pending alteration into a 2 lever Frame, with the levers controlling the turnout between the Silo Siding and the Down Loop removed. The Down Loop line (at Barellan Siding) was decommissioned and removed from 24/06/2017. The Up end points from the Main line to the Silo Siding (operated from Frame F) were relocated from 587.400km to 587.488km, on the Down side of the level crossing at 587.468km. Frames F and D, and the points they control from Main Line into the Silo Siding, were booked back into use. The relocated Frame J and turnout, also Frame K, were booked back into use, allowing trains to again use the Wheat Siding (also known as the Grain Siding).

**Bathurst** (Lithgow – Orange line). The Loop Siding was re-named as the Loop Line from

22/04/2017. Additional aspects were provided for Down signals BT2 and BT3, and for Up signals BT56 and BT55. The Emergency Release Keys provided in Bathurst East Signal Box for Frames B, C, D, E and G were removed, with these Frames now being released from the JHR Network Management Centre (Mayfield). The removal of the Release Keys from Bathurst East Signal Box rendered it redundant, and it has been locked and is deemed to be a “non-operational heritage asset”.

**Belford** (Maitland – Muswellbrook line). New Dragging Equipment Detectors were installed on both the Up Main and the Up Relief lines at 222.020km. The new equipment operates in conjunction with the existing Hot Bearing Detectors and Hot Wheel Detectors at the same location. When activated, the equipment causes radio transmissions locally to train crews, and transmits an alert to the Network Controller (at Network Control Centre North).

**Bomen** (Main South). The Main Line, which had been booked out of use since 11/03/2017 to enable construction of a road underpass, was booked back into use from 20/04/2017. The Loop Line between signals BN28, at 508.193km, and BN17, at 512.766km, was then booked out of use to allow construction works to continue. A STOP Block was placed across the Loop Line at 512.766km, and the Down end points (55) at Bomen were kept available for use to enable access to the sidings to continue. Points 51 (Up end) and 57 (crossover mid-way) were locked and secured to lay for the Main Line. Crossing of trains at this location is not possible during these interim arrangements. The works affecting the railway were understood to be complete by 19/05/2017.

**Boppy Mountain** A temporary take-off for track maintenance vehicles was provided,

with turnouts located between 710.600km and 710.787km (in the Boppy Mountain – Cobar section) on 01/07/2017. The turnouts and take-off are to be removed during August (anticipated 16/08/2017).

**Coalcliff** (Illawarra). Up signals WG654, WG656, WG658 and WG660 were upgraded to LED type from 24/06/2017.

**Colly Creek** (Muswellbrook – Werris Creek line). Wayside Monitoring Systems, comprising a Hot Bearing Detector, a Hot Wheel Detector, and a Dragging Equipment Detector, were commissioned from 06/05/2017 at 379.860km. The equipment is designed to transmit automated warning messages to train crews via radio, as well as sending alerts to the Network Controller. (Colly Creek is located between Willow Tree and Braefield).

**Exeter** (Main South). Alterations were made to the Wayside Monitoring Equipment located on the Up Main line at 155.400km on 26/05/2017. The Hot Bearing Detector, the Hot Wheel Detector, and the Dragging Equipment Detector were removed, while the Wheel Profile Device, the Wheel Impact Detector (WILD), and the Bearing Acoustic Monitor (RailBAM) remain in use.

**Grasstree** (Maitland – Muswellbrook line). A Dragging Equipment Detector was installed on the Up Main line at 280.610km from 23/05/2017. The Dragging Equipment Detector supplements the existing Hot Bearing Detector and Hot Wheel Detector, located at the same location, and in conjunction with them transmits automated alerts to train crews by radio should issues be detected, as well as transmitting alerts to the applicable Network Controller at NCCN.

**Gular** (Dubbo – Coonamble line). In conjunction with the installation of level crossing devices at Gulgargambone Road from

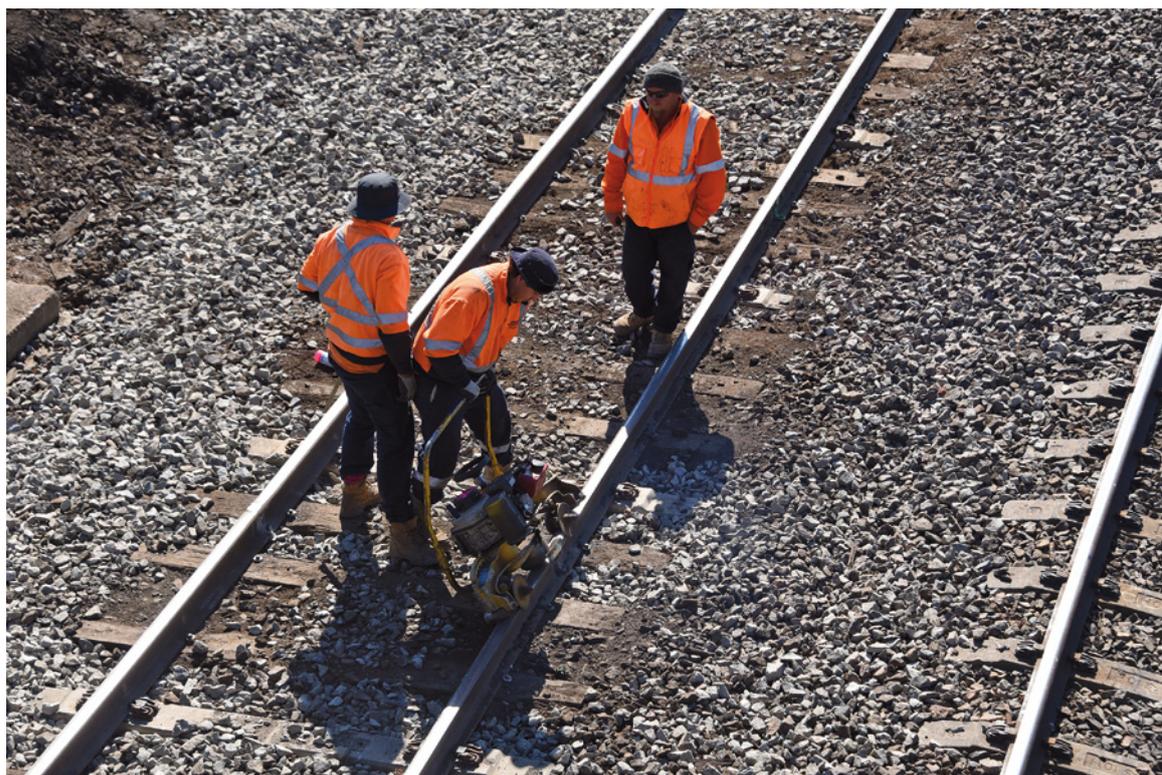
23/05/2017, a new Main Line Indicator “X” was provided facing Down trains at 573.572km. The MLI normally displays a Pulsating White aspect, with provision to replace it to a steady red during shunting operations to minimise the unnecessary operation of the boom barriers.

**Harris Park – Pendle Hill** (West). Down signals M15.7, S15.7, M16.1, S16.1, M16.5, S16.5, M16.9, S16.9, M17.3 and S17.3 were upgraded to LED type from 22/05/2017.

**Hillston** The track arrangements were extensively altered, with the alterations commissioned on 21/06/2017. Under the new arrangements, the Main Line (from Griffith towards the former Roto line) extends through the passenger platform to a STOP Block at 748.500km. A facing turnout (left hand diverge) at 747.166km allows Down trains to access the No. 1 Siding (a 120m long remnant of the former loop line, which now terminates at 747.407km). A second turnout allows Down trains to access the Goods Siding (with the grain loading facility) from the No. 1 Siding. The Goods Siding merges back with the Main line via a trailing turnout at 748.045km, just prior to the Milton Street level crossing. An intermediate crossover is provided between the Goods Siding and the Main line on the Down side of the grain loading facility, with points located at 747.608km (in the siding, facing Down trains) and 747.720km (trailing Down trains on the Main line). The works extend the effective length of the Goods siding from 278m to 726m, through the site of the former loco road and turntable. The Stock Siding was decommissioned. (See: <http://www.sa-trackandsignal.net/Pdf%20files/NCRN/JH1269.pdf>)

**Hornsby** (North). Signal HY129 (Up Main) and its associated Route Indicator were upgraded to LED type from 10/06/2017.

On Saturday 29 April, track workers grind new Thermit welds on the Up refuge siding in Goulburn South Yard. This track is very frequently used to allow faster trains to overtake slower trains, often container trains overtaking loaded grain trains or passenger trains overtaking empty garbage trains. The jointed rails at the north end, where locomotives stand and restart their trains, have been welded and low profile concrete sleepers have been installed one-in-four to strengthen the track. The low profile concrete sleepers can be compared with the standard concrete sleepers in the adjacent Up Main. Peter Clark



**Hurstville** (Illawarra). Facing crossover points 981A (Down Illawarra Local) and 981B (Up Illawarra Local) were renewed and upgraded from 24/06/2017. As part of this work, points 981A were relocated 5m in an Up direction.

**Kings Cross** (Eastern Suburbs Railway). All existing Guards Indicators on platforms 1 and 2 were removed from 22/05/2017. Two new LED type Guards Indicators were installed on each platform, with those on platform 1 operating in conjunction with signal ES3.32, and those on platform 2 operating in conjunction with signal ES3.51. The new Guards Indicators are arranged to face oncoming trains.

**Kyogle** (North Coast line). The Maintenance Siding was extended to 216m length during May, 2017.

**Maitland** Commencing 09/06/2017, facing crossover 402 (Down Coal to Up Coal) and trailing crossover 403 (Up Coal to Down Main) were renewed and upgraded from conventional layout to tangential turnouts. These crossovers are located between High Street and Maitland Stations, and allow train movements between the Coal Lines and the North Coast line. 402A points were relocated 26m in an Up direction, 402B points were relocated 17m in an Up direction, and 403A and 403B points were both relocated 12m in an Up direction.

**Martin Place** (Eastern Suburbs Railway). All existing Guards Indicators on platforms 1 and 2 were removed from 22/05/2017. Two new LED type Guards Indicators were installed on each platform, with those on platform 1 operating in conjunction with signal ES1.96, and those on platform 2 operating in conjunction with signal SY723. The new Guards Indicators are arranged to face approaching trains. Signal ES1.96 Co-Acting was upgraded to LED type at the same time.

**Murrurundi** (Muswellbrook – Werris Creek line). The points from the Loop Line into the Stock Siding/No. 1 Up Siding (facing Down trains, operated from Frame B) were relocated 63m in a Down direction (to 352.144km) from 06/06/2017. Frame B was similarly relocated. Frame B and the sidings remain booked out of use at this stage.

**North Strathfield** Commencing 10/06/2017, points 561 (trailing crossover between Down North Main and Up North Main), 562 (facing crossover between Down North Main and Up North Main), 564 (Up Relief), and 566 (crossover between Up Relief and Up North Main) were removed. These points had been out of use since June 2015, and their removal had previously been planned from 24/10/2015. Signals ST147, ST152, ST159, ST161 and ST169 were removed, and aspect changes were made to signals ST156, ST158, ST162, ST164 and ST165.

**North Sydney** A Signal Alert Board was installed on the Up Shore line applicable to signal NS306 from 20/04/2017. The Board is coloured white, with blue text, and indicates the distance to signal NS306. The Board was installed 99m prior to the signal.

**Parkes** Points 314B (exiting the Loco area) were altered to a catch-points configuration from 01/05/2017.

**Parramatta** (West). The “Guards Right Away” Indicator on platform 1 was removed from 20/05/2017, and the incandescent lamp type Guards Indicators on platforms 1 and 2 were upgraded to LED type.

**Port Waratah** Crossover points 120E and 120W, also turnout 124, were upgraded from 10/06/2017. The work included fitting new point machines; as a consequence it is no longer possible to “trail through” these points.

**Singleton** (Maitland – Muswellbrook line). Clarifying the report in May *RD*, page 45, the

removal of catch points 60 and crossover points 61 and associated works occurred from 04/04/2017.

**Strathfield** (Inner West). Signals ST257M RPT, ST261S RPT and ST281 IND were re-named as ST257M CO-ACTING, ST261S CO-ACTING, and ST281G CO-ACTING respectively from 08/07/2017.

**Sydney Central** The Platform 15 Road and the Down Shunting Neck were booked out of service pending removal from 08/05/2017. Points 208 and 212 were locked and secured to prevent access to these tracks, and these points are listed to be removed at a future date. Signals SY126 and SY126R (Up Main) were renewed and upgraded to LED type from 29/04/2017.

The Up Shunting Neck was shortened from 08/07/2017. The “SN” route on signal SY83 was removed; signal SY90 (from Up Shunting Neck) was removed, and the buffer light on the Shunting Neck relocated. These works are associated with the Sydney Yard Access Bridge Project.

**Temora** (Lake Cargelligo line). In conjunction with the installation of level crossing warning devices at Kitchener Street on 04/06/2017, the SHUNT LIMIT sign applicable to Down trains located at 490.345km was relocated to 489.700km from 04/06/2017, thus avoiding unnecessary operation of the Kitchener Street level crossing equipment during shunting operations.

**Thornton** (Newcastle – Maitland line). Commencing 09/06/2017, trailing crossover points 108 (between the Up Coal and Down Main lines) were upgraded from conventional layout to tangential turnouts. As part of these works, 108A points were relocated 5m in an Up direction, while 108B points were relocated 4m in a Down direction.

**John Holland Country Regional Network, assisted by funding from the NSW Government’s Fixing Country Rail program, rearranged the station yard at Hillston in south western NSW during June 2017 in order to reduce the amount of shunting and breaking up of grain trains. The end result of the work is that the siding used for grain train loading has been extended from 278 metres to 726 metres and slewed to form part of the No. 1 siding which has been shortened to 120 metres. A new crossover has been installed between the ‘main line’ and the lengthened siding. In this Wednesday, 21 June view looking south the new crossover can be seen together with the white stop block for the shortened No. 1 siding in the background near the station platform. The GrainCorp storage facilities are on the right.**  
John Hoyle



# Queensland

**Tamrookum** (NSW Border – Acacia Ridge). The Maintenance Siding was extended to 220m length during May, 2017.

# Victoria

**General** The Rules for Distant Signals were updated from 03/04/2017. The clause referring to a Distant signal on the same Post as a Home signal, also the clause referring to a Repeating signal for a Distant signal, were both removed. The maximum length of trains operating on the MTM (metropolitan) Network was increased from 08/05/2017. The maximum length of trains 9101 and 9102 (Mildura freight trains) is now 1300m. The Authorisation applies until 31/07/2017 only.

**North Bendigo Junction – Echuca** The Line Speed for Vlocity and Sprinter trains was increased from 75km/h to 80km/h from 18/05/2017.

**Ballarat East** (Melbourne – Ballarat line). The “Fish and Chip Siding”, which had been booked out of use since 2012, was removed from 22/05/2017.

The points and sidings in the Depot area were altered from 05/06/2017. The hand points between roads 5 and 6 at the Up end were removed, and 6 road was extended in an Up direction by 120m, providing a standing room of 230m. 6 road now terminates as a dead-end, with a concrete stop block provided at the limit of the track.

**Bendigo** The No. 2 Freight Road in the Yard was booked out of use on 14/06/2017.

**Beulah** (Murtoa – Hopetoun line). Effective 17/05/2017, the station yard was booked out of use. The mainline points were locked and secured.

**Broadford** (Craigieburn – Seymour line). The light type Down Distant signal (post 2) was upgraded to LED type from 10/06/2017.

**Congupna** (Shepparton – Tocumwal line). The siding was booked out of use on 14/06/2017 due to track condition. The main line points have been locked and secured.

**Croydon** (Ringwood – Lilydale line). Up Automatic signal H982 was upgraded to LED type from 08/05/2017.

**Deer Park West Junction** (Melbourne – Ballarat line). The single-bladed catch points from the Boral Siding were replaced with double-bladed catch points on 22/04/2017. The rodded connections from the main line point machine were removed, with a new point machine installed to operate the catch points. Up Dwarf signal DPW714 (for trains exiting the Siding) was altered to display a Clear Low Speed aspect. This is the siding located opposite platform 2 at Caroline Springs passenger station.

New Up Dwarf signal DPW728 was provided on 22/04/2017. The signal is provided at 21.690km on the Down end extension of No. 1 track (essentially the Up line, platform 1 at Caroline Springs), which forms part of the yet

to be built double track towards Rockbank, and is adjacent to a new motorised derail and wheel crowder numbered 29. The siding is unavailable for train movements at this stage.

**Dimboola Loop** (Ararat – SA Border line). Up Home Arrival signal 365/26 (located at 366.490km) was replaced with a new signal of the same name located at 366.860km on 05/06/2017. This work is associated with extension of the crossing loop at the Down (Adelaide) end to accommodate 1800m trains. 27 points (main line to crossing loop, Down end) were removed on 19/06/2017, with the main line “straight-railed”; these points were relocated in the Down direction to 366.645km and returned to use on 26/06/2017.

**Echuca** (junction between Bendigo, Seymour and Deniliquin lines). The Saw Mill Siding and the Grain Siding were placed out of use from 15/05/2017. The siding track between these sidings through the Pakenham Street level crossing (Down end of yard, east side of main line) was abolished, and the points leading into these sidings (at the Down end of the yard) were locked and secured pending removal.

**Elmore** (Bendigo – Echuca line). The points at both the Up and Down ends of the yard were booked out of use, locked and secured from 18/05/2017. The interface equipment for shunting trains associated with the Down end level crossing (Raywood Road) was removed.

**Glenhuntly** (Caulfield – Frankston line). TPWS equipment was provided for Down signals 1 (Down line) and 3 (Centre line), also for Up signals 2 and F398 (Up line), and Up signals 6 and FM398 (Centre line) from 25/06/2017.

**Goornong** (Bendigo – Echuca line). The points at both the Up and Down ends were booked out of use, locked and secured from 18/05/2017. The interface equipment for shunting trains associated with the Down end level crossing (Old Murray Road) was removed.

**Jeparit** (Dimboola – Rainbow line). The Down end Main Line points, which had been booked out of service on 06/03/2017, were repaired and booked back into service on 31/03/2017.

**Lara** (Melbourne – Geelong line). The single-bladed catch points at each end of the loop siding, which were activated by rodded connections from the main line points, were replaced by double-bladed catch points, activated by individual point machines, on 17/04/2017.

**Lilydale** No 27 points (Main Line to 3 and 4 tracks) were booked out of use on 02/06/2017.

**Manangatang** The line from Ultima Block Point (396.000km) to Manangatang was temporarily booked out of use between 21/04/2017 and 29/05/2017 due to condition of track in the Mallee Highway level crossing at 455.782km.

**Melbourne Yard** (goods areas). Commencing 10/04/2017, the hand-operated broad-gauge points which had formed the connection into the former Steel Terminal near the former West Tower building were removed. Up Dwarf signals MYD100 and MYD102 (standard and broad-gauge moves

from the Steel Terminal) and the adjacent MYD108 (South Hump Avoiding Track), which were each located near the former West Tower building, were abolished. Motorised points 103U, 103D, and 105D were abolished; these points had provided for movements between the North Lead and the now-closed Steel Terminal or towards the Reversing Loop. Points 105U were renumbered as 105; these form the connection between the Reversing Loop and the North Lead. Dwarf signals MYD104, MYD106 and MYD232 (for trains approaching points 105 from the North Lead or from the Reversing Loop clockwise or anti-clockwise) were upgraded to LED type. Stop Boards 2, 3, 5 (broad gauge) and C (standard gauge) were abolished; these had governed movements to and from the Steel Terminal. The Halliday’s Siding (loop siding located adjacent to the Reversing Loop) was also abolished, with the hand-operated points at each end from the Reversing Siding into Halliday’s Siding being subsequently removed.

**Merri** (Melbourne – South Morang line). Down Automatic signal T229 was upgraded to LED type on 21/06/2017.

**Murtoa Loop** (Ararat – SA border line). Down Home Departure signals 305/30 (Main) and 305/32 (Loop) were upgraded to LED type on 19/05/2017. Up Home Arrival signal 305/26 was renewed in situ and upgraded to LED type on 20/05/2017. Up Controlled Automatic signal 309/24 was replaced in situ with Automatic signal (uncontrolled) A3088 (new aspects and LED upgrade).

**Murrumbeena** (Caulfield – Dandenong line). In conjunction with level crossing removal works, this station was temporarily closed between 17/06/2017 and 30/07/2017.

**Noble Park** (Caulfield – Dandenong line). Down Automatic signals D829 and D845 were upgraded to LED type from 08/04/2017.

**North Dynon** Track alterations in the “Agents Sidings” area were brought into use on 04/05/2017. The four through tracks running between the Manildra Siding at the south end and the fuel point sidings at the north end were altered with the removal of most of the intermediate crossovers. Agents Siding No. 1 (Ladder Road) was re-named as 13 track, with the length being reduced to 260m standing room. Agents Siding No. 2 (Loading Road) was renamed as 14 track, with its standing room reduced to 143m. Agents Siding No. 3 (Middle Road) was renamed as 15 track, with its standing room reduced to 164m. Agents Siding No. 4 (Outer Track) was re-named as 16 track. The points connecting this siding to the south end of the yard were removed; this siding is now a dead-end track, with 180m standing room (this is the siding closest to the passenger lines at South Kensington). Looking from the north end, tracks 13, 14 and 15 converge at the south end, continuing as a single line before a turnout directs trains into the Manildra Siding or to “K” track. All points are operated by hand levers (WSa type).

**North Geelong** (Melbourne – Geelong line). The single-bladed catch points from the East Yard sidings (Down end) were replaced with double-bladed catch points on 17/04/2017. The rodded connections from the main line point machine were removed, with a new point machine installed to operate the catch points.

**Richmond Junction** Home signals 798 and 799 (Caulfield Through Underground Loop Ramp track) were upgraded to LED type on 07/05/2017. Home signals 796 and 797 (Caulfield Local Underground Loop Ramp track) were upgraded to LED type from 16/05/2017.

**Rochester** (Bendigo – Echuca line). The points at both the Up and Down ends were booked out of use, locked and secured from 18/05/2017. Down Home signal “J” (Down end of the station platform) and the Down 2-Position Automatic signal located at 223.955km were abolished, and the key switches applicable to these signals were placed out of use. The points leading into the Murray Goulburn Siding (Down end of station) were abolished on 22/05/2017.

**Warrackside** (Murtoa – Hopetoun line). The Up end Main line points (located at 349.467km) were booked out of service between 10/04/2017 and 27/04/2017 due to track condition.

equipment will be relocated to suit the new alignment, with subsequent changes to be implemented closer to project completion.

**East Perth** (Midland line). Works have commenced to upgrade this station, in conjunction with the Perth Stadium station project. Double crossovers will be provided near the station to break up the Claisebrook – Maylands section. The platform is being extended in length to 150m.

**Joondalup Line - Mitchell Freeway Extension**

Works have commenced on this road project, which has some effects on the railway. The freeway extension work extends in a northerly direction from 29.170km (near Burns Beach Road overline bridge) to 35.650km, with dual carriageways being constructed on both sides of the railway. Grade separated road interchanges over the railway are being constructed at Neerabup Road (Up side of Clarkson station) and at Hester Avenue (Up side of the entry to the Nowergup Yard). The existing Hester Avenue bridge over the railway will be removed as part of this work, with dismantling commencing during January 2017.

**Perth Stadium Station** (Armadale line). This extensive project will alter the railway between Claisebrook and Victoria Park stations, on the Armadale line. The current uni-directional Down and Up tracks will become bi-directional between Claisebrook and Victoria Park. A new station is being constructed on Burswood Peninsula at approximately 2.000km. The station comprises 3 island platforms, providing 6 platform faces, and provides the ability to stow up to 117 railcars. Passenger requirements are being met with the installation of a covered concourse with access to platforms, incorporating lifts and passenger and staff facilities and amenities. The signalling for the re-aligned Down and Up Main lines was to have been commissioned from 12/06/2017, while the remaining works were to be commissioned from 19/06/2017.

The Up Main line passes through platform 2. An Up Loop line diverges from the Up Main line

at 972 points (approx 2.5 km), then proceeds through platform 1 before returning to the Up Main line at 965 points (approx 1.8km). An Up Siding line diverges from the Up Main line via 975 points at approx 2.8km, then passes through platform 3, returning to the Up Main line at approx 1.4km via 961 points. The arrangements for Down trains essentially mirror those for Up trains, with the Down Main line passing through platform 5.

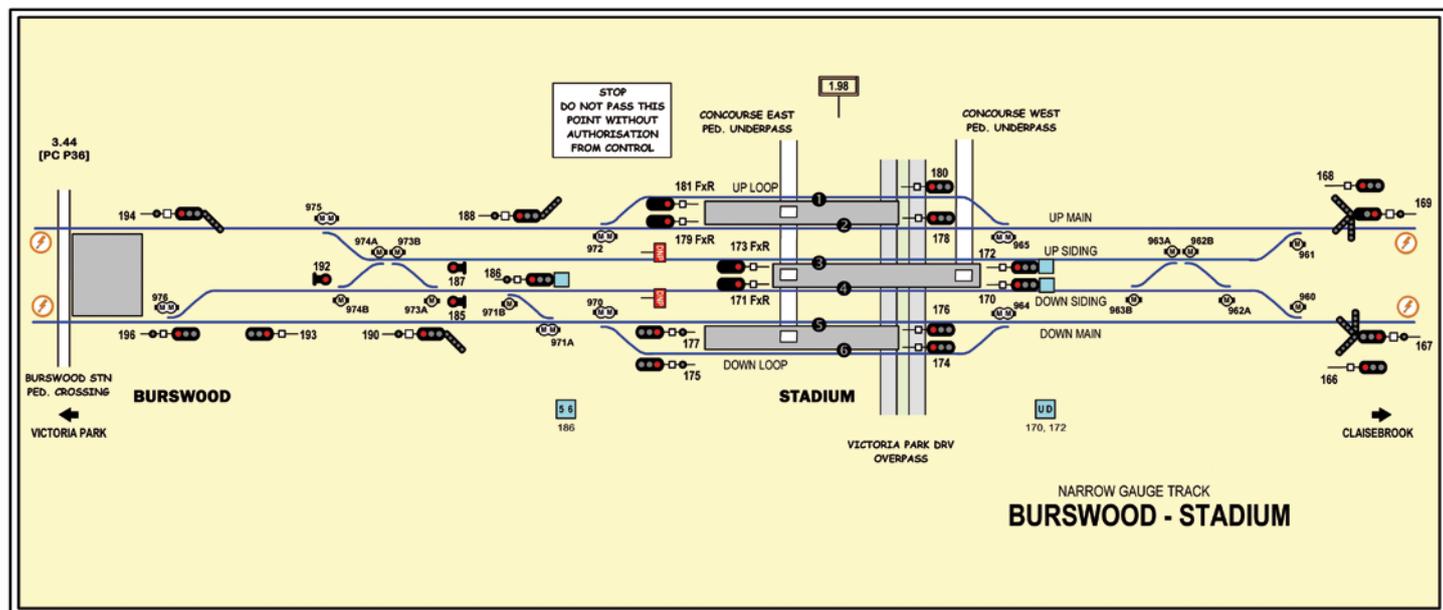
A Down Loop line diverges from the Down Main line at 964 points, at 1.8km, then continues through platform 6 before re-joining the Down Main line via 970 points (2.5km). The Down Siding line diverges from the Down Main line via 960 points (at 1.4km), then passes through platform 4 before returning to the Down Main line at approximately 3.2km, just on the Up side of Burswood station. Intermediate facing and trailing crossovers are provided on the Up side of Perth Stadium station between the Up Siding and Down Siding lines; crossover 962 allows Down trains to pass from the Down Siding line to the Up Siding line, thence into platform 3, while crossover 963 allows an Up train departing platform 4 to pass from the Down Siding line to the Up Siding line, thence towards Claisebrook.

A similar arrangement of crossovers is provided at the Down end of the Perth Stadium station, allowing a Down train on the Down Siding line to pass onto the Up Siding line (and then the Up Main line) via points 973 and continue towards Victoria Park, or for an Up train approaching on the Down Siding line to pass via crossover points 974 into the Up Siding line and platform 3.

An additional crossover 971 is provided between points 970 and 973, allowing Down trains departing platforms 6 and 5 to pass onto the Down Siding line, thence via crossover 973 and points 975 onto the Up Main line. This crossover (971) also allows Up trains approaching on the Up Main line to access platforms 5 and 6.

## Western Australia

**Bayswater** (Midland line). In conjunction with works to construct a new railway between Bayswater, Perth Airport and Forrestfield, preparation works commenced in May, 2017 for a temporary deviation of the Up Main and Down Main lines, which will be provided between 5.000km and 6.000km. The work will allow for the new railway to be constructed between the relocated main lines, and this will form the “Bayswater Dive” to allow the new railway to pass beneath the existing railway and ultimately connect with it. At this stage, the existing signals and overhead wiring



**Victoria Park** (Armadale line). In conjunction with the Perth Stadium Project, a new long siding was provided between the Down Main and Up Main lines on the Up side of the station from June 2017. The siding includes facing crossovers followed by trailing crossovers between the respective Main Lines into the siding, which have been arranged to allow for Down trains running on the Up Main line to access the through siding via crossover 981, thence pass onto the Down Main line to continue towards Armadale via crossover 983; in the same way, an Up train approaching from Armadale can pass into the through siding via crossover 982, then onto the Down Main line via crossover 980 towards Perth Stadium and Claisebrook. The siding continues in both directions beyond the crossovers ending at dead ends, and has been constructed with sufficient length to accommodate up to 24 railcars.

**Whitfords** (Joondalup line). Commencing 03/02/2017, absolute signals D180 and U189 were converted to controlled absolute signals 525 and 522 respectively; new controlled

absolute signal 521 was installed, and aspect changes made to signals 520 and 524. Signal 522 was relocated to align with overhead line wiring structures from 03/02/2017, while the remaining works are programmed for commissioning from 09/07/2017

## South Australia

**Broken Hill Line** During July, the following signal masts were converted to tilt masts as part of an ongoing program. Jamestown 1 & 2, Peterborough 1 & 2, Mannanarie Mid-Section Intermediates 87 & 88 and Huttons Lagoon Mid-Section Intermediates 127 & 128

**Gawler Central** (Adelaide Metropolitan Network) Prior to May, Up departure signal 4272 was converted to LED

**Torrens Junction** (Adelaide Metropolitan Network) Signals 272 (Up Gawler line) & 252 (Up Port Line) protect the turnout routes to the previous Gaol loop connection to the South lines. This loop is now truncated as the dead end "Gaol Siding". Reflecting this change, the junction feathers for this route have been

removed from both signals and replaced with low speed aspects.

**Torrens Junction rebuild** (Adelaide Metropolitan Network) Works continue apace on the project to dive the metropolitan Port line under the interstate standard-gauge line in the North parklands. All lines have been slewed to permit excavation to begin – the Port line to the west, and the Gawler and standard-gauge lines to the east. Beyond the Park Terrace level crossing the continuation of the lowering of the track requires a new station at Bowden, where the existing Up platform has been closed and removed allowing construction works to begin. No signalling alterations have yet been commenced.

**Leigh Creek Line** (Port Augusta Power Station – Leigh Creek) The lease of this currently unused line was due to be handed back to the SA government on 1 July 2017, but this action has been deferred and it is now expected that Flinders Power will retain the lease until 1 July 2018

For details refer to [www.sa-trackandsignal.net](http://www.sa-trackandsignal.net)



Running a few minutes late, dodging clouds and playing tag with a pursuing helicopter, impressive 37-car Adelaide to Darwin *Ghan* service 2AD8 charges through Port Germein, 19 kilometres north of Port Pirie, in the capable hands of immaculately clean NRs 109/74 on Sunday 2 July. Port Germein's 1800 metre passing loop is visible in the foreground, while to the right is the 805 metre STC Siding. Malcolm Holdsworth

# Level crossing news

## New South Wales

**Ardlethan** (Temora – Griffith line). Mirrool Street level crossing at 555.714km. Flashing lights, boom barriers and warning bells were provided from 01/07/2017 (previously passive). A new pedestrian maze was provided at 555.701km, equipped with flashing lights.

**Blayney** (Bathurst – Orange line). Wombiana Lane level crossing at 295.573km. Flashing lights, audible warning bells and boom barriers were provided from 22/04/2017.

**Bulliac** (North Coast line). The level crossing located at the Up end of Bulliac at 321.909km was relocated to 321.900km. The name of the roadway was changed from “AWJ Moore and Co Pty Ltd” to “Public Road Bulliac”. The level of protection (STOP signs) remains unaltered. The changes came into effect on 10/07/2017.

**Clergate** (Orange – Dubbo line). Clergate Road level crossing at 333.657km. Flashing lights, warning bells and boom barriers were provided on 29/06/2017 (previously passive). The roadway was also re-named as “Clergate Road West”. The “Clergate Road” level crossing at 330.640km was re-named as “Clergate Road East”; this crossing remains passive protected.

**Denman** (Muswellbrook – Ulan line). Merriwa Road level crossing at 312.245km (also known as Golden Highway). The existing flashing lights were upgraded with the installation of boom barriers from 07/06/2017.

**Gular** (Dubbo – Coonamble line). Gulargambone Road level crossing at 573.587km. Flashing lights, warning bells, and boom barriers were provided from 23/05/2017 (previously passive).

**Kelso** (Lithgow – Bathurst line). Lee Street level crossing at 237.480km. This temporary level crossing, which was introduced from 21/07/2015 using Protection Officers to control road movements during an upgrade of the Western Highway nearby (see *RD*, November 2015, page 47, also May 2017, page 47) was closed from 22/04/2017. The road surface and equipment (gates, etc) were removed.

**Orange** (Bathurst line). Shepherd Road level crossing at 318.710km (locality also known as Bloomfield). Flashing lights audible warning bells, and boom barriers were provided from 22/04/2017.

**Temora** (Lake Cargelligo line). Kitchener Road level crossing at 490.165km. Flashing lights, warning bells and boom barriers were provided from 04/06/2017 (previously passive).

**The Rock** (Main South). Yerrong Street level crossing at 551.496km. The existing flashing lights were upgraded with the provision of boom barriers from 29/06/2017.

**Wiangaree** (North Coast line). Woodenbong Road level crossing at 846.213km (also known as Summerland Way). The existing flashing lights were upgraded with the provision of boom barriers from 10/06/2017.

## Victoria

**Baddaginnie** (Baddaginnie (Seymour – Albury line). Tarnook Road level crossing at 183.043km. The existing flashing lights were upgraded with the provision of boom barriers on 27/02/2017. Carroll Road (Curry’s Crossing) level crossing at 186.617km. Flashing lights and boom barriers were provided on 27/02/2017 (previously passive).

**Chiltern** (Seymour – Albury line). Racecourse Road level crossing at 269.261km. The existing flashing lights were upgraded with the provision of boom barriers on 13/02/2017.

**Clarkefield** (Sunbury – Bendigo line). Station Access pedestrian crossing at 50.377km. Emergency Gate Control Locks were provided, operating in conjunction with the existing automatic pedestrian gates, on 03/05/2017.

**Chelsea** (Caulfield – Frankston line). Chelsea Road level crossing at 33.284km. The existing pedestrian gates were upgraded with the provision of electro-magnetic latched emergency exit gates on 09/06/2017.

**Clayton** (Caulfield – Dandenong line). Clayton Road level crossing at 20.425km. The boom barrier and flashing light masts were relocated in conjunction with grade separation works from 20/05/2017. The incandescent flashing lights were upgraded to LED type. Centre Road level crossing at 21.278km. In conjunction with level crossing removal works, boom barrier mast 1 was relocated from 17/06/2017, and the existing boom barrier arm was replaced with an articulated type arm,

similar to those used at some tramway level crossings. An articulated type boom arm was commissioned onto new boom barrier mast 11 (located in the median strip beside the Down line).

**Coburg** (North Melbourne – Upfield line). Bell Street level crossing at 10.289km. The existing pedestrian emergency exit gates were upgraded with the provision of electro-magnetic latched type gates on 28/06/2017.

**Elmore** (Bendigo – Echuca line). Raywood Road level crossing at 206.876km. The existing flashing lights were upgraded with the provision of boom barriers from 18/05/2017.

**Glenhuntly** (Caulfield – Frankston line). Glenhuntly Road level crossing at 13.371km. (This is one of the few remaining places where trams cross the railway at level crossings). Commencing 25/06/2017, the roadway was equipped with road traffic signals, interfacing with the railway signalling and associated equipment. The tramway catch points were removed. The existing tramway “T” signals were replaced with new tramway “T” signals, installed and operating in conjunction with the road traffic signals.

**Ingliston** (Sunshine – Ballarat line). The Occupation crossing located at 71.658km (between Bank Box Loop and Ballan) was abolished from 15/05/2017. The passive road signage was removed, and the roadway abolished.

**Kerang** (Bendigo – Swan Hill line). Fairley Road level crossing at 296.774km (site of the long-closed Fairley station). Flashing lights and boom barriers were provided on 31/05/2017 (previously passive).

**Lake Charm** (Bendigo – Swan Hill line). B McCann Road level crossing at 303.096km. Flashing lights and boom barriers were provided from 14/06/2017 (previously passive).

**Locksley** (Seymour – Albury line). Nagambie – Locksley Road level crossing at 127.376km. The existing flashing lights were upgraded with the installation of boom barriers on 06/03/2017.

**Merinda Park** (Dandenong – Cranbourne line). Thompsons Road level crossing at 42.526km. The pedestrian crossing was closed from 13/04/2017 in conjunction with grade separation works. Alternate pedestrian access was provided, and the automated pedestrian gates and associated equipment were removed from 17/05/2017.

**Middle Brighton** (Melbourne – Sandringham line). Church Street level crossing at 14.598km. The existing pedestrian gates were upgraded with the provision of electro-magnetic latched emergency exit gates on 28/05/2017.

**Murrumbeena** (Caulfield – Dandenong line). Murrumbeena Road level crossing at 14.338km. Commencing 17/06/2017, the Up side pedestrian crossing was upgraded with the provision of electro-magnetic latched emergency exit gates. The flashing light assemblies were upgraded to LED type. Boom barrier masts 1 and 2, and cantilever-type flashing light masts 5 and 6 were relocated to allow for the installation of viaduct bridge beams as part of the level crossing removal works. The boom barrier arms on masts 1 and 2 were altered from standard type to an articulated type (similar to those used at some tramway crossings).

**Mystic Park** (Bendigo – Swan Hill line). Mystic Park Road level crossing at 316.361km. Flashing lights and boom barriers were provided from 14/06/2017 (previously passive).

**Noble Park** (Caulfield – Dandenong line). Heatherton Road level crossing at 26.995km. The boom barriers and flashing lights were relocated in conjunction with grade separation works from 20/05/2017. The incandescent flashing lights were upgraded to LED type.

**Sandown Park** (Caulfield – Dandenong line). Corrigan Road level crossing at 26.406km. Commencing 17/06/2017, and in conjunction with the installation of viaduct bridge beams, the incandescent flashing light assemblies were upgraded to LED type, and boom barrier mast 1 and cantilever-type flashing light mast 3 were relocated for clearance purposes.

**Thornbury** (Melbourne – South Morang line). Hutton Street level crossing at 10.551km. The existing pedestrian emergency exit gates were upgraded with the provision of electro-magnetic latched type gates on 23/06/2017.

**Wangaratta** (Seymour – Albury line). Gravel Pit Road level crossing at 229.073km. The existing flashing lights were upgraded with the provision of boom barriers on 28/06/2017.

**Yarraman** (Caulfield – Dandenong line). Chandler Road level crossing at 28.422km. Commencing 17/06/2017, and in conjunction with the installation of viaduct bridge beams, the incandescent flashing light assemblies were upgraded to LED type, and boom barrier mast 2 was relocated to provide clearance for the bridge works.

## ***Saving people from themselves*** **Electro-Magnetic Latched Emergency Exit Gates**

Recent issues of *Railway Digest* have included reports about the installation of electro-magnetic latched emergency exit gates, as applied to pedestrian crossings in Victoria.

The safety of pedestrians crossing railways at level crossings (whether adjacent to a roadway, or as part of a pedestrian pathway only) seems to be a surprisingly difficult issue. Although presenting a low physical risk to trains, the occurrences of pedestrians being involved in accidents through unwittingly placing themselves into the pathway of trains is not uncommon, and usually results in severe injury or fatality to the pedestrian.

Railway infrastructure providers over the years have explored various means to enhance safety for the pedestrian, and many of these different methods remain in use in various places. The simplest form of all, the “maze” arrangement, used some form of fencing to direct pedestrian movements so that they would be turned to face rail traffic in each direction (left then right). This design was very effective, but only if pedestrians were prepared to observe their surroundings; the onus for the safety of these pedestrians being with themselves.

By the 1980s, more sophisticated designs were being introduced. One such design was for small boom barriers, effectively a smaller version of the conventional road crossing boom barriers, the boom arms being designed to lower across the pathway. A warning bell or siren of some sort could be provided as well to provide an audible warning. These were effective as a warning device, however in practice they were easily circumvented. People seemed too busy to worry about rail traffic movements, and often simply ducked beneath the arms and crossed carelessly. Consequences involving large amounts of paperwork all too often resulted. Irresponsible vandalism of the equipment was common, with the arms often being found broken, sometimes even multiple times daily, in the process removing the designed protection.

Motorised pedestrian gates were introduced. The crossings were designed so that a straight pathway across the railway was provided. As a train approached, motorised gates would swing across the pathway, blocking access. This then created a new risk, in that pedestrians could be crossing the railway when the gates swung around, blocking their exit from the line.

This issue was addressed by providing a separate fenced area adjacent to the main crossing, allowing people stranded on the crossing to by-pass the main gates, walk through a fenced area adjacent to the main crossing, and exit the railway danger zone. The gate accessing this area was a basic swing gate, lightly spring loaded so that it would normally be closed, but not requiring much effort to open it and allow safe exit.

This design seemed inherently suitable for the purpose, but unfortunately a weakness was identified. The design assumed that people would not do inherently dangerous actions (deliberately by-passing the warning devices provided for their own protection being one example). In reality, there were numerous instances of people opening the spring-loaded emergency exit gates and subsequently being struck by trains, or even opening the gates for the “convenience” of other people (and with similar outcomes).

One solution trialled was fitting a mechanical latch to the emergency exit gates, so that the gate could only be opened from “inside”. This design

had similarities to fire escape doors, comprising a horizontal arm, hinged at each end, and which could be pushed upwards releasing the latch and allowing exit. Sadly, this was another good design which was mis-used by the people it was intended to protect; people soon worked out that simply swinging a school bag over the top of the gate and allowing it to swing against the latch would allow the latch to move, thus releasing the gate.

The inevitable consequence of crossing the tracks in front of a train occurred. Staff investigating the scene of such an accident reported seeing schoolchildren who were present at the time of one sad incident repeating the same actions the very next day, despite having witnessed some horror only 24 hours earlier. Somehow, the logic that the gate was closed because something very dangerous was approaching seemed lost on these impatient people.

In recent years, Victorian track managers have introduced electro-magnetic latched emergency exit gates, and these have been designed to protect against people making poor decisions. The standard motorised swinging gates remain, arranged so that the action of them closing blocks the direct pedestrian crossing, but opens access into the refuge area. A second swing gate is provided exiting the refuge area, this being locked closed by an electro-magnet.

Push buttons similar to those provided at road traffic lights are provided within the refuge area, allowing the electro-magnet to be de-energised and thus the exit gate to be released. Importantly, the push buttons are located at 90 degrees to the actual gate, and public access to the rear of the buttons is not provided, the arrangement being designed to prevent operation of the buttons from outside the refuge area. Difficulty is increased by the provision of a hood above the button, again increasing the difficulty of improper activation of the buttons.

The by-pass gate and adjacent fence have been built around 1500mm high, making it impossible for someone to reach over the fence to operate the gate push button.

The construction of the main (motorised) pedestrian gate comprises vertical steel tubing, without horizontal pieces (apart from top and bottom), being designed to prevent people from climbing the gate while it is closed against pedestrian access. The “escape gate” stands around 1500mm high, comprising a solid steel frame surrounding welded mesh steel; the design makes climbing of this gate also impractical.

Both gates are designed to withstand acts of vandalism.

Ultimately the gates might not be fool-proof, but the time taken to get around them would likely be somewhat longer than the gates would be closed while a train passes.

In the two photos below; the one on the left shows the general arrangement as viewed by a pedestrian with the gates open (no rail traffic in the vicinity). The pathway proceeds straight across the railway and exits. The refuge area can be seen diverging to the left. The main motorised swing gate is the heavily-built galvanised gate on the right side of the pathway (with its operating arm beneath and to the right). When the equipment is activated, the gate swings across the pathway, blocking it completely and diverting pedestrians to the left into the refuge area. The electro-magnetic latched gate is then straight ahead, bearing the sign “escape gate exit”. The push buttons are to the left; these can be better seen in the right-hand photo. The sturdy construction of the gates and fences may also be seen.

*David Campbell*





# A day out at the Dorrigo Steam Railway and Museum

Text and images by Ewan McLean

**W**hilst sitting beside the permanent way at Donnybrook, Victoria, back in January, waiting for the next train to roll by, I was scrolling through the posts on Facebook and one caught my eye from the Dorrigo Steam Railway and Museum Limited (DSR&MLtd), advertising their open day on Sunday 30 April. I read that there would be only 60 tickets available, and to my dismay, I saw the post was over a day old - so I might have already missed the cut. I rang my mate Greg from Adelaide and he said that he would be a definite starter if I could secure a couple of tickets.

I sent an email to Ian, the DSR&MLtd contact, and to my surprise he wrote back saying that I had secured two tickets for their open day. I let Greg know and we began to plan our road trip up to Dorrigo. I had read, and for that matter been told, different stories about Dorrigo, that were mainly negative and even disparaging about the rusting relics sitting up there! But I thought 'in for a penny in for a pound' so off we went to see for ourselves firsthand what the DSR&MLtd was all about.

The big day had arrived, blessing us with brilliant autumn sunshine. The correspondence received advised that our tour "would start at 9AM SHARP! At the 55's house" which was located toward the end of Railway Street Dorrigo. There were a few other common sense instructions about the tour requirements for the day, and with about 40 to 50 people gathered at the 55's house, anticipation grew as the hour hand edged towards 09:00. I must mention that the cost for the whole day was the paltry sum of \$15 per head, which included a BBQ lunch. Our big day got underway at about 09:10, but no one seemed too concerned.

Our tour guide for the day was none other than Keith Jones, the Managing Director of the DSR&MLtd. Keith welcomed us all to Dorrigo and explained that the DSR&MLtd is a Registered Charity and non-profit organisation with all money donated going back into preservation activities. The Museum is devoted to the authentic preservation of all manner of railway items that operated on private and the New South Wales Government Railway (NSWGR) lines, including the Glenreagh to Dorrigo branch line. Keith told us to ask as many questions as we liked while he gave us a brief history of the place, which took about an hour. The local lawn mowers, in the form of a herd of cows, keep the grass in check so Keith warned us to watch out for the 'meadow muffins'

– which turned out to be a bit of a challenge as our eyes were often focused elsewhere as the day rolled on.

The Dorrigo branch line comes off the main north coast line at Glenreagh, between Coffs Harbour and Grafton. Keith and a few volunteers walked the 69.3 kilometres of the Dorrigo branch line in 1974, taking three days, and noting all the things that needed to be fixed to bring the track and bridges up to operating standard – a task completed by the Museum's volunteers in 1986. The DSR&MLtd has the upper 35 kilometres of the branch line, from Dorrigo to Lowanna, and plans to run steam locomotive-hauled heritage trains from Dorrigo to two points on the picturesque branch line and return, giving a choice of trips.

All of the carriages and freight wagons on site are gradually receiving new roofs, with 170 completed and only eight carriages to go. Dorrigo's annual rainfall is 2,034.1mm (or for those of us that still like our rainfall in inches - 80.1 inches) so getting new roofs on the rolling stock has been a major priority.

The Museum's collection is now the largest in the world and currently comprises 75 locomotives (45 steam, 26 diesel, and four electric) and five breakdown cranes, 280 carriages and wagons, 19 railmotors/trailers, electric carriages, a Silver City Comet set and thousands of smaller items.

The first locomotive we viewed on the day was ex-NSWGR Clyde/EMD 'Bulldog' (or 'Streamliner') 4206. This machine was used to move most of the steam locomotives and other rolling stock up the Dorrigo branch line, which took 40 train loads, between 1986 and 1988. 4206 has seen a bit of tender loving care over the last couple of months with extensive work carried out on its EMD 16-567C engine and it now only needs a set of new batteries (which will cost \$8,000) and it will be able to operate again. The exterior patina of 4206 reflects the 1980s as it is still wearing its original, although faded, NSWGR tuscan livery. There were only six 42 Class locomotives built for the NSWGR, by the Clyde Engineering works at Granville NSW, carrying road numbers 4201 to 4206.

We walked over tracks in the Dorrigo yard that were full of old carriages, some CPH railmotors and their trailers, plus other numerous wagons with the odd steam locomotive tucked in between. As we walked into a clearing, we saw a line of steam locomotives disappearing back towards the Dorrigo township, stabled along the old potato



siding. In its heyday, Dorrigo railway yard saw large tonnages of potatoes railed out, so a special siding was constructed to handle the spuds. The other major loading out of Dorrigo was timber.

Keith passionately told us the history of each carriage and steam locomotive as we walked past with the mighty Beyer Garratt locomotive 6039 majestically taking centre stage in the old Dorrigo railway yard. You can see why the Beyer Garratt locomotives were a favourite with rail fans, with their 32 wheels, weighing in at 260 tons

fully watered and coaled, and the largest locomotive in the Southern Hemisphere! The DSR&MLtd have another Garratt, in 6042. This Garratt is located at Forbes in central western NSW, and plans are in place to move it to Dorrigo in the near future. The road numbers for the NSWGR Garratt steam locomotives were 6001-6042.

Prior to 1957, when steam locomotives worked to Dorrigo, there was a drivers' barracks where they stayed overnight and returned to Glenreagh the next day. When diesels took over, there was no need for the drivers to stay in the barracks anymore, as they could do the round trip in one day. The old drivers' barracks are still standing at Dorrigo and are on the list to be restored back to their original condition, along with the goods shed.

We slowly made our way along the row of 15 steam engines, which included two small tank locomotives in the line-up – one dating from 1922, while the other one was built in 1878! We reached the end of the row where a couple of First World War steam locomotives, known as RODs (Railway Operating Division) carrying road Nos. 24 (ex ROD 2003) and 20 (ex ROD 1984) were stabled. The RODs saw active service in Europe during both World Wars. There were 521 RODs built for war service using the design of the Great Central Railway 8K class 2-8-0, and only three survive today, two at Dorrigo and J&A Brown No.23 (ex ROD 2004) at the Richmond Vale Railway Museum in the NSW Hunter Valley.

How did the RODs come to Australia? Well, J&A Brown, a coal mining company based at Hexham in the Hunter Valley, imported 13 of them between 1925 and 1927. The last ROD withdrawn from service was No.24 on Thursday 28 June 1973.

It was a beautiful sight, seeing 11 steam locomotives all lined up together – something you don't see every day. The steam locomotives are kept covered in sump oil to help preserve them from the elements. I had a close look and couldn't see any rust anywhere, and they all had covers over their funnels and any other exposed open areas. The black oily look gave the steam locomotives that authentic old patina.

**Above:** Only a small part of the vast collection is visible in this overall view of the museum area.

**Below:** The former gangers' house at Dorrigo (aka *the 55's house*) provides accommodation for visiting volunteer workers. The gangers' Ford Zephyr Six sedan has definitely seen better days!





It was lunch time, as the morning hours had slipped by quickly, so we made our way back to the 55's house where two BBQs were already fired up by volunteers Ian and Alan, and the snags were starting to sizzle, with the smell of cooked onions filling the air. A queue formed and the snags were placed in bread with onion placed on top along with a bit of 'dead horse' and they were swiftly consumed by the gathering, along with a soft drink to wash it all down. I thought that it was very good value for the price! With lunch time over, we all made our way across to the Museum site.

The Museum site is in an elevated position, enabling visitors to look down at the 11 long rows of locomotives and rolling stock, disappearing into the distance. All the rolling stock situated on the Museum site was

trucked in by the DSR&MLtd's trusty Leader prime mover and low loader, which has rails welded along the flatbed. The Museum site has been excavated by the volunteers, with 700,000 cubic metres of soil being moved so far, and this soil has been used as fill to extend the site for future acquisitions planned to be moved to Dorrigo.

The bank is 29 feet (8.7 metres) high in one place from the fill that has been packed down. The DSR&MLtd has purchased land either side of the station and along the branch line for the first kilometre so no development can encroach on their operations or any future expansion plans. The plans for the shed that will cover the Museum site have been drawn up, but as the shed will cost around \$7 million, it will be necessary to erect it in affordable stages.





A concrete path has been laid down the middle of each pair of sidings in the Museum site, so we could relax for the first time as we didn't have to look out for those 'meadow muffins' as we walked down the path, with little industrial steam tank locomotives on one side of the path, while on the other were diesel locomotives. There to our left were 4822, 4420 (of which Keith has a photo in the Dorrigo yard on a goods train), electric locomotive 4602, 4706, 7335, three 70 Class 0-6-0DH shunters and several little X Class shunters, just to name a few. Another interesting locomotive was Clyde/EMD streamliner 42102, looking the worst for wear, but as Keith pointed out, that was the condition it was in when it arrived at Dorrigo. In another row were 187 sets of bogies, of various types, purchased as spare parts.

The rolling stock in the collection consists of numerous passenger sleeping carriages, 1st & 2nd class sitting carriages, a prison van, travelling post offices, dog boxes, rail pay buses, the Premiers Car, the car allotted for use by General Douglas McArthur, bulk main vans, horse boxes and buffet cars. The Museum has the largest collection of preserved freight wagons in the world, with wagons that carried everything from coal, grain, livestock, bitumen, oil, petrol, cement, biscuits, fruit, water, limestone, tar, meat, milk and every other commodity one can think of, which is truly amazing! The Museum also has appropriate loads for all of these wagons with a Centurion tank, the first six models of Holden cars, vintage farm tractors, beer kegs, old fire trucks and just about everything else that was carried by rail in NSW.

**Above left (page 48):** The largest locomotive stored at Dorrigo is former NSWGR 4-8-4+4-8-4 Beyer Garratt 6039.

**Below left (page 48):** A long line of steam locomotives, headed by veteran T Class 2-8-0 5069, stretches along the former potato siding.

**Above:** Clyde/EMD streamliner 42102 still wears its 1980s State Rail Authority 'Candy' livery.

**Right:** DSR&MLtd has a large collection of industrial locomotives. Built by HK Porter of Pittsburgh, USA, in 1915, this 50-ton 0-4-0T was number 4 at BHP's Newcastle Steelworks. Later it worked for Commonwealth Steel, Waratah, who donated it to the museum.



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There are also a couple of large specialised wagons on site, one being an ex BHP wagon with a huge barrel that carried molten steel, and weighed 388 tonnes loaded. Another massive wagon, which took 16 semitrailer loads to get to Dorrigo, was special heavy load wagon NZZA 800. This was built in Italy by Cometto in 1982 to carry the main generator inner stators for two power stations being built in the Hunter Valley and west of Lithgow.

With the sun quickly dropping down towards the horizon, the day was drawing to a close as we all tried to digest the mind boggling information Keith bestowed upon us, not to mention our aching legs from walking kilometres around just a small part of the railway collection. We made our way back to the *55's house* where our most enjoyable day had begun, looking at only part of the DSR&MLtd's locomotives and rolling stock collection.

I did have one final question to ask: 'What is the *55's house*?' Ian's answer was simple: 'The local gangers were known as the Gang 55 and they lived in the ganger's house at Dorrigo, which is now named the *55's house*'. Ian took us inside the *55's house* and it is like stepping back in time to the '60s' with only a few modern conveniences, such as a flat screen TV, microwave oven, electric jug and toaster. The rest of the house was how the gangers left it and is where the volunteers camp when they come to Dorrigo.

The DSR&MLtd has a massive collection of rolling stock, locomotives and all things associated with railways from NSW. It is truly a great credit to Keith and the volunteers who have the vision along with the passion in preserving the history of the railways in NSW. We only saw a small part of what Dorrigo has to offer. There is talk of another open day later in the year, so keep an eye on their web site [www.dsrm.org.au](http://www.dsrm.org.au) and don't miss this unique opportunity. A truly great day was had by all.

**Above:** The scenery around Dorrigo is very picturesque. This image shows the first bridge encountered after leaving Dorrigo.

**Right:** Among the comprehensive collection of freight rolling stock is this interesting old bogie petrol tanker. 'Plume' was a brand of motor spirit introduced by the Vacuum Oil Company in 1916 and marketed for nearly 40 years, until the name was changed to 'Mobilgas' in 1954.





## 621-721 to Peterborough – well almost!

The ARHS Long weekend tour 9-13 June 2017

Text and images by Neville Pollard

It's 4.30am at Central on Friday morning, out of the early morning mist appears a keen band of rail fans in ones and twos. They congregate near Platform 3, for the 5.02am departure for Broken Hill and Peterborough by 7R03 being necessary before Waratahs, Oscars and Tangaras claim suburban supremacy. 621-721 appears in Platform Four after being stabled overnight in the centre road and is in a hurry to get going. With all aboard and a green light Central is left some seven minutes early. At Campbelltown, some more passengers join the train. Today's destination is Parkes via the transcontinental freight train route, passing Goulburn, Cootamundra, Stockinbingal and Forbes.

Not everyone is in a hurry though; a slow terminator at Campbelltown, defective Endeavour set at Picton plus two freights ahead – the garbage train to the old Woodlawn mine at Tarago and

the steel train to Melbourne, hold things up considerably. There are a lot of freights on the Up too; the stone train to Rooty Hill, a limestone rake with NR's 11 + 98 officiating, and three or four intermodals. Stops are made to stretch one's legs at Moss Vale and Goulburn where a QUBE rake of ex-Western Australian WGSY wagons awaits our departure behind two CFCLA locomotives, led by CM3310.

Cootamundra, naturally enough, is reached a little late; the transport police are on the platform, along with a rather docile Labrador ready to board the XPTs for a drug check, whilst our lunch was partaken in the station café. With an earlier path than timetabled available, the run to Parkes is swift; even with a stop at Stockinbingal to inspect the old 1893 station building rapidly succumbing to termites, arrival at Parkes is ninety minutes early. With pools of water lying about, the season promises to be another good one; grain crops are growing everywhere.



**Above:** 621-721 pauses at Stockinbingal to inspect the original 1893 Booking Office and Waiting Room. If further remediation is not completed soon the building will succumb to termites. 'Stock' is an important place on the Cootamundra to Parkes transcontinental line, being the junction for Temora and grain lines north and west of the town.

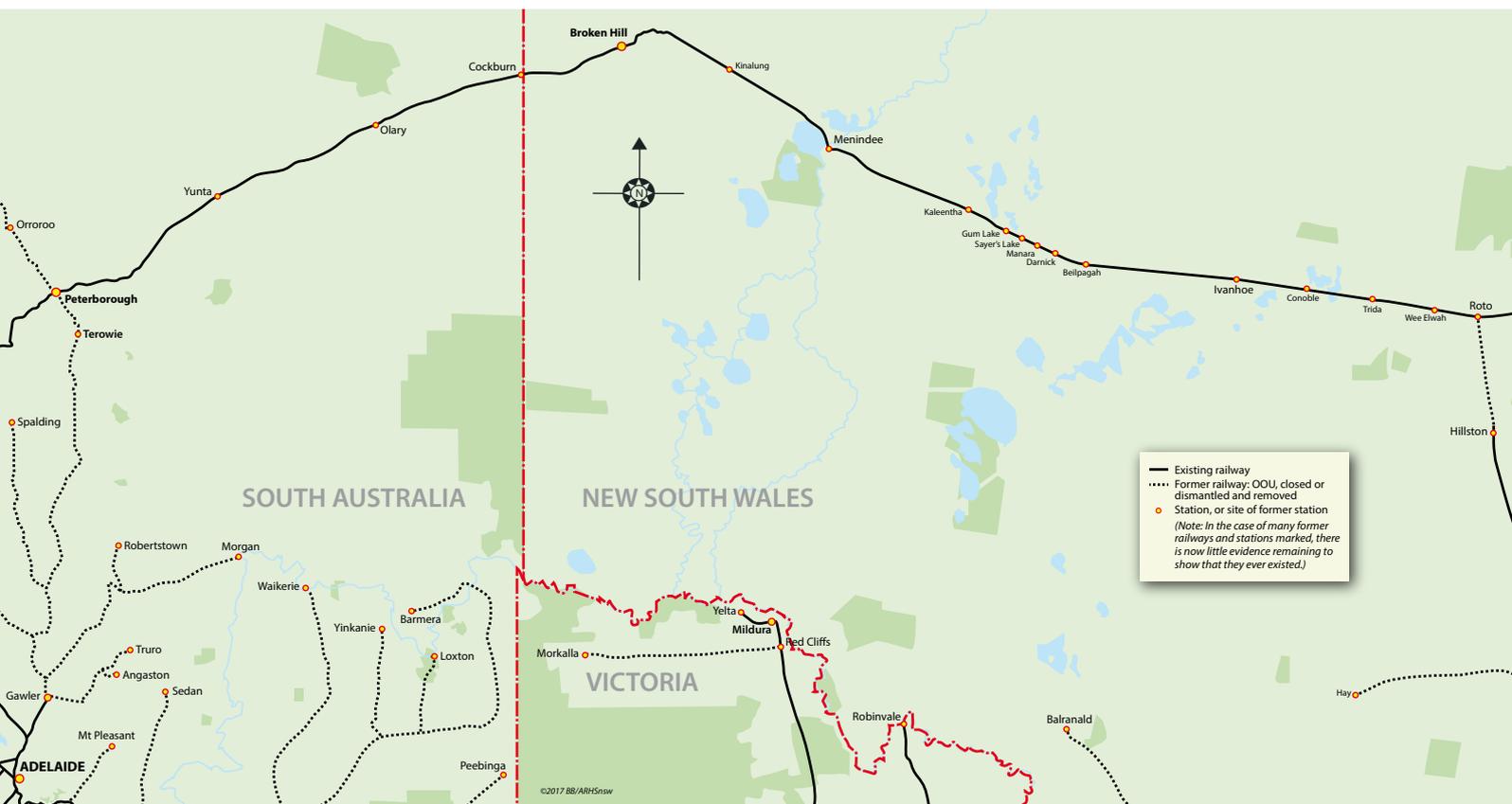
**Left:** Two CFCLA CM Class units, with CM 3310 leading, pause at Goulburn on 9 June to allow 621-721 and a procession of freights to overtake. The rake was made up of Western Australian WGSY wagons and is believed to be operating on behalf of Qube.



8170 + 8174 are clearing wheat from Caragabal to make way for the next season's harvest. Heaps of crushed concrete sleepers in the vicinity stand testimony to a relatively recent serious derailment.

Things are not quite right the next morning, Saturday; 621-721, still numbered 7R03, should be on the platform picking up its shivering passengers for a 10.00am departure west but instead, looking a bit dejected, idles in a nearby siding. 7SP7, is the culprit, slowly appearing from Orange direction with NRs 88 and 11 hauling a 1.3km-long intermodal freight train. It's fifty minutes late and in bully-like fashion demands precedence – it is a top priority freight job that travels up to 115km/h and must be in Perth by 4.40am the following Monday, so

a diminutive railcar set has to give way. What resulted was 621-721 requiring thirteen separate Train Orders, travelling section by section behind 7SP7. In some cases, there were delays at Yard Limits whilst the 'big fella' cleared the line ahead. There is other traffic on the line too; SCT units on a rake of tall 'palletised freight' vans, at Goobang Junction, an SSR wheat train at Euabalong West loading modified Leigh Creek coal hoppers. D890, light engines are noted at Matakana with CF4411 leading another CF, whilst at Trida 6AB6 is crossed on a 1481m intermodal hauled by NRs 101 and 97. Much of this train consists of empty container wagons – a reminder of the present downturn in the Australian economy.



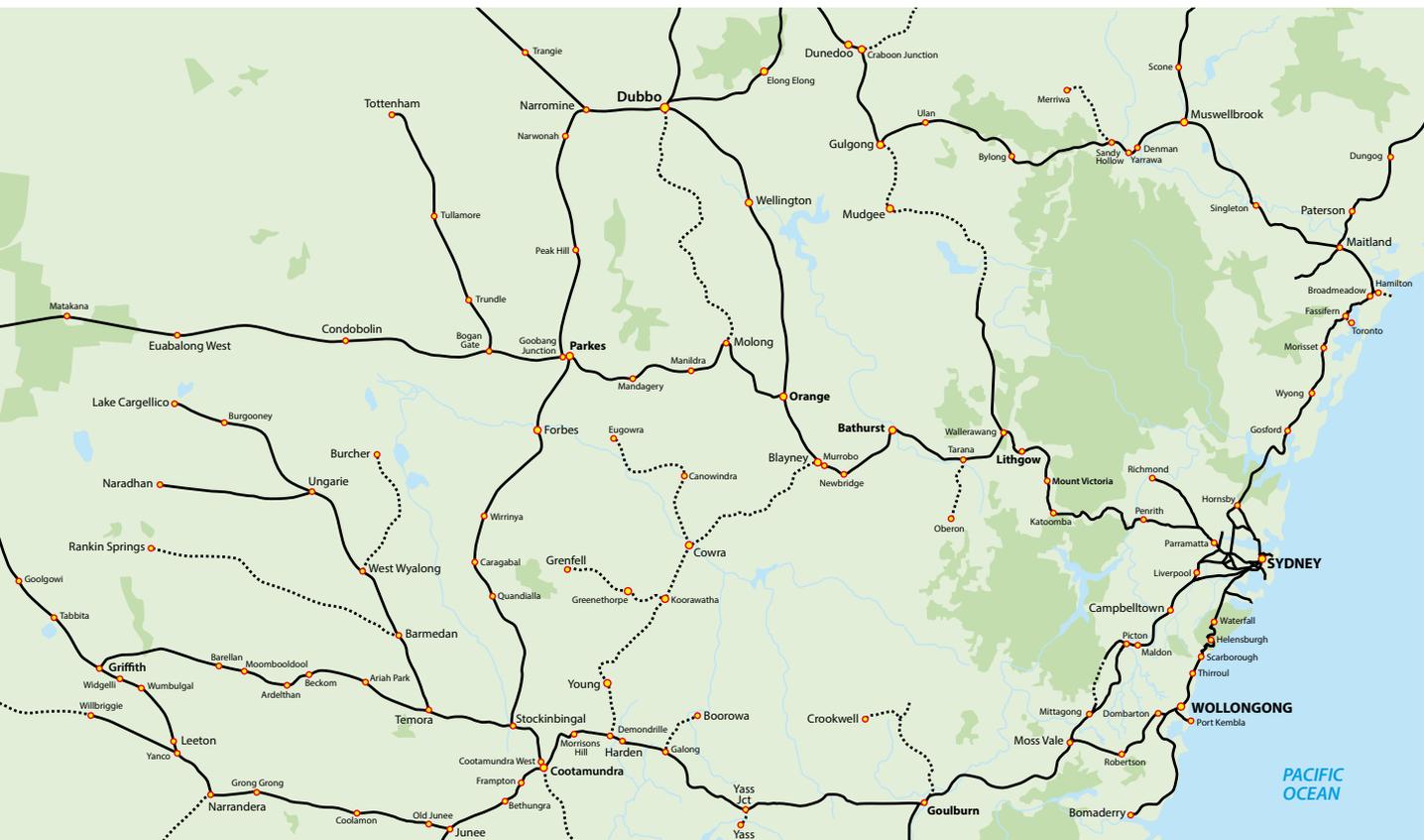
**Left (page 52):** Drivers have an opportunity to exchange a brief greeting at Cootamundra while police search the Down Riverina XPT for drugs and tour patrons lunch in the Railway Café. 621-721 waits at the disused island platform that once served Tumut branch trains. **Right:** Lunch on both Down and Up journeys, provided by the local Ivanhoe RSL Auxiliary, not only satisfied the 'inner man' but gave an opportunity to put a few dollars into the the struggling local economy that no longer can support even a general store.



It's 680 kilometres to Broken Hill, and with a lunch stop at Ivanhoe, that will take eight-and-a-half hours. There's wheat/sheep country to observe west of Parkes and cotton production in the Condobolin area, the largest service centre with a population of 3700. Further west semi-arid bush takes over, with mallee, acacia and belah evident. Foxes, kangaroos, emus and wild goats (in plague proportions) play hide and seek amongst the undergrowth, every so often darting in front of the train. The scenery changes again to a flatly monotonous almost treeless plain reaching Ivanhoe (population 120), a town that once boasted railway barracks and triple the present population. It's a depressed place, the shops

have all gone, so now the locals have to travel to 268 kilometres (three hours' drive) to Griffith, although food purveyors do come somewhat regularly to town. The minimum-security gaol provides local employment to augment the small number of farm jobs available. Having lunch there, both days, was able to support the local RSL auxiliary and inject some dollars into the local economy.

The Darling River is crossed at Menindee, where stone fruit and table grape production is evident around the settlement of 450 locals. The sun creates a majestic sight setting over the lakes; darkness soon takes over as the Barrier Range, with its many twists and turns, is climbed into Broken Hill.





**T199 preserved at Steamtown Peterborough Heritage Rail Centre. Between 1903 and 1917, 78 T Class were placed in service. They were initially used on the Broken Hill line between Cockburn, Port Pirie, Peterborough and Terowie but later saw service across the South Australian network, Tasmania and the Central Australian Railway.**

Despite ARTC accreditation to operate into South Australia, it was not possible, without additional current State operating conditions signed off, to operate into South Australia. This decision caused considerable disappointment by both operator, organiser and passengers alike. Fortunately, the pronouncement had been communicated in enough time to organise coach transport to Peterborough on Sunday. There was a silver lining, however; with the opportunity to view the narrow-gauge station building at Mannahill, which once housed a refreshment room, and later, we enjoyed a detour to the site of Terowie.

The broad-gauge line from Adelaide reached Terowie in 1880. To save costs, narrow-gauge lines were constructed beyond to the Northern Territory and Broken Hill. Everything, therefore, had to be transhipped there between 1881 and 1937 until the standard gauge line had been opened between Port Augusta and Port Pirie. A large tippler was even built to transfer coal from Leigh Creek into broad gauge wagons. Transhipment operations gradually wound down over the years, finally closing in 1970, when the short broad-gauge line from Terowie to Peterborough was opened. A number of stone buildings remain with lengthy platform and small lengths of trackage still in situ.

The Steamtown Heritage Rail Centre based in Peterborough, opened November 2008 in the former Peterborough Division Railway Workshops, was the ultimate destination for the tour. There's a fifteen-stall half roundhouse surrounding an 85-foot turntable that handled all three gauges. An impressive collection of both broad and narrow-gauge passenger cars is on show with Western Australian, South Australian and Commonwealth Railways locomotives. The place comes alive after dark with presentation of the sound and light show – a one-and-a-half hour presentation mainly showcasing the history of the old Peterborough Division. The presentation is intensified by colour lighting roundhouse exhibits with suitable smoke to add effect. All in all, a wonderful presentation. The main street of Peterborough also accommodates a number of heritage buildings including the 1897 building that celebrates the 60th year of Queen Victoria's reign. Mention should also be made of the District Council of Peterborough Town Carriage Museum which features a simulation rail journey through the district.

During the afternoon NR 85 (in Southern Sprint livery) + NR 48 turned up on 1YN2 Whyalla to Newcastle steel train.

On Monday morning, following an early breakfast at the Musicians Club, the return journey from Broken Hill as 7R04 departed at 8.00am; for some, that was a little difficult as our long day trip to Peterborough the previous day has returned at 12:20am. 7R04 was given precedence over a following freight, 1AG1, an SCT Goobang intermodal, that had to sit at the Yard Limit at Ivanhoe for quite some time while passengers on 621-721 enjoyed lunch on the platform. The homeward run gave opportunity to relax and contemplate the vastness of our country. Kaleentha Loop once would have had a dwelling or two to house the local fettling gang – now there is nothing – just a vast plain. There were once schools at Trida, Roto and Darnick; they too have disappeared, although Euabalong West still has a two-teacher school of 26 children. The former Roto Junction, where the line branched to Hillston and Griffith, can still just be made out in a sea of grass. The station building at Conoble still remains, though in a rundown condition, minus platform, and rumour has it that it too will go soon. Places like Gum Lake and Beilpagah can only be located through remains of their loading banks. Wee Elwah and Sayers Lake have gone forever! There was a little life at Euabalong West, however, where 8184+48205+48201 were loading wheat. At the opposite end of the wheat siding, which doubles as a crossing loop, 621-721 refuged to allow EP45, the Down Broken Hill Explorer set of three cars, to pass.

The final day, Tuesday was taken up with an 8.30am departure from Parkes as 7R06 for a leisurely run back to Sydney past the old round brick loco water tank at Mandagery and the bustling village of Manildra where the local Manildra Group flour mill, the largest in the Southern Hemisphere, provides considerable traffic to Pacific National. The route into Orange Station was via west fork for a short break, before reversing and proceeding to Bathurst for lunch. The original timetable was for 7R06 to wait at Mount Victoria for 35 minutes to sit out the evening metropolitan embargo but being ahead of schedule, kind Sydney Train Control allowed the train to continue through to Central, arriving at 6.30pm. This was very much appreciated by all allowing an earlier departure for the return to Paterson.

Thanks are extended to Spencer Ross, ARHSnsw Tours Officer, for another wonderful trip, and to the Rail Motor Society crews, both drivers and on-board crew. Thanks also to Colin, Steve and Ken, our Parkes region drivers. A wonderful weekend rail cruise!



**Above:** Terowie Railway Station, a once busy transshipment point between the broad gauge to Adelaide and narrow gauge beyond. Conservation works were carried out in 2014 to preserve this valuable piece of railway history.

**Right:** The evening Steamtown light show commences in a sea of colour. There is even a smoke machine to add a touch of realism.

**Below:** Three trains at Euabalong West! The Down Broken Hill Explorer gains speed after a stop for passengers and new Train Order. 8184+ 48205+48201 load a GrainCorp train and 621-721 waits at the eastern end of the grain siding (doubling as a refuge loop) for a Train Order to Goobang. Note the locomotive water tank in the distance. Due to safety rules, the image had to be taken from the back of 721.





**Above:** The Richmond Vale Railway Museum, in the NSW Hunter Valley, recently completed an extensive cosmetic restoration of former J&A Brown 2-8-0 number 23, built for World War I service in France by the Great Central Railway, Gorton Works, as ROD 2004. On a very wet Saturday 10 June, a small un-veiling ceremony was held, with many surviving railwaymen from the Richmond Vale Railway, local dignitaries, Port Waratah Coal Service representatives and special guest Dick Smith attending. The Australian Armed Forces Re-enactment Heritage Unit and the 12th Light Horse Brigade Re-enactment Group acted as a 'Guard of Honour'. Four days later, the sun had returned, and ROD Project Manager Graham Black recorded this image of the shiny black war veteran on display. **Below:** Red Cliffs Historical Steam Railway 0-4-2T No.1, *Lukee*, built by Kerr Stuart in 1901, is in steam working tourist trains over a two-kilometre section of the former Morkalla branch line at Red Cliffs, near Mildura, on Sunday 11 June. Steve McNicol





The Victorian Goldfield Railway's oil-burning Vulcan Foundry 2-8-0 J549 pauses at Muckleford, while *en route* to Castlemaine with the 10.30am train from Maldon, on Sunday 25 June. Steve McNicol

**Councillor proposes Wagga to Albury commuter service (RD June 17)**

This is surely an excellent proposal and if taken to a logical solution should be a service in each direction morning and afternoon. Such a service would greatly assist the growth and work availability and opportunities of these two rapidly growing inland cities. The proposal as presented in *RD* is definitely thorough and ticks all the commuter travelling requirements.

However, I can see major hurdles in trying to convince the NSW Government to even consider this service, let alone place it on a future budget inclusion. I am immediately reminded of the struggle that Bathurst residents mounted to secure a return daily service to Sydney, provided by an Endeavour set.

The primary concern is simply no suitable rolling stock

is available under present allocations and government planning. The ideal units would be 2-car DMU sets similar to either Endeavour or Hunter Railcar sets – these are currently fully committed.

What are the solutions?

1. Convince the NSW Government to order another batch of Hunter Rail Cars (say 16 or 20 using preserved plans), which could then be deployed to supplement or replace Explorers on outer Sydney Suburban services (Southern Highlands), also a growth area and with a Wilton regional development already mooted, provide rail services not after the build but as it is taking shape.
2. Convince the NSW

Government to electrify the Southern Highlands line (including re-opening the Picton-Mittagong loop line – also a growth area – and the Moss Vale-Unanderra line)

and deploy older suburban K Sets, or soon to be replaced V Sets, thereby freeing up Explorer Sets to be deployed on Wagga to Albury and other lines where there is an increasing demand for daily commuter services (Bathurst–Orange).

3. Have NSW Government purchase excess DMU units (5 cars + 1 spare) from the UK – this would be a quick solution and again unlikely.

My advice to the two Councils – don't give up. The NSW Government needs to be reminded that there are thousands of residents living outside Sydney and their transport needs are just as important.

*P Waring  
Port Macquarie, NSW*

**Inland Rail, XPT, CRRL**  
I was heartened by the allocation in this year's Federal

Budget of some concrete funding for the Inland Freight Route. About time! I heartily concur with Ted Keane (*RD* January 2017) that High Speed Rail is a pipe dream in a country with the make-up of this one.

Unless HSR brought with it some strategic national value it would be difficult to understand how it could be justified.

There is already a medium in place for those whose time is limited and whose interest in the intermediate terrain and communities is minimal. It's called flight.

Of course there needs to be exhaustive consultation and alleviation of the concerns of potentially affected land-holders along the Inland route; i.e. the provision of over-and-under-passes for movement of livestock and vehicles, and barrier fencing -- at the Consortium's expense, not the property owners'. That way they will win support

instead of the possibly justified distrust that prevails today.

I read John Coyle's opinion in the June 2017 *RD* concerning the Sydney–Brisbane XPT timetable and, while acknowledging Mr Coyle's right to hold and express strong opinions, I find myself in support of the current timetable. When I was travelling from Sydney to Brisbane a few years ago the time table then in place had you in darkness in not much more than an hour (in the cooler months). The trip down was almost all in daylight and pretty informative, until night closed in, but the return trip was a torture session; boring and depressing; in company with fellow travellers whose chief mission was to ensure that no-one else got any sleep. At least now one would get a few hours of daylight at the Sydney end and the morons would be quieter -- the dark seems to awaken them. A 4 am or 5 am arrival at Roma Street would see the Brisbane suburban network cranking up; one shouldn't have to wait too long for a connection.

Yes, I pity those arriving at Coffs Harbour, Grafton, Casino etc. but they have other internal NSW options which aren't so Draconian. The northbound XPT has always serviced those places at unfriendly hours.

Finally, the recently handed down Queensland Budget makes some provision for a start

on the much-touted Cross River Rail Link. There must be a need for it I suppose; we've been bombarded with propaganda regarding it for years. I think it's one of those utilities that will probably prove its worth in the decades to come but I'm blessed if I can see what we need it for right now.

Graeme Baker  
Kingston, Qld

### Breakfast on the XPT

In reference to John Coyle's letter in the June *RD*; I am also sick of muesli and have requested cornflakes. To no avail. I asked the train crew, but it was a waste of time complaining, as they can do nothing about it. So, in March this year I wrote to NSW Trainlink to express my views. To date, I have not received a reply – so on it goes.

DG Hinchliffe  
Merewether, NSW

### Victoria Railway Investment

Just finished reading the latest *Railway Digest*. Obviously, production schedules prevented the inclusion of the Federal Government's funding for rail improvements – no doubt these will be covered at some point.

Another interesting point that has significant rail implications is the proposal

to build a new international airport to the east of Koo Wee Rup. If this goes ahead, either the Federal and/or State Government(s) should seriously consider reopening the line from Cranbourne to Leongatha to serve the airport as a raillink. This would help provide additional employment opportunities along this corridor, as well as giving additional transport options towards Melbourne. It would also remove the need to have to put the line back in at a later date (at much increased costs).

Additional works could be included to improve rail links to Hastings, which would help its development as a freight terminal in Western Port Bay. If the airport is built with a railway, further consideration should be considered to linking the line between Cranbourne and Leongatha to the line between Pakenham and Warragul.

Jason Dingley  
via email

### Wentworth Deviation

This is like one of those comets that run to a timetable, briefly appearing every ten years. Coalition and Labor politicians get nervous whenever it streaks across the political sky. They might have to do something. Then it vanishes again and they can relax back into semi-hibernation. So thank

you Bruce Hardiman (Readers Write July 2017) for raising it once more. When this long overdue deviation is down and running, Picton and Thirlmere will have to retain their railway. Australia's urban populations are sprawling out ever wider. Douglas Park and Menangle will sprawl like the rest. Overhead wires out to Thirlmere. Those sharp curves at about 88-90 km/h on the loop can be eased, which will enable much faster running on the 1 in 40 grade.

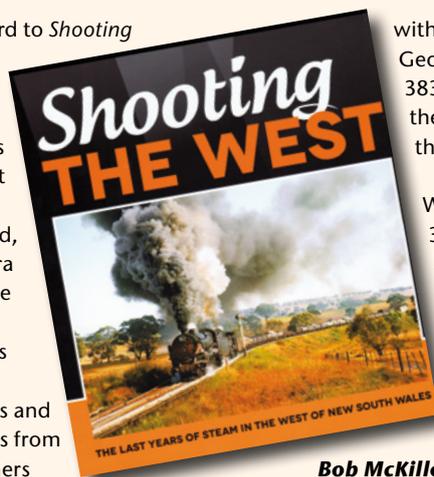
We already need every railway near our major cities. The Picton-Mittagong loop line is one of them. The long and fearsome grades Picton to Hilltop led to it being bypassed by the existing 5 kilometre longer deviation and then closed. There's an irony too. The Bargo deviation was built because the original main line required a small herd of bank engines and crews to be kept at Picton. Hauling or pushing trains up to Hilltop. Coal had to be delivered constantly. Light engines returning to Picton occupied the single line sections. Now, very long freight trains climbing the Bargo line are a 'doddle' for three or four diesel locomotives. But it's the wheel-vs-rail resistance on the many curves that are now the real 'drag'.

Michael Nicholson  
Liverpool, NSW

## Book review: *Shooting THE WEST* *The last years of steam in the west of New South Wales*

By Col Gilbertson, Brian Pycock, Graham Cotterall, John Gaydon, Robert Kingsford-Smith, Ray Love and John Ward, 156 pages, hard cover with 257 colour photos and five maps. Published by Cadeco in Adelaide with design and layout by the Design Bus and printed in China. Available for \$80 plus p&p (members' discount applies) at the ARHSnsw Bookshop, 67 Renwick Street. Redfern 2016. [www.arhsnsw.com.au/bookshop.htm](http://www.arhsnsw.com.au/bookshop.htm)

This reviewer has been looking forward to *Shooting THE WEST*, the final of the trilogy of high-quality photographic books covering the last years of steam operations on the New South Wales Railways and he is not disappointed. Following Robert Kingsford-Smith's 'Preface', the book is presented in four parts—Mudgee and Beyond, The Central West (Lithgow to Orange), Cowra and Branches, and the Far West (from Orange to Bourke and Broken Hill). This is my 'home territory' and the contributors have not let us down with the quality of their photographs. There are some delightful images of Sodwalls and the Oberon branch line, while banking duties from Bathurst to Raglan provided our photographers



with plenty of action, as does the Tumulla climb from Georges Plains. Shane McCarthy's night image of 3830 and John Ward's of 3607 with a goods train in the Orange yard are particularly memorable, given that my school years were at that centre.

60 Class Garratts come to the fore in the 'Far West' section with several spectacular images with 36 and 60 Class locomotives in action, including a delightful one by Laurie Anderson at Borenore and in Ray Love's presentation 'Six Spectacular Years' covering the W44 mineral train from Cobar to Newcastle. My one criticism is that there is no coverage of the important line from Narromine to Parkes, which is now a key link in the national standard gauge network. Highly recommended.

Bob McKillop



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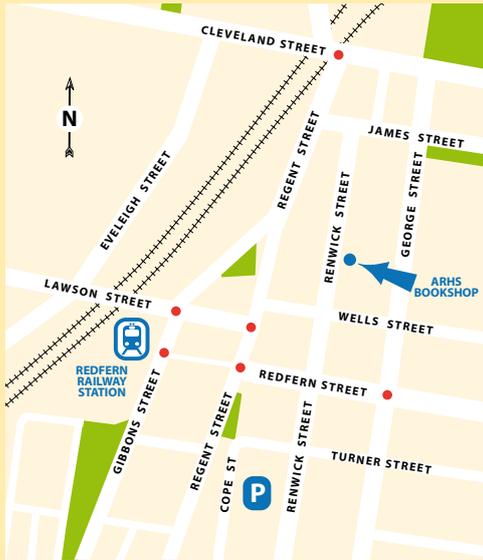
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