

June 2018

# Railway DIGEST™

**Rolling stock:**

**Rio Tinto 160 gross tonne CN iron ore wagons**

**Steamfest 2018**

**A brief interlude at Moss Vale**

**One sweet conversion – Part two**

***Indian Pacific 2017* – Part one: The trip**

**Timetabling for the Commonwealth Games**



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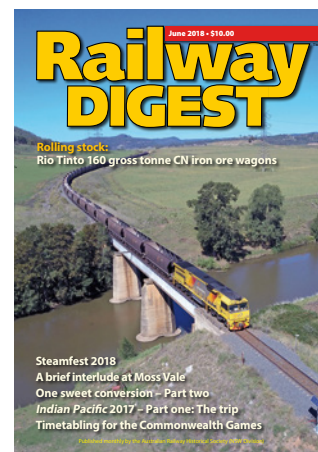
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**Cover:** Aurizon now operates many of its coal trains with units top and tailing each train. 5025 is Moolarben-bound hauling MR983, with out-of-sight 5041 bringing up the rear, seen here crossing the Goulburn River between Coggan Creek and Wollar. Wayne Eade  
**Opposite:** UGL/GE locomotives NR14 and MRL003 head an empty Mineral Resources train along dual-gauge track through Toodyay, in the Avon Valley region north east of Perth, on Tuesday 17 April. Steve Munro

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## Features

### Timetabling for the Commonwealth Games 28

Despite Australia having one of the strongest car cultures in the world, public transport has come to the fore in recent years as the mode of choice to move spectators to and from venues efficiently. The recent Commonwealth Games, held on the Gold Coast, provided the opportunity for public transport to play the major role in moving spectators, athletes and officials to and from the sporting venues. John Hoyle reports.

### One sweet conversion – Part two 32

In the first part of his story, in the May issue of *RD*, Alan Shaw related how, despite having been an unashamed fan of 'big trains', he came to appreciate the narrow-gauge cane railways and the work done by the people who make it all happen. In part two he continues with his observations of the cane railways of Bingera and Millaquin mills, around Bundaberg, Queensland.

### Indian Pacific 2017 – Part one: The trip 38

The Sydney-Perth *Indian Pacific* is now normally only a weekly service, and usually over 26 cars. It is now operated purely as a cruise train, with the former sitting car service for short distance passengers discontinued. John Beckhaus describes the ins and outs of a recent journey he took from Sydney to Perth and return.

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**Back cover upper:** On Monday 23 April, St James Rail Charter to Ararat, in western Victoria, with EL 63 and EL 64 working as Train No. 6L61 drops down through the Cullerin Range. The charter commenced in Goulburn with passengers boarding the train after travelling by regular services from Sydney and Canberra. Dennis Forbes  
**Back cover lower:** GWA 1204, 859, 873 and 1203 are ready to couple up to their train of empty wheat hoppers at Port Lincoln, South Australia, on Wednesday 18 April. Iain Wilson

## QUBE Harefield freight service returns to Sydney, Qube accused of favouring its own trains at MCS terminal

On 10 April Qube Logistics diverted its Harefield intermodal train (largely carrying loading from Visy's Tumut paper mill) back to Sydney's Port Botany. Qube had originally operated the train to Melbourne but diverted it to Sydney in September 2014 because of cost and service issues at the Port of Melbourne. The train returned to Melbourne in October last year because of temporary congestion and other issues at Port Botany. Cost and service issues have again led to the train to return to Sydney, including the lack of on-dock rail access in Melbourne. Currently stevedoring levies per container (same for either 20' or 40' containers) in Sydney are slightly cheaper than in Melbourne (DP World Sydney \$37.65 versus Melbourne \$49.20 and Patrick Sydney \$41.50 versus Melbourne \$47.50).

Although Qube has switched its Harefield service from Melbourne to Sydney the company has started a new service carrying containerised cement from the Port of Melbourne to the Qube siding (formerly owned by Independent Rail Australia, which was purchased by Qube) at Minto.

Reports from industry insiders indicate that since Qube took over Maritime Container Services (MCS) at Cooks River (Sydney) in December 2017 the company has been giving priority to its own trains rather than those of competitors, despite MCS supposedly operating as an 'open access' terminal. As a consequence of this alleged practice the thrice-weekly Sydney – Dubbo Fletcher International Exports container train, operated by Southern Shorthaul Railroad, has been diverted to use DP World Logistic Australia's terminal at Port Botany (see page 5,

May 2018 RD). Use of this terminal has the added advantage that the train travels direct to the dockside area.

DP World, an international stevedore, established its Logistics Australia arm last year to control Botany Intermodal, a rail-served 15.3 hectare site within Port Botany that was formerly used by Qube and known as the Sydney Haulage site. However, DP World did not open the terminal for business until October following a five-month delay while the terminal was repaired. According to a *Daily Commercial News (DCN)* report the rail siding at the terminal was in 'disrepair', metal debris was scattered throughout the facility, there was a rat infestation and the waste water system used in connection with container cleaning needed extensive cleaning. DP World Australia chief operating officer logistics Mark Hulme said there had been significant costs to importers and exporters, road operators and the shipping industry generally, given that this facility had to be removed from the market to allow repairs to be carried out. However, a Qube spokesperson told *DCN* that the Sydney Haulage site was in the same condition at the time Qube vacated the premises as it was when Qube took it over from DP World some 10 years ago.

Earlier this year the Freight and Trade Alliance and the Australian Peak Shippers Association expressed concern over Qube's acquisition of the Maritime Container Services facility. Both organisations had concerns over a possible lessening of competition in port rail services and the trend towards vertical integration of stevedoring services. These concerns prompted a meeting with the ACCC.

## Federal funding boost secured for Perth METRONET

Perth METRONET Stage One came one step closer to becoming a reality on Friday 27 April with the announcement of a \$1.05 billion commitment in the 2018-19 Commonwealth Budget.

The Commonwealth funding commitment is on top of the \$490 million towards the Forrestfield-Airport Link funded through the 2016 GST top-up payment. This brings the Federal funding towards METRONET at more than \$1.84 billion, split across:

- Morley-Ellenbrook Line construction: \$500 million in federal funding;
- Byford Rail Extension Line construction: \$241 million in federal funding;
- Midland Station Project construction: \$83 million in federal funding;

- Karnup Station business case: \$2 million in federal funding, with additional funding earmarked for construction, subject to the business case approval; and
- \$226 million in federal funding to support other METRONET related projects.

The Federal and WA Governments will also sign a Memorandum of Understanding to negotiate a Perth City Deal over the next twelve months. The City Deal is designed to leverage the investment in METRONET to deliver city shaping reforms in the areas of land use planning, housing release and affordable housing and smart infrastructure.

## Bombardier signs long-term maintenance contract for Melbourne High-Capacity Signalling System

Bombardier Transportation announced on Wednesday 18 April that it has signed a contract with Metro Trains Melbourne (MTM) to provide ten years of maintenance services for the rail control solution being delivered for Melbourne's new Metro Tunnel Project.

The contract is valued at approximately \$77 million and includes an option for five additional years of maintenance services.

Bombardier will provide its full-service package from its OPTIFLO rail

control services solution including the advanced EBI Tool Maintenance and Diagnostics Centre (MDC) which provides intelligent data analysis and predictive functionalities to prevent failures.

In December 2017, Bombardier, as part of the Rail Systems Alliance (RSA), won the contract to install its high-capacity rail control system for the \$11 billion Metro Tunnel Project in Melbourne, Victoria's largest ever investment in public transport.

## Inland Rail forges ahead with landmark agreement

On Friday 4 May, a group representing Australia's largest rail freight operators and infrastructure owners welcomed a landmark agreement between the Australian and New South Wales governments to advance construction of the Melbourne to Brisbane Inland Rail project.

Freight On Rail Group (FORG) of Australia Chair Dean Dalla Valle said this was a historic day for regional communities, rail operators, freight companies, exporters and businesses.

FORG members contribute more than \$11 billion to Australia's economy each year, employ almost 20,000 people, operate 1,600 freight locomotives and manage 23,000 kilometres of rail track.

Mr Dalla Valle said moving bulk freight by rail is safer, more efficient and cleaner than road – a typical freight train hauling cargo containers removes up to 60 B-double trucks off the road, while rail freight produces 16 times less carbon pollution per tonne kilometre than road.

## Aurizon applies to Supreme Court for Judicial Review on Competition Authority decision

In the latest development in a long-running dispute with the Queensland Competition Authority (QCA), Aurizon Network applied on 30 April to the Supreme Court of Queensland for a Judicial Review of the QCA's Draft Decision on the 2017 Draft Access Undertaking for Aurizon's Central Queensland Coal Network. The court application is being made on the basis of apprehended bias. The QCA late last year told Aurizon it should only earn \$3.9 billion in track access revenue operating the coal network between July 2017 and June 2021. Aurizon believes a fair revenue figure to be almost \$5 billion.

Aurizon is basing its case on the fact that the QCA Chairman, Professor Roy Green, was appointed Chairman of the Port of Newcastle in December last year. The Port serves the extensive Hunter Valley coal mining activity. Aurizon said it was seeking the review on the basis that it was affected by legal error because the QCA did not afford procedural fairness to Aurizon due to Professor Green's conflict of interest and the apprehension of bias.

Aurizon has alleged that his vested interest in improving the profitability of the Port of Newcastle motivated a tough QCA decision for the Central Queensland Coal Network. The company is arguing that the QCA's decision will restrain revenue and therefore limit capacity for Central Queensland miners, many of whom also operate in the Hunter Valley. Aurizon claims that those miners will be more likely to invest in their Hunter Valley mines where rail network capacity will not

face the same limitations. (The Hunter Valley rail network is managed by the Australian Rail Track Corporation (ARTC) and track access charges come under the jurisdiction of the Australian Competition and Consumer Commission (ACCC) as the ARTC is a Commonwealth agency).

Aurizon says that the Weighted Average Cost of Capital (WACC), which is a critical part of the QCA's calculations in assessing access charges, is 5.41 per cent for the Central Queensland coal network while the ACCC has applied a figure of 6.3 per cent for the Hunter Valley rail network. Aurizon says it will question why the WACC determinations could be so different for similar rail networks in the same country with both moving large volumes of coal. Aurizon's CEO and Managing Director, Andrew Harding, said that the rate of return of 5.41 per cent does not promote economically efficient operation of the Central Queensland Coal Network nor provide an incentive to invest in the network. Mr Harding said the rate of return proposed by the QCA made the company's coal network one of the lowest rated regulated assets in Australia.

Since the QCA's draft decision has been handed down Aurizon has reduced track maintenance costs on its coal network by implementing less favourable track shutdown arrangements for its customers which will result in longer track possession times. This move has angered miners served by the network.

## Major road and rail investments in Federal Budget

The 2018 Federal Budget, handed down on Tuesday evening 8 May, promised more than \$75 billion to be spent on transport infrastructure projects over the next decade, including \$24 billion allocated for 2018/2019.

The major items relating to the rail industry are:

**Infrastructure Investment Program — Major Project Business Case Fund** - The Government will provide \$250 million to establish a Major Project Business Case Fund to contribute to the development of business cases for future high priority land transport infrastructure investments. This measure includes an initial contribution of \$15 million for a business case for a Toowoomba to Brisbane Passenger Rail service.

**Infrastructure Investment Program — New South Wales infrastructure investments** - The Government will provide \$1.5 billion for priority regional and urban infrastructure in New South Wales, including: \$400 million for the Port Botany Rail Line Duplication.

**Infrastructure Investment Program — Queensland infrastructure investments** - The Government will provide \$5.2 billion for priority regional and urban infrastructure in Queensland, including: \$390 million for the Beerburrum to Nambour Rail Upgrade.

**Infrastructure Investment Program — South Australian infrastructure investments** - The Government will provide \$1.8 billion for priority regional and urban infrastructure in South Australia, including: \$220 million for the Gawler Rail Line electrification.

**Infrastructure Investment Program — Tasmanian infrastructure investments** - The Government will provide \$59.8

million as a co-contribution towards Tranche Two of the Tasmanian Freight Rail Revitalisation project.

**Infrastructure Investment Program — Victorian infrastructure investments** - The Government will provide \$7.8 billion for priority regional and urban infrastructure in Victoria, including: up to \$5 billion for the Melbourne Airport Rail Link, with specific funding arrangements, including an option for equity investment, to be settled at a later date and with an equivalent contribution to be provided by the Victorian Government; \$475 million for planning and pre-construction of a rail connection to the Monash employment centre in Melbourne's South-East; \$225 million for the Frankston to Baxter electrification upgrade; and \$50 million to support the duplication of the Geelong Rail Line between South Geelong and Wairn Ponds.

**Infrastructure Investment Program — Western Australian infrastructure investments and GST top-up payment** - The Government will provide \$3.2 billion for priority regional, urban and water infrastructure in Western Australia, including a further GST top-up payment of \$188.9 million in 2017-18. Funding will be provided for the following infrastructure projects: an additional \$1.1 billion for Metronet projects, including the Morley to Ellenbrook line, the Armadale line, Midland station relocation, Armadale – Byford electrification and business case funding for Lakelands Station.

**Western Sydney City Deal** - The Government will provide \$125.0 million over five years from 2017-18 to support infrastructure projects and liveability initiatives under the Western Sydney City Deal, including: up to \$50 million towards the development of a business case for Western Sydney Rail, including an investigation of integrated transport and delivery options for a full North-South Rail Link from Schofields to Macarthur, to be funded on a 50:50 basis with the NSW Government.

## ARTC appoints Inland Rail CEO

After an extensive local and international executive search and selection process, the Australian Rail Track Corporation (ARTC) announced on Wednesday 18 April that Richard Wankmuller had been appointed as the new chief executive officer of the \$10 billion Inland Rail program.

ARTC Chairman Dr Helen Nugent AO said she was delighted to welcome Mr Wankmuller to the company. Mr Wankmuller brings more than 35 years' experience leading large, complex, global engineering organisations such as Cardno, GHD, Parsons Corporation and MWH.

Mr Wankmuller brings senior management experience in the private and public sector infrastructure market including fulfilling CEO and Managing Director roles as well as executive and non-executive Board of Director positions with some of the world's largest engineering and construction companies. Mr Wankmuller's global experience extends across many areas including the planning, financing, design and delivery

of large infrastructure projects and programs. More recently, he has been providing strategic advisory services to infrastructure related projects worldwide and is Chairman of Mercy Ships Australia.

ARTC Managing Director and CEO John Fullerton said Mr Wankmuller is the right person to lead the Inland Rail program.

Mr Wankmuller joins ARTC's executive leadership team and will report to Mr Fullerton. He commenced in the role Monday 23 April, based out of ARTC's Brisbane office.



Richard Wankmuller

## Anna Squire appointed to ARA Board

On Thursday 12 April the Australasian Railway Association (ARA) Board announced that Anna Squire, Australasia Rail Engineering Leader at multinational professional services firm Arup, had been appointed to the ARA Board.

"We are very pleased to have Anna Squire join the ARA Board, at what is both an exciting and an important time for the rail industry", ARA Chairman, Bob Herbert AM said.

Mr Herbert said that Ms Squire brings a depth of knowledge to the rail industry and the Board more broadly with her skills in the development, design and delivery of high-quality, reliable and operations-focused rail projects, particularly in the context of planning

and urban renewal. She has held a range of design, construction and project management roles on major rail projects in Australia, the USA and the UK, including metro, heavy rail, freight, high speed rail, and light rail.

"Having a consultancy representative join the ARA Board will add weight to the current representation and increase the depth of knowledge across the Board," said ARA CEO, Danny Broad.



Anna Squire

## Former Deputy PM appointed ARTC Chair

Former Deputy Prime Minister Warren Truss has been appointed Chair of the Australian Rail Track Corporation (ARTC).

On Friday 20 April Acting Prime Minister and Minister for Infrastructure and Transport Michael McCormack said Mr Truss, who was leader of the National Party from 2007 to 2016, would bring experience and energy oversighting the Australian Government-owned interstate rail network company.

The Acting Prime Minister thanked outgoing ARTC Chair Dr Helen Nugent AO and noted that under her three-year leadership term, ARTC had delivered significant improvements to the efficiency and competitiveness of Australia's interstate rail network and driven the early stages of the Inland Rail project. (Interestingly, Mr Truss was Deputy PM and Minister for Infrastructure and Regional Development at the time of Dr Nugent's 2015 appointment to the ARTC role.)

Minister for Finance Mathias Cormann said he was looking forward to again working with Mr Truss, who has been appointed to the role for the next three years.

Minister Cormann said that with Mr Truss as Chair, ARTC will have a renewed focus on stakeholder engagement and delivery as it continues Inland Rail construction. "I also thank Dr Nugent for her service and contribution to ARTC. I am looking forward to seeing how Mr Truss can shape the ARTC's ongoing delivery of key rail projects the Australian Government is delivering," Minister Cormann concluded.



Warren Truss

## Mark Pettigrew joins Network Rail Consulting as Regional Director, ANZ

Mark Pettigrew joined Network Rail Consulting as Regional Director for ANZ on 14 May. Mark will be responsible for leading and developing Network Rail Consulting's business in Australia and New Zealand.

Prior to joining NRC, Mark was based in Northern Queensland, delivering the business case for the Townsville Eastern Access Rail Corridor Study for Building Queensland, to improve rail access to the Port of Townsville. Before this, he ran the Australian and New Zealand business for a major global engineering house, contributing to his wealth of knowledge in the delivery of consulting services and client outcomes.

With 32 years' experience working on major rail and road transport projects across Australia and New Zealand, Mark has successfully

delivered at all points ranging from strategic planning and advisory through to design, construction and operational phases. This experience has also extended into projects in Asia and Africa. Mark has spent equal parts of his career working in private consulting and the public sector, bringing a diverse range of experience to the role.



Mark Pettigrew

# ACT government announces preferred stage two light rail route

Planning and design for stage two of Canberra’s light rail network is well underway with the City to Woden route that travels through the suburbs of Parkes and Barton now the ACT Government’s preferred route.

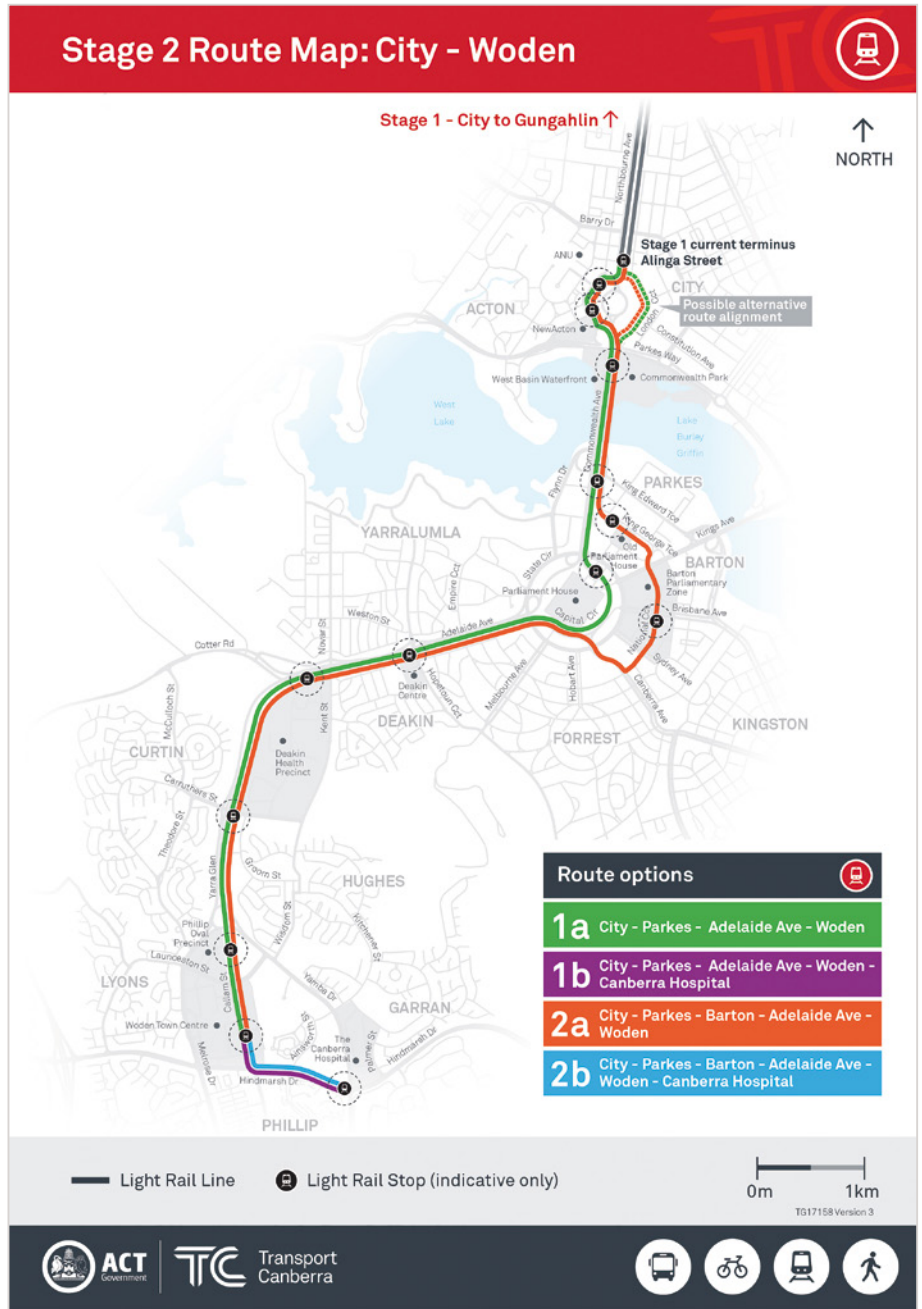
Late last year the ACT Government refined the two route options for stage two, with one route going from Civic to Woden via Parliament House and the other going to Woden via Parkes and Barton.

On Thursday 19 April ACT Minister for Transport and City Services Meegan Fitzharris said the government is currently working through the Commonwealth’s approval processes for the project to provide more detail. “Light rail stage two has been going through a rigorous planning process that involves negotiation with the National Capital Authority (NCA) and Federal Parliament due to the heritage and national importance of the Parliamentary Triangle. It is important that Government works closely with the National Capital Authority to ensure the project compliments the wider Parliamentary Triangle.

“What’s clear is that the ACT Government is committed to building a light rail network for Canberra and extending light rail to Woden. We will continue to work with relevant stakeholders on the details of the route through the Parliamentary Triangle.

Due to the location of the route, it’s heritage and national significance, it is also necessary for Commonwealth approvals to be obtained, including Commonwealth Parliamentary approval before the project can proceed. “It’s not appropriate for the ACT Government to finalise the business case for the project until the Commonwealth’s requirements are further worked through. This includes important Commonwealth Parliamentary and Government requirements”, said Minister Fitzharris.

Since the 2016 election, the ACT Government has allocated budget funding, sought community feedback, undertaken stakeholder engagement and progressed expert technical analysis on the two route options between Civic and the Woden Town Centre.



# First trees planted on ACT light rail route

The Canberra Metro light rail construction project reached a major milestone on Friday 6 April with the planting of the first five-metre high Eucalyptus mannifera gum tree on Northbourne Avenue between Elouera and Girrawheen Streets in the inner north Canberra suburb of Braddon.

ACT Minister for Transport and City Services Meegan Fitzharris said, “Today’s tree planting marked the beginning of the transformation of our northern gateway to the city”.

The trees, which will be planted along the light rail route, are currently growing at the Yarralumla Nursery, to allow the plants to acclimatise to the Canberra environment. Aside from the signature Eucalyptus mannifera, there are other tree species and a variety of native wildflowers, herbs, forbs and grasses that will also be featured along the light rail corridor.

“These gums are considered an impressive species which have been featured in other landscaping projects around Canberra over the past

50 years, creating beautiful native boulevards,” said Minister Fitzharris. “Importantly, today’s planting of Eucalypts begins the replacement of all the trees removed during construction. I know these trees were special to many people across Canberra, and I hope the new gums we are planting here today will be too”.

The Light Rail Landscape Plan will deliver a subtle transition of landscaping along the route from Gungahlin to Civic with more than 1,000 trees and one million plants to be placed. A grassland landscape in the northern parts of the corridor will transition to a more formal grand boulevard design along Northbourne Avenue. The landscaping closer to Civic will contain a distinctive visual corridor of Eucalypts with native grasslands and wildflowers.

The trees were selected after community consultation and discussions with the National Capital Authority to ensure appropriate species were selected. Planting has also commenced on some verges in the northern end of the corridor with similar trees.

## Inland Rail Illabo to Stockinbingal contract awarded

The Melbourne to Brisbane Inland Rail project continues to progress with the Australian Rail Track Corporation (ARTC) awarding a \$6 million contract for feasibility and design of the Illabo to Stockinbingal section to WSP Australia Pty Ltd and Mott MacDonald Pty Ltd, trading as IRDJV.

On Friday 20 April Inland Rail Program Delivery Director Simon Thomas said the feasibility design would build on preliminary investigations and extensive community engagement already conducted by ARTC.

“ARTC are working to provide more information as local residents, landowners and surrounding communities are keen to know more about Inland Rail from an engineering and design perspective and the feasibility design is the next step in that process,” Mr Thomas said. “This feasibility design work will give us information in terms of engineering,

environmental, traffic and other impacts, which we can use to design and build the best possible rail line. It will lay the groundwork for the detailed design for these sections, and there will be more contracts awarded by ARTC over the coming months in regional NSW”.

The Illabo to Stockinbingal project will see construction of a new 37 kilometre rail corridor linking the existing NSW Main Southern line just east of Illabo to Stockinbingal. The new section will bypass the famous Bethungra Spiral and eliminate the need for trains to travel to Cootamundra before diverting to Stockinbingal (and subsequently the cross-country Stockinbingal to Parkes line) at Cootamundra West.

The Illabo to Cootamundra section will continue as part of the NSW Main Southern line carrying freight and passenger services between Melbourne and Sydney.



Near Jerrawa, north of Yass, on Tuesday 10 April, EDI/EMD GT46C ACe units SSR 01 and SSR 02 haul SSR 1341 empty grain service to West Wyalong. Dennis Forbes





SSR freight train No.1845 led by BRM 002, C504 and BRM 001 is near Marrangaroo Tunnel, heading to Kelso, on Sunday 29 April. Evan Deacon



Local equine life is barely disturbed as Canadian-built EMD units 9017, 9009 and 9004 snake a bulging-bellied Up Hunter coal train through the S curve at Lochnivar on Wednesday 18 April. Malcolm Holdsworth

## Around Sydney

### Sydney's new light rail line one year behind schedule

In mid-April the consortium delivering the Sydney CBD and South East Light Rail project advised the New South Wales Government that the project is running one year behind schedule.

NSW Transport Minister Andrew Constance subsequently confirmed that ALTRAC (a consortium of four companies including Alstom, Acciona, Transdev and Capella Capital) told the Government it is working towards a completion date of March 2020 for the \$2.1 billion project.

The project, which extends 12 kilometres from Circular Quay to Randwick, has become a visible scar on the Sydney CBD streetscape. Mr Constance said the delays were completely unacceptable. "We must see them deliver in 2019, we must see them deliver to contract," he said.

However, what was supposed to be a marquee transport project for the NSW Government has become a major problem.

Mr Constance has accused Spanish sub-contractor Acciona of using go-slow tactics as it engages in a court battle over the project. "We will ensure as best as possible that they ramp up their activity — they are on a 'go slow', anyone walking the city can quite clearly see," Mr Constance said. "They have construction zones where there is no workforce on the ground doing the work".

Acciona is demanding \$1.1 billion in financial compensation claiming it was "induced" by Transport for NSW to enter a contract to build the CBD light rail on a "false premise". It claims the transport agency led it to believe power company Ausgrid, and other water and gas companies, had agreed to a plan to deal with utilities under the route of the line when they had not.

### Sydney Metro Northwest at least \$500 million under budget as track laying concludes

The Sydney Metro Northwest rail project is on target to be delivered at least \$500 million under budget, with the final piece of track laid ahead of services starting in the first half of next year.

NSW Premier Gladys Berejiklian and Minister for Transport and Infrastructure Andrew Constance inspected progress at Bella Vista on Sunday 22 April, where the last section of 52.5 kilometres of railway tracks has been installed.

"This is another huge step forward in delivering new metro rail to Sydney next year, revolutionising how we get around our great city," Ms Berejiklian said. "The major contracts for Sydney Metro Northwest were awarded in 2013 and 2014 and the project budget was set at \$8.3 billion. "Project costs are constantly refined during the construction process and, through good management, we've been able to realise significant savings — which will be used to deliver the \$20 billion-plus Sydney Metro expansion".

Over the past 22 months, 105 kilometres of steel rail was installed in the twin 15km tunnels between Bella Vista and Epping, on the 4 kilometre skytrain between Bella Vista and Rouse Hill, and at Sydney Metro HQ at Rouse Hill. There were also 60,498 sleepers installed, 35,000 tonnes of ballast and 237,000 tonnes of concrete used in the track laying process alone. On average, 300m of track was laid underground each week.

Sydney Metro Northwest services will begin in the first half of 2019.



A section of partially complete light rail in Devonshire Street, Surry Hills, just east of Elizabeth Street, where there are also sections with no track laid and excavations for track are yet to be commenced on Thursday 26 April. Diverting utility services still appears to be delaying works in a similar manner to that still delaying track laying in parts of George Street. Shane O'Neil



An unusual sight of Clyde/EMD locomotive 8162 in Bondi Junction Station, whilst signal testing was conducted on the Eastern Suburbs line on Monday night 2 April. David Potter

## Date set for start of Epping to Chatswood line conversion

Sunday 30 September has been announced as the day suburban rail services will cease for seven months as the Epping to Chatswood line is converted to become part of the Rouse Hill to Chatswood Sydney Metro Northwest system.

During the shutdown more than 110 bus services an hour will replace trains during peak periods.

The major milestone marks the final stage of construction before the \$8.3 billion Sydney Metro Northwest starts carrying customers in the first half of next year.

NSW Minister for Transport and Infrastructure Andrew Constance said the seven-month upgrade will be supported by a \$49 million investment in a new high frequency pink bus fleet called Station Link that will run more than 1,000 services a day.

Ryde MP Victor Dominello said the investment in Station Link and road improvements for capacity and bus priority are the result of almost four years of working with stakeholders and engaging with the community. "A brand new fleet of more than 120 fully accessible, air-conditioned Station Link buses will connect stations between Epping and Chatswood at least every six minutes in the peak, with more than 110 services per hour running during the busiest parts of the day," Mr Dominello said.

However, City of Ryde Mayor Jerome Laxale said he was concerned, that promised road upgrades to help handle the buses would not be delivered in time. He said the closure was timed around the 23 March state election, not the people's needs.

Mr Laxale said it will be a "very testing and chaotic seven months" as the Government had not delivered on all promises from April 2017, which included a bus lane along Herring Road, and an intersection upgrade (turning a roundabout into traffic lights) to help buses get through Macquarie Park.

"I find it extraordinary that the road upgrades promised won't be delivered in time," he said. "The entire \$60 million package, the majority of them will be delivered after the rail line reopens."

"I've had no valid explanation as to why they have been delayed ... they've had seven years to upgrade these roads".

Mr Laxale said the roads were a "complete gridlock" now, and that he hated to imagine what 1,000 extra bus services would do.

But Transport for NSW Coordinator General Marg Prendergast said stage one of the 'bus priority infrastructure program' would be finished in time. This includes about 580 metres of new bus lanes, bus priority at intersections, adjustments to lanes, medians, traffic islands, traffic lights, footpaths, drainage, utilities and road pavements.

A southbound bus lane on Herring Road is part of this stage.

However stage two will not take place until the first half of 2019 when the Sydney Metro opens, and that part of the project includes the northbound bus lane on Herring Road.

The delay is due to the fact that investigations revealed the need for "significant and complex utility relocation" to create the additional lane, Ms Prendergast said.

Station Link service details will be available on the Transport for NSW trip planner and real-time apps well before services start on 30 September. For the latest information on service routes and frequencies, visit [mysydney.nsw.gov.au](http://mysydney.nsw.gov.au).

It is understood the transition to buses will add at least an extra 10 minutes to the journey of commuters.

The Epping to Chatswood upgrades include major work, testing of new signalling and communications systems and electrical and fire safety systems. The existing tracks and overhead wiring will be used by the new metro system, which is the same standard-gauge, 1500v DC as the rest of Sydney's electric train network.

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## Qube's Moorebank intermodal freight hub proceeds, with conditions

Tougher environmental and noise regulations on Qube's \$1.9 billion Moorebank freight hub have been described as a "good outcome" by the logistics group after the NSW Land and Environment Court released final conditions for its development.

Susan Dixon, a senior commissioner at the court, said "stringent" conditions would be imposed on the Moorebank freight hub in south-western Sydney, following legal action brought by community action group Residents Against Intermodal Development Moorebank (RAID). "The conditions which I intend to impose provide for consistent and ongoing monitoring, and go further than those which were imposed by the Planning Assessment Commission," Ms Dixon said.

Additional conditions have been put in place to minimise noise impacts – including that a noise barrier be erected if noise from rail operations to and from Port Botany exceed certain levels.

Qube said the updated approval conditions were "largely in line" with what had been agreed between the Minister for Planning, the company

and the NSW Environmental Defenders Office, which represented RAID during the hearing. Qube stated it was pleased the court had confirmed planning approval and that the concerns raised by the residents had been dealt with.

The judge said the Moorebank project's benefits outweighed its potential impacts, and would help ease congestion near Port Botany. It is understood conditions proposed by the Minister of Planning and accepted by Qube accommodate all of the agreed recommendations of ecologists and acoustic experts, including protecting an endangered yellow flower (scientific name *Hibbertia fumana*) that is native to the area and was once considered extinct.

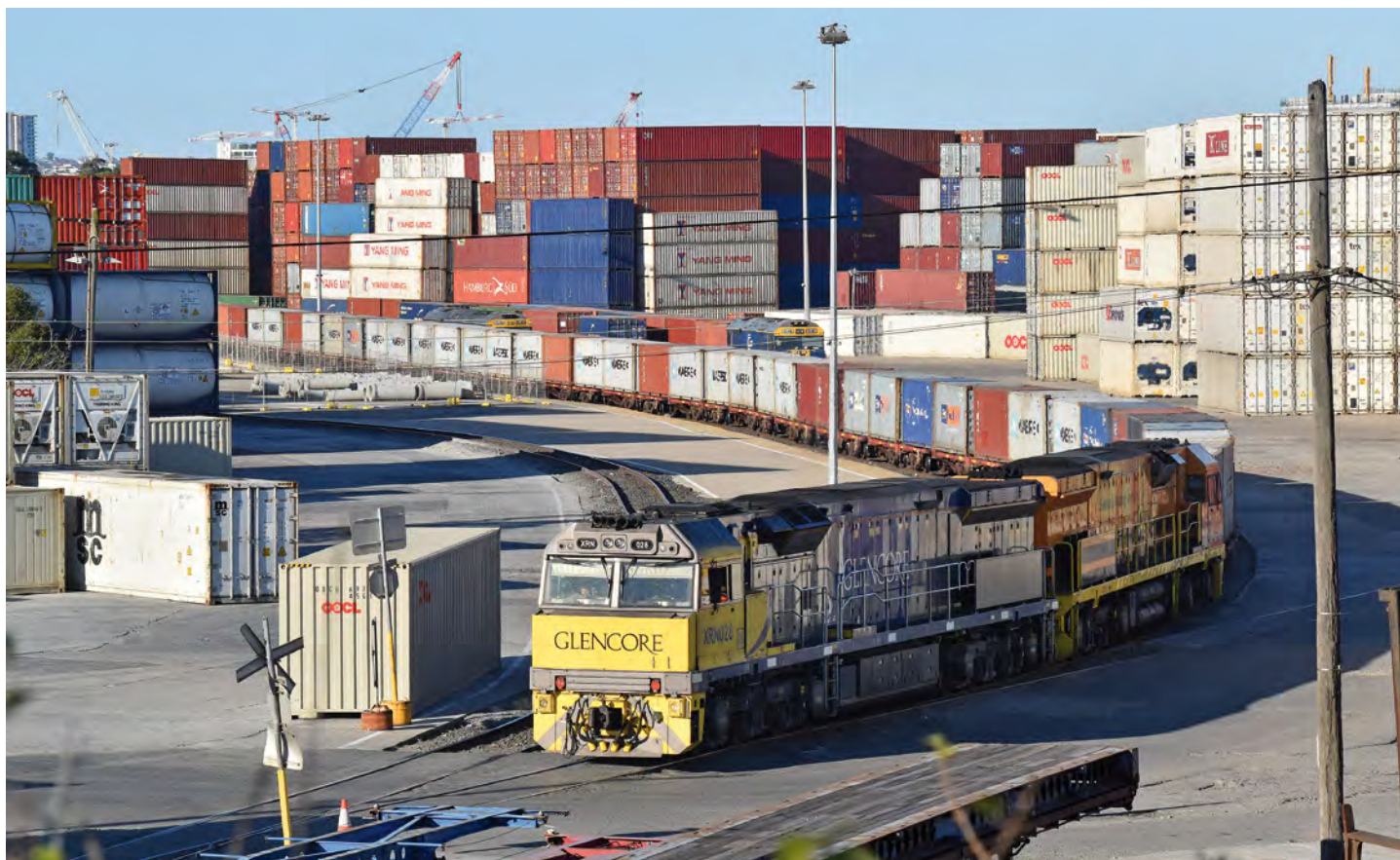
Qube received NSW planning approvals for the first stage of the intermodal terminal – which includes building an import-export hub with rail links to the southern Sydney freight line – in December 2016. The company began construction at the site on 6 April 2017 (see May 2017 *RD*, page 5).



With the Bankstown line slated to become part of the Sydney metro network, the passage of Sydney trains double deck stock will eventually become consigned to history. On a sunny Labour Day 2 October 2017 Set A49 approaches the Moreton Street overbridge at Belmore and will soon be arriving at Lakemba Station. Dominik Gienza



**Above:** Well-worn Goninan/GE locomotive NR18 leads the *Indian Pacific* into Sydney Central Platform 1 on Anzac Day, 25 April. Mitch Campton  
**Below:** Genessee & Wyoming Australia/Freightliner empty containerised cotton service for Wee Waa departs the MCS Cooks River terminal, now owned by Qube (see page 4, this issue), on Sunday afternoon, 6 May behind UGL/GE C44aci units XRN028 and GWU009. Both locomotives are in almost 'foreign' territory, performing haulage tasks outside their original briefs of Hunter Valley coal and South Australian iron ore, respectively. Stabled behind are CFCLA units GL 109 and GL 110 awaiting further use. Shane O'Neil



## Port of Brisbane study to examine rail links

The Australian and Queensland governments have formally agreed to canvass options on how to best serve the Port of Brisbane.

A jointly-funded \$1.5 million study, announced on Tuesday 3 April, will look at the feasibility of options for improved rail freight connections to the Port of Brisbane from Acacia Ridge.

Deputy Prime Minister and Minister for Infrastructure and Transport Michael McCormack said freight connections with the Port of Brisbane were critical in supporting south-east Queensland's continued economic growth and development. "Infrastructure Australia identified a dedicated rail freight line servicing the Port of Brisbane as a high priority initiative and this is one of the options which will be investigated as part of the study," he said.

"Inland Rail is a strategic investment in Australia's infrastructure future and the Port of Brisbane study will examine the possibility of a dedicated freight link from the Port. Significant analysis was undertaken as part of the 2015 Inland Rail Business Case which found the existing line could continue to service the port until 2030. The new joint study will now assess a range of immediate and long-term options to ensure freight continues to move efficiently," Mr McCormack continued.

Queensland Minister for Transport and Main Roads Mark Bailey said in addition to the feasibility of improved rail freight connections to the Port, the study would also be looking at demand and existing infrastructure capacity.

"Last year the Queensland Government announced it would fully fund and deliver the Cross River Rail Project and work has already started. Clearly, we need to understand what these projects will mean for the movement of rail freight," Mr Bailey said. "I expect that freight flows may change as a result of these network-shaping projects and increased interactions with the suburban passenger network.

"The views of key stakeholders such as the Port of Brisbane, Brisbane City Council, Cross River Rail Delivery Authority, Queensland Rail and the Australian Rail Track Corporation will be sought as part of the study.

"The outcomes of the study will help to inform the need for a future business case and corridor protection, if required," he concluded.

Independent specialist advisers will be engaged to undertake the study, which is expected to be completed by April 2019.

## Securing rail freight corridor a Townsville priority

The Queensland Government will move to ensure the long-term future of rail freight to the Port of Townsville by protecting the Townsville Eastern Access Rail Corridor (TEARC).

On Thursday 19 April Queensland Transport and Main Roads Minister Mark Bailey said it was important for the economic development of Townsville the TEARC route was protected for future construction and that everything possible was done to bring the project forward.

"Building Queensland has recently completed a Detailed Business Case on the TEARC project which is being publically released today," Mr Bailey said. "It found while freight line was strategically important to the future development of the port, current demand did not support construction of the line at this time. We therefore call on the Turnbull Government to redirect funding from the TEARC to other key projects Townsville needs now, consistent with the Townsville City Deal".

Mr Bailey also called on the Turnbull Government to match the Queensland Government's \$75 million commitment to expanding the Port of Townsville.

Member for Townsville Scott Stewart said the Port of Townsville was one of four priority ports in North Queensland and was vital to the movement of the state's imports and exports. "It's by expanding capacity at the Port that we'll be able to increase efficiency, grow freight volumes and in turn support demand and future need for the TEARC".

Mr Bailey said it was also important the preferred TEARC alignment was preserved to ensure the corridor was available when required and urged the Turnbull Government to contribute funding to support that happening. This will include acquiring land and gazetting the corridor, as well as preparing an Environmental Impact Assessment for the project.

The TEARC is an 8.3 kilometre rail freight line which will connect the North Coast line at Cluden directly to the port. The proposed route will travel from Cluden on the North Coast Line, through the Townsville State Development Area for about 3.5 kilometres, before joining the existing Eastern Access Corridor and running northward parallel to the Southern Port Road to the port.

(For additional information on the TEARC see 'The Townsville to Mt Isa Railway' - November 2017 RD, pages 32-43).

**NGR unit 713 glides through Edens Landing with DP75 service from Varsity Lakes to Brisbane Airport on Friday 13 April. Peter Reading**





**Westlander passenger train services on Queensland's Charleville-Brisbane line were disrupted during scheduled closures of the line for major works east of Toowoomba. Work to lower the first tunnels began in April and is continuing with major track closures disrupting freight (mainly coal) and passenger services (see report below). During line closures on the weekends of April 7-8 and 14-15, the eastbound Westlander, which departed Charleville at 6.15pm on the Friday and was due to depart Toowoomba at 7.00am Saturday for an 11.25am arrival in Brisbane, terminated at Toowoomba. Passengers were transported from Toowoomba to Brisbane by bus. The Westlander is the only passenger service on the Western Line, with twice-weekly return services from Brisbane-Charleville. From its heyday when up to 14 passenger cars, including sleepers, made up the train, today's Westlander services usually comprise 2 sitting cars, a crew car and a baggage/power car. The Charleville-Brisbane Westlander is seen stowed at Toowoomba Station on Sunday, 15 April, during a scheduled line closure. Neil Lyon**

## Western Line tunnel lowering project under way

The delayed project to lower the floor of the 11 tunnels on Queensland Rail's Western (Brisbane – Toowoomba) Line is now under way. The improved tunnel clearance in the two tunnels in the Little Liverpool Range between Grandchester and Laidley and the nine Toowoomba Range tunnels between Murphys Creek and Toowoomba is intended to allow 9ft 6in (2.9m) high containers to traverse the Western Line thereby allowing export commodities such as cotton and grain to be transported in these containers by rail. At present no container trains use the Western Line, the last to do so was the Aurizon cotton train from Namoi Cotton's Goondiwindi Gin to the Port of Brisbane, which ceased operating in 2014. The inability to use 9ft 6in containers was given as one reason for the service ceasing to operate.

During a track closure between 6 and 16 April work was focused on the tunnels between Ballard and Rangview crossing loop on the Toowoomba Range and the Victoria tunnel in the Little Liverpool Range. The work, conducted on a 24-hour basis, involved installation of rock anchors at the base of tunnel walls, removal of the existing track and excavating the road bed to a lower level and laying of concrete slab track in tunnels ready for installation of new track. During a shorter period, from 6 to 9 April, preparatory work was carried out between Holmes and Spring Bluff in the Toowoomba Range.

Originally announced in the 2015/16 Queensland Budget, the \$48 million project is being carried out by BMD Constructions and design partners Parsons Brinckerhoff in conjunction with Queensland Rail. The project is expected to be completed by the end of this year.

A strong supporter of the tunnel clearance project is InterLinkSQ which is planning to construct an intermodal terminal adjacent to the Western Line at Charlton, west of Toowoomba. Speaking during a visit on 27 April to the terminal site by Deputy Prime Minister Michael McCormack, InterLinkSQ General Manager Blair Batts said his company was looking forward to the tunnel clearance project's completion which would facilitate the introduction of a 'portlink' service to the Port of Brisbane when the terminal is established.

A video of preparatory works for the tunnel clearance improvements can be seen at:

<https://www.youtube.com/watch?v=z-DyXpyP-ds&feature=youtu.be>

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ETT 303/304, *City of Rockhampton*, glides effortlessly through Glasshouse Mountains with a load of passengers bound for Rockhampton and stations in between, on Saturday 28 April.  
Will Heinemann



## Queensland Government takes next step on G:Link extension

On the back of its strong performance during the Commonwealth Games, planning has now begun for a proposed extension of the Gold Coast light rail system.

Queensland Transport and Main Roads Minister Mark Bailey said he was encouraged by Gold Coast light rail's 'heavy lifting' during the Games.

"The Palaszczuk Government's decision to complete stage two of the light rail was critical to the success of the Games," Mr Bailey said. "The tram network carried almost 100,000 passengers a day, nearly four times the normal daily average. This would not have been possible without our unwavering commitment to this project and the fact we built it in record time".

Mr Bailey said he expected the detailed business case for the next stage would be considered by the government early next year.

The preferred extension runs about seven kilometres down the centre of the Gold Coast Highway between the Broadbeach South light rail station and Burleigh Heads. The extension will include up to eight new stations, however final alignment and station locations have yet to be decided. Planning will include consultation with the community in the second half of this year.

Acting Gold Coast Mayor Donna Gates said local firm Bennett and Bennett had started survey works during April to locate and identify underground services and map the reference alignment.

"There will be several surveying teams out on different parts of the corridor over the coming months," Ms Gates said. "The survey results would be used in the detailed business case to help decide engineering design, station locations and replacement, upgrading or relocation of underground services".

Mr Bailey said planning further south on the Gold Coast Highway was also underway. "We are in the early stages of reviewing the existing transport corridor south of Burleigh Heads to ensure it meets future requirements," he said. "This study will consider all transport modes - walking, cycling, driving and public transport, including the potential for a further extension of the light rail system".

## \$46 million timber bridge upgrade for North Coast line

The Queensland Government is investing \$46 million to replace 18 timber rail bridges between Townsville and Cairns, significantly improving the safety and longevity of the line and supporting up to 120 jobs for the local construction industry.

The project provides a welcome boost to the North Queensland construction industry, with opportunities to tender for the package of work. Queensland Rail hosted an industry briefing for local businesses in Townsville on Thursday 26 April and in Cairns on Friday 27 April, to talk through the upcoming tenders. The three tender packages will be grouped according to the height of the bridges and the complexity of the replacement works.

Following the release of the tenders, it is anticipated that the works will commence in September this year, and be progressively completed until late 2020.

Queensland Rail Chief Executive Officer, Nick Easy, said the bridges, which are located from south of Cardwell to El Arish, would be replaced with steel and concrete structures.

"The elimination of these old timber bridges from the North Coast line will significantly improve the reliability of the line, and reduce required maintenance," Mr Easy said.

The timber bridges currently require a high level of maintenance, due to the landscape of the area which is often subject to conditions such as flooding, alongside large outlays associated with the maintenance works and timber sourcing. The upgrade works will not only be a more cost-effective solution in the long-term, but improve the overall safety and reliability of the Queensland Rail network".

"We are committed to providing our customers with a safe and reliable rail network, and improving our infrastructure through future-proofing initiatives such as the replacement of these timber bridges," Mr Easy said.

It is understood that completion of the bridge replacements between Townsville and Cairns will mean that there are relatively few timber bridges left on the entire Brisbane – Cairns line.



# LDP Class locomotives become additional 83 Class following Pacific National purchase from Progress Rail

Pacific National (PN) is the new owner of the six narrow gauge LDP Class EMD GT42CU-Ace 2,260 kW (3,030 hp) locomotives built by Downer’s Maryborough plant ‘on spec’ for purchase or leasing but never used in revenue service. The locomotives were transferred to Progress Rail after the latter company announced its intention to purchase Downer’s locomotive plant and assets in November 2017 for \$109 million (see January 2017 RD, page four).

The locomotives involved (LDP Nos. 016 to 020 plus 8347, which had been renumbered prior to transfer) were hauled from Maryborough to Progress Rail’s Redbank Workshops in December last year and have since been prepared for service and painted in to the PN ‘stars’ livery. The repainted locomotives are numbered 8347 to 8352. Units 8347

and 8350 carry ‘R U OK?’ signage as part of the rail industry’s focus on mental health issues.

The six additional 83 class units join 46 existing stable mates that are primarily used on Pacific National’s Central Queensland coal contracts and its Townsville – Mount Isa mineral trains, although they occasionally appear on the company’s Brisbane to North Queensland intermodal services, especially when they are being transferred for maintenance purposes. PN’s Queensland intermodal services are expected to expand when Aurizon exits the intermodal market on the 30th of this month and PN is commencing a new sugar haulage contract in North Queensland in June, which will require additional motive power.



PN008 and 8351 head north through Sunshine station with 82P9 container train on Wednesday 2 May. 8351 is a GT42CU-Ace unit; one of the six former, narrow-gauge LDPs built ‘on spec’ by Downer at Maryborough that had never turned a wheel in revenue service. Leon Harris

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NR28 and NR59 work 1YN2 from Whyalla steel works over Spencer Gulf bound for Newcastle, on Sunday 1 April. David Peters

## Improved Bike'n'Ride facilities for Adelaide Metro

Works associated with the installation and upgrade of bike cages at key locations on the Adelaide Metro network have commenced. As part of the works, the existing bike cages located at Klemzig Interchange (Adelaide O-Bahn Busway) and Hallett Cove Beach station (Seaford line) were upgraded in April.

The bike cage at Klemzig Interchange has been doubled in size to accommodate demand for commuters using the O-Bahn bus service while the Hallett Cove Beach cage has had a secure door and card reader installed.

Following these upgrade works, a secure bike cage with the capacity for 16 bikes will be constructed at the Adelaide Entertainment Centre Tram Stop.

Works are expected to be completed by mid-2018.

Bike cage facilities have CCTV, lighting, and include additional bike parking rails outside the cage.

Secure bike cages are currently available at the following locations:

- Adelaide Airport
- Elizabeth Station (Gawler Central Line)
- Gawler Station (Gawler Central Line)
- Hallett Cove Beach Station (Seaford line)
- Klemzig Interchange (Adelaide O-Bahn Busway)
- Mount Barker Dumas Street Park 'n' Ride
- Munno Para Station (Gawler Central Line)
- Noarlunga Interchange (Seaford line)
- Paradise Interchange (Adelaide O-Bahn Busway)
- Seaford Station (Seaford line)
- Seaford Meadows Station (Seaford line)
- Tea Tree Plaza Interchange (Adelaide O-Bahn Busway)

The cages operate free of charge on the metroCARD system and can be added to registered metroCARD cardholder accounts.

## Extra services on four Adelaide rail lines

A new rail timetable, introduced on Sunday 22 April, has seen passenger services increased on Adelaide's Belair, Gawler, Outer Harbor and Seaford lines. The new timetable sees the introduction of services every 30 minutes from morning peak to last service of weekdays and all day on weekends.

South Australian Transport Minister Stephan Knoll said the announcement of the service increases marks the fulfilment of an election promise by the incoming Liberal Government within a month of the March State Election.

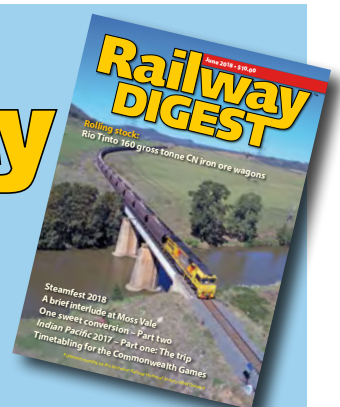
"Passengers using these train lines will benefit from "more frequent services with a maximum wait of only 30 minutes," Mr Knoll said.

For precise details of the timetabling Mr Knoll said passengers should use the Transport Department's MetroMate app and Adelaide Metro website. ( [www.adelaidemetro.com.au](http://www.adelaidemetro.com.au) )

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**Above:** Having cautiously navigated the tight left-hand curve at Stirling North, SCT 011 and SCT 015 roll 6MP9 Melbourne–Perth freight away from the Flinders Ranges, bound for Spencer Junction on Saturday 3 February. Malcolm Holdsworth  
**Left:** Locomotives 1601, 851 and 1606 head to the Lake McDonald Gypsum Mine at Kevin with empty Gypsum Wagons [ex Northern Australia Railway ore hoppers]. When loaded, the wagons will return to the facility at Thevenard. The train is seen here kicking up dust at Neilsens Gate Road level crossing about half way between Ceduna and Penong on Thursday 5 April. Steve Munro



Through the weak sunshine of a balmy Tuesday April 24 afternoon, came the pleasing sight of a GM-powered (by 2011 and 2006) empty ballast train staggering the last few hundred metres into Brighton Hub. Steven Bromley

## Tasrail blasts reckless school bus driver

A school bus driver who failed to give way at a level crossing in Hobart’s northern suburbs has been criticised as “seriously stupid and reckless” by the rail authority.

TasRail has posted a video on social media showing the bus crossing the rail line at Station Street in Brighton on Monday 9 April, just two seconds before a 2,000-tonne train reached the crossing.

The bus was empty, but TasRail said the incident had been very traumatic for the train driver who could not tell whether there were students on board.

TasRail communications manager Sarah Hirst said it could have ended in tragedy. “Without any lookout for any train coming, he’s

driven his bus straight through the crossing,” Ms Hirst said. “I would describe this as seriously stupid and reckless behaviour. There is no doubt that within a couple of seconds this could have been a huge tragedy. “It all happened very quickly and our driver was unable to determine whether or not there were students on board”.

Ms Hirst said she was disgusted to see this sort of behaviour despite education campaigns about level crossing safety. “We have investigated this matter and we do believe that the children had just been dropped off at school so the bus was empty at the time,” she said. “It is a huge relief but it could have gone either way being 8:30am on a Monday morning”.

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### READING THE RAILWAY LANDSCAPE: Interpreting Visible Railway Relics Between Hornsby and Gosford

Following our intrepid lineside landscape interpreter’s train ride from Hornsby to Hornsby via Strathfield and Central, this article travels from Hornsby to Gosford up the Short North line to review the many relics that still exist.

### CEMETERY STATION NUMBER 1

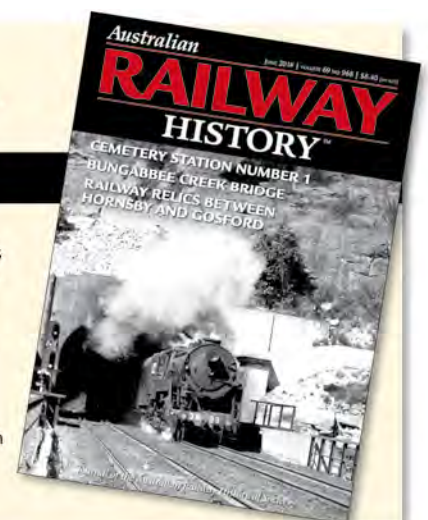
John Oakes, author of the well-known book on the line reviews several photos by Allan Watson and researches the possibilities and draws out what these photos can tell us.

### BUNGABEE CREEK BRIDGE

The railway between Casino and Murwillumbah traverses one of the most well-watered areas in New South Wales. The replacement of the second bridge over Bungabee Creek, near Leycester, in 1962 is particularly interesting because the process was well recorded in photographs, and a written account of the work involved survives.

### PLUS:

- Letters Section - O Class 4-6-0 locomotives
- Explorer Page - When the location in an old photograph is not what it appears



## V/Line declines to comment on Murray Basin gauge standardisation cost overrun

Following the reopening of the Mildura/Yelta line unconfirmed reports from a variety of industry sources indicated that the Murray Basin gauge standardisation project has been subjected to cost overruns (one report suggested \$200 million), allegations that the project was not scoped properly, disputes between V/Line and the contractor (Martinus Rail/McConnell Dowell Joint Venture) over work undertaken so far and sustained criticism of the project management of the project.

Martinus Rail did not return *Railway Digest's* calls and a V/Line spokesperson refused to comment on the issue of cost overruns but told this magazine that the Martinus Rail/McConnell Dowell contract with V/Line is set to deliver the next stage of the project, that is, gauge conversion work on the Dunolly – Sea Lake and Korong Vale to Manangatang lines. The spokesperson said work on this stage will commence once V/Line has completed works on the Maryborough – Mildura – Yelta line.

V/Line is currently undertaking remedial works on this section to allow trains to operate at normal track speeds. Trains have been running under 'Occupation' conditions with a maximum speed of 50 km/h applying north of Maryborough. The remedial works included

modifying the standard gauge trailable facing points at Emu Loop, between Dunolly and St Arnaud, which were found to be 'out of standard' according to a V/Line internal document.

Gauge conversion of the Ouyen to Murrayville branch has essentially been completed although some minor works are required before trains can return to this line. At Maryborough the direct eastern connection to join the ARTC mainline (which would allow trains from Maryborough to travel direct to Geelong and Melbourne) has not been installed. Trains to/from Maryborough are required to travel to Pyrenees loop, five kilometres west of Ararat, to reverse.

Other reports indicate that there was some reluctance over installing dual gauge between Ballarat and Maryborough because of concerns over ballast getting jammed between the second and third rails which are close together on a standard/broad dual gauge track. This section is traversed by V/Line VLOCITY DMUs and earlier reports suggested they would need to be limited to 80 km/h for safety reasons. However, later reports suggest that a risk assessment has cleared the way to continue with the dual gauge plan and standardise the Ballarat - Gheringhap line to provide direct access to the Port of Melbourne.

## Mode Shift Incentive Scheme to be retained

The Victorian Budget, brought down on 1 May, included an announcement that the Mode Shift Incentive Scheme (MSIS), which was due to expire on 30 June, will be continued. The Scheme's original funding commitment was made in 2014/15. The MSIS provides an allocation of \$5 million per year to Victorian regional intermodal container terminal operators to encourage the use of rail by offsetting the cost of truck pickup and delivery of export containers at each end of their trip. While this is generally not an issue over longer distances such as Melbourne to Perth, it does affect rail freight's competitiveness for intermodal freight over the relatively short distances in Victoria (for example, 267 km from the Warrnambool terminal to the Port of Melbourne). Current MSIS recipients are intermodal services from Tocumwal (both Pacific National and Qube), Horsham (SCT), Warrnambool and Mildura (both Pacific National).

Rail advocates and freight customers welcomed the announcement and said the MSIS provides benefits to the community in terms of reduced 'externalities' such as less road damage, improved road safety and less noise and pollution from trucks. The Scheme also contributes to regional employment at intermodal terminals including truck pickup and delivery of containers. The MSIS supports the transport by rail of 100,000 export containers to the Port of Melbourne each year (excluding those from Griffith/southern NSW and Adelaide which are another nearly 50,000 containers). It also assists regional producers of containerised export commodities such as dairy and meat products, hay, grain, rice, cottonseed, potatoes, peas, wine, grapes and fruit. Overall, according to Government sources, the MSIS contributes to rail having a 17% share of loaded export containers through the Port of Melbourne (noting that 30% of the Port of Melbourne's exports are empty containers being returned to places like China for loading imports back to Australia).

The Australian Peak Shippers Association (APSA) was a strong supporter for continuation of the MSIS. Association spokesman, Travis Brooks-Garrett, said the MSIS had been a key factor in the recent revival of rail mode share growth in Victoria and it is aligned with 'freight on rail' policies of the Victorian and other Governments around Australia. Mr Brooks-Garrett said that aside from obvious benefits for urban

de-congestion, the MSIS had delivered real and measurable trade outcomes. He said many APSA members have attributed the MSIS as a significant contributor to their growth in export volumes by placing downward pressure on supply chain costs and allowing them to grow their rail volumes, which they consider to be the most efficient transport mode.

APSA says it has received similar feedback from its logistics service provider members, including the Port of Melbourne, SCT, DP World Australia, Interport Intermodal, and others, who are unanimous in their support of the program. The Association said that Transport for Victoria should build on the success of the programme by ensuring:

- that future commitments to the MSIS are extended beyond one year;
- that the MSIS be open to metropolitan cargo; and
- that the MSIS be open to cargo originating from outside of Victoria (if a majority of the journey is within Victoria), to attract interstate cargo volumes to the Port of Melbourne.

Mr Brooks-Garrett said there were many examples of similar programmes stimulating export volumes in other states. This includes the success of the amended Tasmanian Freight Equalisation Scheme (TFES), which has played a significant role in growing international export freight volumes both in Tasmania and through the Port of Melbourne. Another example is the West Australian rail subsidy, renewed by the State Labour Government to \$50 per TEU as of 1 January 2018. The aim of this subsidy is to achieve 20 rail mode share (currently 15%) into the Port of Fremantle.

## Contract awarded for Bendigo and Eaglehawk Station upgrades

The contract for the design and construction work associated with the upgrading of Bendigo and Eaglehawk stations was awarded on Friday 13 April (see February 2018 *RD*, page 21 and September 2017 *RD*, page 21).

Downer Group will lead the project, which includes a new pedestrian overbridge with lifts, ramps and stairs at Bendigo station. The overbridge should make it easier for passengers of all abilities and people with prams and luggage to transfer between platforms and connect with local buses and taxis.



SSR's Clyde/EMD 'Streamliners' S317 and S302 are seen with a loaded grain train, ex Sea Lake, near Wedderburn Junction on Thursday 29 March. Although delayed because of problems with the Murray Basin Gauge Standardisation project (see previous page) the Sea Lake and Manangatang lines are expected to be converted to standard gauge later this year. Steve Munro

Before construction begins in the middle of the year, a detailed design for the new overbridge will be developed in consultation with the City of Greater Bendigo. The design will acknowledge the precinct's heritage and will not impact on the operations of the adjacent Bendigo Victorian Railways Institute Bowling Club.

VicTrack manager government and stakeholder relations James O'Brien said heritage advisers were engaged during the planning phase. "We've taken advice through the process, we've had heritage advisers on board as part of the process," he said. "We feel it's in line with the heritage values of the precinct".

Mr O'Brien said the construction works would have a minimal impact on the operation of the station and rail services. The works will largely take place after hours and on weekends with the nine-tonne footbridge likely be fitted in to place on a weekend.

The upgrades at Eaglehawk Station will see an extended platform to accommodate longer trains and a new 60-space car park with taxi and drop-off areas.

The works are part of the Victorian government's investment of \$15.8 million to make the much needed improvements to both Bendigo and Eaglehawk stations.

Further upgrades planned for Bendigo Station this year will see improvements to the station building, including a refresh of the waiting area, toilets and customer service areas, to enhance commuter comfort, access and amenity.

Both the Bendigo and Eaglehawk station upgrade packages will be completed in 2019 and are in line with the City of Greater Bendigo's integrated transport and land use strategy Connecting Greater Bendigo, the Bendigo Station Improvement Plan and the Eaglehawk Station Precinct Master Plan.

## Gippsland Logistics Precinct

The Victorian Government will develop and deliver the Gippsland Logistics Precinct in Morwell. (Morwell is located on the Gippsland line 146 kilometres from Flinders Street station.)

On Thursday 12 April Victorian Minister for Regional Development Jaala Pulford and Member for Eastern Victoria Harriet Shing announced more than \$5.3 million for the Gippsland Logistics Precinct Stage 2 Infrastructure works on Tramway Road in Morwell. The funding will deliver Stage 2 infrastructure works that will reactivate the disused rail freight site and pave the way for the development of fully serviced Council-owned land for industrial purposes.

Situated close to the Princes Freeway and adjacent to the Gippsland Intermodal Freight Terminal, the Gippsland Logistics Precinct will have transport links to the state's road network, the Port of Melbourne, and Geelong. The completed precinct will provide improved rail freight access, improved access to more efficient transport, industry diversification and a reduction in the number of heavy vehicles on Gippsland roads.

The announcement also recognised the completion of Stage 1 of the Gippsland Logistics Precinct works to upgrade the Australian Paper Maryvale siding, which is now delivering operational efficiencies to the company. Stage 1 works also improved logistics at the Gippsland Intermodal Freight terminal and realigned sidings in the rail yard, which will benefit future tenants and freight users at the Gippsland Logistics Precinct.

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## Around Melbourne

### Station construction underway on the Metro Tunnel project

Construction has started on the new North Melbourne station – one of five new underground stations being built as part of the \$11 billion Melbourne Metro Rail project (marketed as the Metro Tunnel project).

Victorian Minister for Public Transport Jacinta Allan made the announcement at the site of the new station, where construction started on Tuesday 24 April.

In late-April workers began preparing to construct underground walls that will be up to 30 metres deep and help ensure the safe excavation of 330,000 tonnes of rock and soil at the site. The new North Melbourne Station will then be built within the excavated space, up to 20 metres below ground and long enough to accommodate platforms over 225 metres long.

Above ground, the station design includes a plaza on the corner of Laurens and Barwise Streets to welcome passengers.

Around 300 people will work on the construction of the station, which will be ready for the Metro Tunnel to open in 2025.

The new station will help transform the area from the industrial precinct to a brand new suburb on the edge of the CBD. Over the next 30 years, it is estimated that the area will become home to more than 25,000 residents.

During May, construction of new underground stations at Parkville,

Anzac and two CBD locations will ramp up, including construction of an \$18 million manufacturing facility in Melbourne's west to produce more than 50,000 concrete segments to line the project's twin nine-kilometre tunnels.

The Deer Park facility is expected to start operating this year and will produce around 150 concrete segments a day, each weighing 4.5 tonnes, before they are transported for use below the surface.

Tunnel boring machines, two of which will be launched from the site of the new station in North Melbourne, will then install the segments as they excavate deep below the ground to create permanent watertight linings.

### Work begins on Baxter extension business case

Work has commenced on the preparation of the business case, and planning work for a future extension of electrification from Frankston to Baxter. (The Frankston to Baxter section is currently part of the Stony Point line. The extension would see the line electrified and better incorporated into the Melbourne metropolitan rail network.)

The business case will cost and plan extending the Frankston line approximately nine kilometres south. The extension will include new stations at Frankston Hospital, Leawarra – at Monash University's peninsula campus, Langwarrin and Baxter.



An AFL Special approaches Heidelberg station from Eltham on Saturday 5 May, utilising the brand new tunnel and the new Up track with the new cross bridge over Burgundy Street next to the existing 1888-built single line tunnel, which now accommodates the Up track. The \$140 million Hurstbridge line upgrade involved removing the level crossings at Grange Road, Alphington, Rosanna and the Lower Plenty Road, track duplication, and the new tunnel and new bridge near Heidelberg, which was officially opened the day before. James Chuang

In 2017 the Federal government provided \$4 million towards preparation of the business case, allowing the Victorian Government to commence the assessment of costs and benefits of electrifying the line as well as additional enhancements including track duplication, level crossing removals, station upgrades, car parking and train stabling. In addition, the Victorian Government is spending over \$2 billion on infrastructure works on the Frankston line that will enable a future extension of electrification.

To cater for future services on the extension, the Victorian Government, through the Level Crossing Removal Authority, will replace the current six-train storage facility at Carrum (Frankston line – 34.9 kilometres from Flinders Street station) with a 24-trains storage facility at Kananook (40.2 kilometres from Flinders Street). The Government is continuing to work with seven businesses being acquired at Kananook to help them relocate and retain their employees locally.

The Government will now begin consultation with stakeholders in the Frankston area as the Baxter extension business case is developed. The business case is expected to be finalised in early 2019 (see page 5 this issue for Federal Budget funding for this project).

## Planning underway for Sunbury car park expansion

Planning has commenced to provide more car parking for commuters using Sunbury station. (Sunbury is located on the Bendigo line approximately 38.3 kilometres from Southern Cross station. It is the terminus of Melbourne Metro Sunbury line services.)

The announcement of development at Sunbury follows the \$60 million Victorian Budget 2018/19 allocation, which will deliver over 2,000 new car parks at busy metropolitan stations including;

- Belgrave (Belgrave Line - 42.7 kilometres from Southern Cross),
- Sandown Park (Pakenham and Cranbourne lines – 25.7 kilometres from Southern Cross),
- Craigieburn (Craigieburn line – 26.1 kilometres from Southern Cross); and
- Epping (South Morang line – 22.8 kilometres from Southern Cross).

The Government is progressing design options to expand car parking for the Sunbury station precinct, which has a complex mix of land ownership and regulatory arrangements, and has been working with local

stakeholders and the City of Hume on potential development options.

The planning work will be complete by mid-2018, and will allow for the final design and development of a new car park to provide more than 300 new car parking spaces for commuters.

This expansion will build on the 600 car parks currently available for commuters across the Sunbury Station precinct, which are regularly full from early in the morning during the week.

The new car park development at Sunbury will provide for accessible parking for people with disability, secure storage facilities for cyclists and allow for better access for pedestrians. There are competing demands on the parking spaces near the busy station between commuters, shoppers and shop tenants. By providing extra car parking at Sunbury Station, there will be less pressure on commuter parking in neighbouring streets.

## New tram timetable from 20 May

A new tram timetable for Melbourne came into effect on Sunday 20 May, adding extra off-peak services and creating turn-up-and-go frequencies on two busy routes on weekends.

Extra services are being added to St Kilda Road (Routes 1, 3, 5, 6, 16, 64, 67 and 72) and the north-west (Routes 19, 57, 58 and 59) in the times surrounding peak periods to provide more travel options for people affected by construction of the Metro Tunnel.

Turn-up-and-go frequencies mean trams will operate every 10 minutes at specified times.

Details of changes:

- Route 58 is being upgraded to a turn-up-and-go 10-minute frequency from 10am until 7pm on weekends through the provision of extra services.
- Route 86 will also be upgraded to a turn-up-and-go frequency from 12pm until 4pm on Sundays, and will align with Route 96 in Bourke Street to create a regular service along this busy corridor.
- Routes 1, 6, 19, 57, 58 and 59 will have more evening trams on weeknights, arriving every 15 minutes until 9pm.

More low-floor trams will be used in the inter-peak on Route 58, which provides a vital link with medical institutions such as the Royal Melbourne Hospital, Royal Children's Hospital, Royal Women's Hospital and Peter MacCallum Cancer Centre.

Timetables for the new services are available at [ptv.vic.gov.au/timetables](http://ptv.vic.gov.au/timetables)

Clayton Station on Sunday evening 22 April, six days after the station's reopening, as a Cranbourne-bound train arrives from the city. This is the second section of Skyrail to open on the Pakenham/Dandenong line (see 'Skyrail lands' in April RD, from page 40). James Chuang





## Tenders progress Morley-Ellenbrook Line planning

A tender for engineering and planning for the Morley-Ellenbrook Line has been awarded, and applications opened to help develop a business case for the vital Perth METRONET project.

Perth-based consultancy group ARUP has been chosen to work with the METRONET team to investigate and plan the early stages of the Morley-Ellenbrook Line project, which will serve Perth's north-east suburbs with improved transport connections and create new communities through integrated station precincts.

The team including ARUP, Roberts Day and Ernst and Young brings together a wide range of skills to support the METRONET team in undertaking the options analysis and design work required for the project, as part of developing a robust business case.

On Thursday 19 April WA Transport Minister Rita Saffioti said, "Initial planning and early community consultation for the Morley-Ellenbrook Line has taken place, so we have now entered a far more detailed planning phase" (see March 2018 *RD*, page 26).

Once the business case has been finalised and a preferred option is confirmed, work will begin to develop the concept designs to inform a final government investment decision, enabling the project to move into procurement and delivery.

To ensure the project represents the best outcome for local communities, the work undertaken will include route option analysis; preliminary land use investigations; planning and concept designs, including any grade separations, stations and surrounding precincts.

This work will be a key input into the wider economic analysis and business case development work, which will be contracted separately in the coming months.

A tender for similar work on the Karnup Station project, which involves construction of a new station and bus interchange at Karnup, midway between Warnbro and Mandurah on the Mandurah line, has also been awarded to GHD Pty Ltd.

Meanwhile, a tender for the new Midland Station and Midland Line Extension to Bellevue will be awarded soon.

METRONET is the long term plan to connect Perth suburbs, reduce road congestion and meet the city's future planning needs. It is Perth's most ambitious program of rail projects. Stage One will deliver approximately 72 kilometres of new passenger rail and up to 18 new stations.

METRONET Stage One includes:

- Completing the Forrestfield-Airport Link,
- Extending the Joondalup Line to Yanchep,
- Linking Thornlie and Cockburn Central stations,
- Planning and building the new Morley-Ellenbrook Line,
- Extending the Armadale Line to Byford,
- Relocating Midland Station and extending the Midland Line to Bellevue,
- Building a new station at Karnup on the Mandurah Line,
- Starting a program to remove level crossings on the Armadale and Midland lines,
- Designing and manufacturing the next C-Series trains; and
- Planning for alternative transport options to better connect communities.

## Bayswater Station upgrade community consultation

The Western Australian Government has released early concept plans for the upgrade of Bayswater station, which will form a central junction for the future Morley-Ellenbrook and Forrestfield-Airport rail links. (Bayswater is located 6.7 kilometres from Perth station on the Midland line.)

The major project, which has a current allocation of \$86.4 million from the last WA Budget, is set to start construction next year, and is

slated for completion prior to the opening of the Forrestfield-Airport Link in late 2020.

The upgrade will be Bayswater station's biggest overhaul since it opened in 1896 and is a vital first stage for the Morley-Ellenbrook Line. Importantly, the project will also include a turnback siding within the existing rail corridor between Meltham (5.5 kilometres from Perth station) and Bayswater stations that can be used to position trains servicing the Forrestfield-Airport Link and Morley-Ellenbrook Line.

The project is also an opportunity to create a new public space at the heart of the Bayswater town centre, which will be the first glimpse of Perth for the thousands of visitors who will emerge from the airport rail tunnel.

While the design of the precinct is the subject of extensive consultation that began with the launch of an on-line survey in mid-April, the early concept shows:

- The station will be relocated onto a new lifted rail bridge over King William Street, replacing the existing rail bridge,
- The new platforms will be realigned closer to Whatley Crescent and be expanded to 150 metres to accommodate six-car trains,
- New public space will be created under and around the future rail bridge, improving connectivity and vibrancy in Bayswater town centre; and
- Tunnelling has been ruled out due to constraints arising from the design of the Forrestfield-Airport Link.

There are significant elements of the upgrade that require community input, including architecture, station design, public spaces around the station, location and design of a potential bus interchange, parking requirements and landscaping.

The final planning design will ultimately seek to improve the station facilities and amenity, respond to the City of Bayswater's Local Structure Plan for the area and future-proof the station for long-term growth of the rail network.

Sinking the station was investigated but was ruled out due to significant operational and engineering issues, and constraints arising from the design of the Forrestfield-Airport Link. The associated works would also have resulted in Bayswater Station being closed for at least a year.

Construction of the Bayswater Station upgrade is expected to begin in 2019 and be completed by late 2020.

## Level crossing safety upgraded for Arc Infrastructure track patrol staff

In 2017 Arc Infrastructure commenced a road-rail vehicle and protected level crossing upgrade program designed to permit patrollers to safely pass through level crossings. The program allows rail network patrollers to activate level crossing protection to close the crossing to road traffic remotely from their patrol vehicle.

The first phase of the program was completed in 2017 with 56 level crossings upgraded, and the new technology installed in all 31 of Arc Infrastructure's road-rail vehicles.

The second phase of the program, planned for 2017, involves the upgrade of 15 level crossings across both Perth Metro and regional locations. Arc Infrastructure's Project Engineer Jed Sung said the upgrade is essential to ensure the safety of road-rail vehicle patrollers and the road users in the surrounding communities. "In the past, a rail network patroller has had to stop and get out of their car to manually activate a level crossing. Moving forward, a patroller will be able to do this from their vehicle, meaning they can pass the level crossing safely," Mr Sung said.

A total investment of almost half a million dollars has been planned to upgrade the identified level crossings that pose a high risk to road-rail vehicle drivers.

Road-rail vehicles are used for patrollers to assess the current state of the track and identify any areas where works or maintenance is required to ensure the safe and efficient operation of the rail network.

## Shorter waits for Kalgoorlie road users

A \$9 million signalling program is underway in Kalgoorlie in the Goldfields region of Western Australia to upgrade existing infrastructure resulting in better conditions for road traffic.

Seven level crossings within a 10-kilometre section from West Kalgoorlie to Parkeston and Leonora will be upgraded during 2018 to provide shorter wait times for road traffic.

These upgrades form part of a signalling program in West Kalgoorlie that commenced last year with civil works undertaken to prepare for the transition from power lines to optic fibres in the rail corridor.

The seven level crossing upgrades represent a \$1.8 million investment in the rail network's signalling infrastructure with a further \$3 million spend planned for the next two years within this section of the network.

Arc Infrastructure's Project Lead Signals and Systems Sudip Saha said the program is using modern technology to improve traffic conditions in West Kalgoorlie and create better efficiencies for Arc Infrastructure. "The use of train predicting systems instead of conventional train detection systems will allow for the level crossings to be active for a shorter period of time, resulting in shorter wait times for traffic. This work also removes visible wires, decreasing the infrastructure's exposure to vandalism and damage meaning that less maintenance will be required on an ongoing basis" Mr Saha said.

In 2013, train traffic signal lights in this section of the freight rail network were upgraded to LED lights to provide better visibility for above rail operators, something which has seen positive feedback from train drivers.

## Record intake of Transperth transit officers graduate

A record intake of 29 Transperth transit officers graduated from their 12-week training course on Friday 13 April, bringing the number of officers on the network to 304, plus other senior security staff.

The transit officer role is highly competitive, with about 550 people applying for the most recent intake.

The recruitment process takes approximately six months from the initial application, through a series of tests and classroom, field and on-the-job training, before candidates are fully qualified. Their training includes legal education, defensive tactics training, rail track safe-working and customer service skills.

The new employees include former police officers, military, security, university educated professionals, qualified tradespeople and hospitality personnel.

Many railway stations are manned after business hours, and all trains operating after 7pm have two security officers on board to provide visible security and render assistance if needed. The strong security presence is reflected in Transperth's Passenger Satisfaction Monitor (PSM), an annual survey of more than 4,000 regular passengers, which shows high perceptions of safety and security on the public transport network.

The 2017 PSM recorded very high satisfaction with safety and security, with an average of almost 90 per cent of passengers feeling safe on Transperth trains, 91 per cent on buses and 97 per cent on the ferry. Perception of safety at stops and stations was also high.



NR76 shunts the fuel sidings at Esperance on Thursday 5 April. Pacific National won the haulage contract for the carting of fuel from Esperance to Kalgoorlie from Aurizon this year. Phil Melling



Narrow-gauge Motive Power/Cummins MP27CN units CBH 001, CBH 024 and CBH 023 head a loaded grain train through Toodyay, 85 kilometres north-east of Perth, on the afternoon of Tuesday 17 April. Steve Munro



Goninan/GE unit NR 25 sits at Rawlinna on the eastbound *Indian Pacific* at 8 am on Monday 26 February. Passengers alighted here for a 'breakfast in the outback' stop between 6.30 and 8.00 am. Notice the greenness in the foreground; rarely has the Nullarbor looked so green following rain from the aftermath of Tropical Cyclone *Kelvin* that crossed the Western Australian coastline near Broome in mid-February. Mike Martin



# Timetabling for the Commonwealth Games

Text and images by John Hoyle

**M**ajor events such as sporting competitions or concerts require the mass movement of large numbers of people in a relatively short time frame. It is this sort of movement that is eminently suited to public transport and, despite Australia having one of the strongest car cultures in the world, public transport has come to the fore in recent years as the mode of choice to move spectators to and from venues efficiently. The inclusion of public transport fares in the admission price to many events has been a key factor in encouraging people not to drive their motor cars to venues and, of course, it speeds up loading and unloading of public transport vehicles. Indeed, for many Australians, special events trains, trams and buses would be their only regular contact with public transport. The new Perth Stadium is a good example of an increased focus on using public transport for special events (see March 2018 *RD*, from page 28). It has no less than six rail platforms at its dedicated station located on the Armadale/Thornlie line. The station is designed to move over 28,000 passengers an hour.

The recent Commonwealth Games, held on the Gold Coast, provided the opportunity for public transport to play the major role in moving spectators, athletes and officials to and from the sporting venues. The Games were held from Wednesday 4 to Sunday 15 April, 2018 and with over one million tickets sold, it was said to be the largest sporting event Australia has hosted in this decade and the biggest event the Gold Coast has ever seen. In line with many other major events around Australia there was no dedicated private car parking at the various Commonwealth Games venues and admission tickets included free public transport to and from venues on the Gold Coast, Brisbane, Townsville and Cairns.

**Above:** Queensland Rail Suburban Multiple Units 262 and 290 arrive at Nerang station with a train to Brisbane on Monday, 9 April. A large crowd of Commonwealth Games patrons is about to board after travelling by bus (or walking two kilometres) from the major Games venue at Carrara. Gold Coast Line trains ran every 10 minutes or better during the day to serve Games venues.

## Heavy rail does some heavy lifting

Rail, both heavy and light, provided an important transport role for the Games. Queensland Rail's (QR) Brisbane – Gold Coast line was a key artery to transport spectators and staff to the Gold Coast. Duplication of the remaining 8.2 kilometre single track section on the Gold Coast line, between Coomera and Helensvale, had been opened for traffic on 3 October 2017 (see November *RD*, page 16) to enable a much more frequent service to be provided throughout the day while the Games were being held. However, the well-publicised difficulties with the delivery of the Bombardier Next Generation Rollingstock (NGR) EMUs and the train crew shortages stemming from a reduction in recruitment activity for a number of years presented challenges in planning for a much more frequent Gold Coast rail service.

Fortunately, after considerable delays the first NGR set had entered service on 11 December last year and Queensland Rail told *Railway Digest* that eight NGR sets were required and used during the Commonwealth Games. These trains currently do not meet *Disability Discrimination Act* standards with respect to wheelchair access to the toilet and between cars but modifications are planned. Train crewing presented significant challenges as recruitment and training consumes considerable time and resources. On 20 March this year Transport

Minister Mark Bailey told the Queensland Parliament that Queensland Rail had added 69 drivers and 168 guards towards the initial target of 200 additional drivers and 200 guards as recommended by the Strachan Commission of Inquiry which was released on 6 February last year. However, on 23 March Queensland Rail CEO Nick Easy told ABC News the figure of 69 new drivers failed to include natural attrition. Mr Easy said the net increase of drivers was 33, made up of 16 drivers who had completed training and an additional 17 who were qualified to drive trains but instead worked as driver tutors. He said training took 12 months and there were a further 143 people that had been recruited and a number of those were currently being trained. He said he was confident the target of 200 new drivers and 200 new guards would be met by late 2019.

Faced with track and train capacity and crewing restraints Queensland Rail and TransLink developed a timetable that would divert resources from the existing Brisbane suburban network to the Gold Coast Line during the Games. The primary objective of the timetable was to provide a service between Brisbane and the Gold Coast Line terminus at Varsity Lakes with an average frequency of 10 minutes each day during the period from Thursday 5 to Friday, 6 April and Monday 9 April to 13 April. While the frequency averaged 10 minutes, services ran essentially a seven/eight-minute frequency for most of the day with some 15-minute headways around lunch time southbound and in the evenings.

On Saturday 7 April, Sunday 8 April, Saturday 14 April and Sunday 15 April a similar timetable applied but with some variations, including additional services for the Games closing ceremony on Sunday, 15 April. An all-night service was provided during all the abovementioned periods from Varsity Lakes with trains departing at 2.05 am and 3.05 am before a 30-minute frequency started at 3.35 am and more frequent services from 5.05am. During the day and evenings most Gold Coast Line trains would normally continue to Brisbane's airport but the far more frequent Gold

Coast service resulted in many trains terminating/starting from Bowen Hills (Mayne Yard) with others proceeding to or starting from Doomben and Northgate. Service levels to Brisbane airport are determined by the owner of the Airport line, Airtrain, which operates the service without subsidy and in any case the largely single track Airport line would not have had the capacity for such an increase in service levels.

Providing resources and track capacity for this intense level of service was done by reducing service levels on other parts of the network and, in particular, implementing an entirely new timetable for the Gold Coast Line. The key aspect of this timetable was the novel concept of completely eliminating all Beenleigh services during that period. In order to compensate for the loss of Beenleigh services extra stops were added for the much more frequent Gold Coast trains but some stations were not served by any trains. Buses were introduced to call at those 'trainless' stations during that period. Normally Gold Coast Line trains stop all inner-city stations between Bowen Hills, Central and Park Road, then run express to Beenleigh stopping only at Altandi and Loganlea. All trains then stop at all stations between Beenleigh and the Gold Coast Line terminus at Varsity Lakes. The special timetable called for all Gold Coast Line trains to stop at the stations mentioned above but, in addition, call at Yeronga, Coopers Plains and Woodridge in both directions. Ferny Grove services, which are generally 'through routed' to Beenleigh, terminated at Roma Street station while no Beenleigh trains were running.

Three free bus routes were introduced to call at stations not served by trains. The first was R610 which operated every 15 minutes all day, including weekends, between Park Road and Altandi calling at Dutton Park, Fairfield (no trains), Yeronga (change for Gold Coast services), Moorooka, Rocklea, Salisbury (no trains), Coopers Plains (interchange with Gold Coast trains), Banoon and Sunnybank (no trains) and Altandi (interchange with Gold Coast trains). R611 ran between Altandi and



Passengers board G-Link Bombardier Flexity 2 tram No. 17 at Broadbeach South terminus on Monday, 9 April during the Gold Coast Commonwealth Games. Broadbeach South was a major tram/bus interchange point during the Games. As each tram arrived at Broadbeach South passengers disembarked from the other side of the tram and once the car was empty passengers boarded from the side shown in this photo. Temporary barriers can be seen to ensure passengers do not stray on to the tracks and to control boarding. No. 17 is one of four additional trams ordered for the Gold Coast University Hospital to Helensvale extension opened last December. The fleet now totals 18 trams. Beneath the platform and boarding passengers is a tram track intended to form part of the future extension to Burleigh Heads and points further south.

Loganlea stations, calling at Runcorn, Fruitgrove, Kuraby and Trinder Park (no trains), Woodridge (interchange with Gold Coast trains) Kingston (no trains) and Loganlea (interchange with Gold Coast trains). This service operated every 30 minutes during the middle of the day and evenings and from five to 15 minutes in both directions during peak periods.

R613 operated between Loganlea and Beenleigh stations calling at Bethania, Edens Landing and Holmview (all no trains). This service also ran every 30 minutes in the middle of week days, evenings and all day on weekends and approximately every 15 minutes during weekday peak periods. A fourth bus route, R614, did not serve 'trainless' stations but operated direct from Central station to Beenleigh via the busway stations at Cultural Centre (South Brisbane), South Bank and Buranda then to Altandi and Loganlea before reaching Beenleigh. This service operated every 30 minutes in the weekday off-peak and every 15 minutes in peak periods but did not operate on weekends.

Like many rail-replacement bus services, which often face difficulties including traffic congestion and the inability to run parallel to rail lines because of street layouts, the "R" series bus service times (apart from the limited stop R614 service) were much slower than the normal all-stops Beenleigh services. The R610, for example, was scheduled for 45 minutes from Park Road to Altandi versus 23 minutes for an all stops train. The R611 was scheduled for 35 minutes versus 17 minutes for an all-stops train. Despite free travel being offered on the train replacement buses observations suggest that patronage was not strong. In addition, car parks at the 'trainless' stations were far from their usual 'full' status while those at stations served by Gold Coast trains attracted additional cars, indicating that many rail passengers ignored the replacement buses and simply drove to the nearest train-served station, even if it required an earlier start to have some hope of getting a car park near the station.

In addition to the special timetable covering the main Games period, a 'shoulder period' timetable applied to the Gold Coast Line on Tuesday, 3 April, Wednesday, 4 April and from Monday 16 April to 20 April. This was essentially the standard timetable providing a 30-minute off peak service but with some reductions in peak period services which were ran every 15 minutes. However, on Wednesday, 4 April additional southbound services were provided between 12.45 pm and 6.30 pm to convey spectators to the Games opening ceremony at Carrara stadium. After the conclusion of the ceremony additional services ran northbound from Varsity Lakes from 10.58 pm to 12.58 am.

On Monday, 16 April Beenleigh line passengers using the 'trainless' stations welcomed back their trains with a 'shoulder' timetable that applied for the same period as the Gold Coast 'shoulder' timetable, Tuesday, 3 April, Wednesday, 4 April and from Monday 16 April to 20 April. The Beenleigh 'shoulder' timetable provided an all-stops service every 30 minutes and every 15 minutes in peak periods, but no 15-minute off-peak service to Coopers Plains.

Other Brisbane suburban lines were also operated to this 'shoulder' timetable period that offered a reduced level of service to conserve crewing resources just before and after the Games. The Northgate to Cannon Hill service, operating a 30-minute weekday off-peak frequency, was abolished. In conjunction with the Shorncliffe and Cleveland services it provided a 15-minute frequency between Northgate and Cannon Hill. The 30-minute Ferny Grove to Coopers Plains service, which, in conjunction with Ferny Grove to Beenleigh services, provided a 15-minute headway between Ferny Grove and Coopers Plains, was also abolished. As on the Beenleigh line, peak period services were reduced on all major lines to provide an approximate 15-minute frequency. Over the weekends of 30 March/1 April and 14/15 April the standard 30-minute frequency was replaced with hourly services on all lines except Doomben, Ipswich - Rosewood and Sunshine Coast which had less frequent services. On the latter line the rail bus service, which supplements trains between Caboolture and Nambour did not operate. Regular timetables were restored on all lines from Saturday, 21 April.

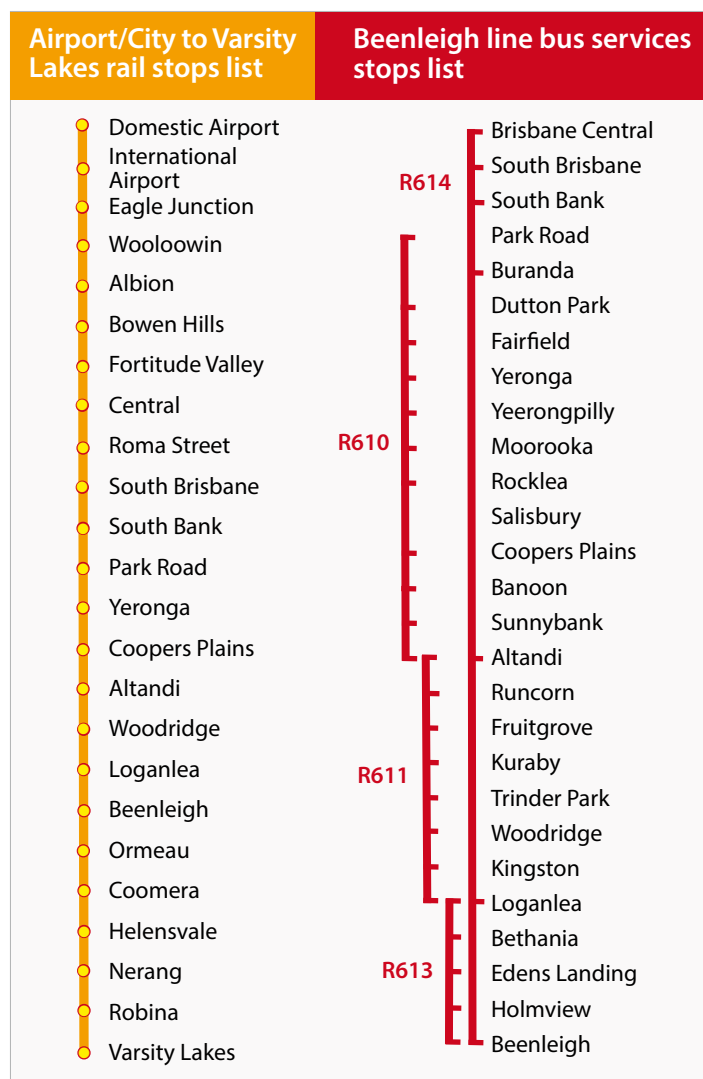


Chart showing the temporary arrangement of rail and bus services

### Light rail runs a marathon around the clock

As mentioned earlier the other rail player for the Games was the Gold Coast light rail line or G:Link. A critical piece of infrastructure related to the Games, the 7.2 kilometre extension of the light rail line from Gold Coast University Hospital to Helensvale railway station, was opened on 17 December 2017 (see February 2018 RD, from page 32). Apart from allowing a direct connection from heavy to light rail, the G:Link provided access to the Games village adjacent to the Griffith University station and venues including the Aquatic Centre at Southport. G:Link staff were positioned at every stop to assist passengers and at Broadbeach South terminus 'passenger flow' was introduced with trams unloading from one side and the loading from the other when each tram was empty. The value of using large trams (the seven-section Bombardier Flexity 2 trams have a seating for 80 passengers and total capacity of 309) and traffic signal priority at most intersections proved invaluable during the Games.

To cater for the additional passengers a special timetable was implemented between 1 and 15 April with trams running 24 hours a day. On Sunday 1 April trams operated every 30 minutes from midnight and 5.00 am, then every 15 minutes from 5.00 to 7.00 am, every 10 minutes from 7.00am to 7.00pm and every 15 minutes from 7.00 pm to midnight. On Monday 2 and Tuesday 3 April the timetable was identical except that between 7.00 am and 7.00pm trams ran every 7.5 minutes (effectively a 7/8 minute frequency timetable). During the Games period (4-15 April) trams ran every 10 minutes from midnight to 1.00am, every 30 minutes between 1.00am and 5.00am, every 15 minutes from 5.00 am to 7.00am, every six minutes between 7.00am and 10.00 am, 7.5 minutes from 10.00 am to 4.00 pm, six minutes between 4.00pm and 10.00 pm, 7.5 minutes from 10.00pm to 11.00pm and every 10 minutes between 11.00pm and midnight. The G:Link planned services on the basis that daily patronage would rise from 25,000 journeys to 59,000, an increase of almost 60 per cent but that figure was substantially exceeded as mentioned below.



Appropriately covered in all-over advertising for the Gold Coast Commonwealth Games, G:Link Bombardier Flexity 2 tram No. 10 departs the Broadbeach South terminus for Helensvale on Monday, 9 April carrying many passengers who were travelling to and from Games events. Broadbeach South was a major tram/bus interchange point during the Games. The temporary barriers prevent people walking across the tracks approaching the terminus.

### Winners and losers and final figures

Just like the Games themselves there are inevitably winners and losers when public transport resources are diverted to transport the large numbers of people associated with an event of this size. The winners were undoubtedly those travelling to and from Games venues. The Gold Coast line service was effectively tripled for the Games and QR's fleet of Interurban Multiple Units (IMUs, toilet-equipped), Suburban Multiple Units (SMUs) and the aforementioned NGR trains operated the entire service with SMUs and IMUs prioritised over operation on other lines. It is interesting to note that although there were three additional stops inserted for Gold Coast trains and station dwell times were affected by heavier loadings, Central - Varsity Lakes running times southbound were only increased from 1 hour 23 minutes southbound (1 hour 19 minutes northbound) to 1 hour 27/28 minutes southbound and 1 hour 24 minutes northbound for the temporary timetable.

QR set up temporary maintenance 'hubs' at Coomera and Robina to permit a rapid response to incidents and two QR Clyde/EMD diesel locomotives were kept at Beenleigh car sidings in case of a train or power supply breakdown. Additional staff were positioned at Gold Coast line stations to assist passengers and ensure trains were, as far as possible, running to time. Automated announcements on trains were modified to alert passengers where to detrain for particular Games venues and train guards made announcements relating to where passengers should disembark to catch rail-replacement buses. According to Transport Minister Mark Bailey Gold Coast rail services averaged above a 98 per cent on-time running during the Games.

However, the losers included those affected by the abolition of Beenleigh services, especially those without access to a motor vehicle to drive to the nearest train-served station. They would have probably used the slower replacement buses or delayed their journeys until the full train service resumed. Those closer to the city would have been able to avail themselves of Brisbane City Council-operated bus services direct to the city centre in many cases. Peak period services on almost all lines were slightly reduced although the school holiday period mitigated the impact of that reduction. Some off-peak travellers would have been

inconvenienced by the abolition of the weekday off-peak 15-minute frequency on the Ferny Grove line and Northgate/Cannon Hill/Coopers Plains corridors and the hourly (instead of every 30 minutes) on two weekends (30 March/1 April and 14/15 April) would have presented challenges for weekend passengers totally reliant on rail transport.

Queensland Government figures indicated that a total of more than seven million estimated trips were made during the course of the Games on and to and from the Gold Coast. More than 5.5 million of those were made on the public transport network, with all modes posting record passenger numbers. The G:link light rail line, with just 18 trams, was an outstanding performer, carrying 1.1 million passengers over eleven days or around 100,000 passengers a day. This was well over the original estimate of around 60,000 passengers each day and nearly four times the daily average since the opening of stage two of the light rail project last December. Despite the adverse publicity that QR has been receiving over train crew shortages and problems associated with the Bombardier NGR trains, the Gold Coast Line carried around 600,000 passengers during the Games period with no major negative publicity. Adverse publicity regarding Games transport arrangements was largely confined to bus services operating to/from Carrara stadium, especially for the opening ceremony.

Public transport usage in connection with the Commonwealth Games was, using the abovementioned figures, 78.5 per cent of all Games-related trips. Given that the 2016 Census indicated that just 4.2 per cent of Gold Coast residents used public transport for their journey to work (and the figure for Brisbane was 11.6 per cent) it seems as if the objective to have the majority of journeys to Games venues made by public transport was achieved, despite the minimal use of public transport on the Gold Coast during 'normal' times. In fact, it is interesting to note that the percentage of Games-related journeys by public transport (78.5 per cent) was about the same as the 75 per cent of all journeys to work that were made in a private car on the Gold Coast recorded by the 2016 Census. Clearly the Commonwealth Games demonstrated that even though most Australians use private cars as their preferred transport mode, special events do provide an opportunity for public transport to step up to the starting line and tap in to the car-dominated market.



# One sweet conversion

## Part two

Text and images by Alan Shaw

*In the first part of his story, Alan Shaw related how, despite having been an unashamed fan of 'big trains', he came to appreciate the narrow-gauge cane railways and the work done by the people who make it all happen. In part two he continues with his observations of the cane railways of Bingera and Millaquin mills, around Bundaberg, Queensland.*

There's a lot of organisation that goes into getting the cane to the mill, and planning for one season's crush really starts at the end of the previous season. It's a balance between expected growth rates, area under cultivation, when the previous crops were planted and the fact that there are only so many crews, locomotives and sugar bins available. Before the crushing season starts, growers advise the mills of their estimates of their crops. The planning gets more and more refined as the start of the crushing season starts, and then it's a matter of using their industry-developed tools such as T.O. Tools (developed by the Sugar Research Institute) to make actual assignments for any given day.

A critical consideration is that the sugar content of the cane varies over the crushing season, and since growers are paid according to

the sugar content, to avoid a lottery developing where some growers might have their crop harvested during the peak sugar content period while others miss out, all growers have their crops harvested across the season to ensure that on average, there is no particular advantage given to one grower over another.

This explains why towards the end of the crushing season, you will see small areas of cane still to be harvested in amongst large areas where the cane has already been cleared.

Once the Grower Services Officer has decided which areas are ready to harvest, the grower will be told, and will then organise to have that area harvested by either themselves or by contractors. On the day of operations, the Mill Traffic Officer will allocate how many bins they can deliver to the grower's siding for them to cut (dependant on the mill's crushing performance). After the empty bins have been delivered to the grower's siding harvesting operations will commence. Once the allocated bins have been filled the Traffic Officer will organise for their collection based on priority.

Since the sugar content drops once the cane is cut, there's an urgency





**A single locomotive, here it's Comeng 0-6-ODH *Burnett*, is based at Wallaville to work the local area before trains of fulls are amalgamated for the run to Bingera Mill. This scene shows *Burnett* running down to the siding at Innis with a load of empty bins at the start of the day's shift.**

to get it to the mill within 24 hours, but even here there's a balancing act, since the mill's capacity is about 500 tonnes of cane per hour. Have too little cane cut and ready to deliver and the mill must stop – which is an expensive situation to be in – but deliver too much and delay the cane being crushed and the sugar content drops. All those trains returning cane from the fields are in effect a moving storage system, timed to provide just the right amount of cane to the mill.

All of which adds up to this: getting the cane to the mill smoothly and efficiently, balancing the crews, locos and bins available to maximise the sugar extracted from the cane with the demand and expectations of the cane growers is a complex and delicate process. And on any given day, added factors can come into play, such as rain, which will halt the harvest, to mechanical problems at the mills and of course derailments!

On a day-by-day and crew-by-crew basis all this planning is well and truly behind the scenes. For the crews though, at the start of their shift they will collect their run sheet that has been faxed from the Traffic Office to the various depots (Bingera weighbridge, Millaquin weighbridge, Fairymead crib room, and the old Gin Gin Sugar Mill

traffic office at Wallaville). The running sheet tells them what their work is for the shift, describing how many empties to drop off to a particular harvesting contractor at a certain siding and which fulls to collect on the way back. Ideally, there are enough fulls to collect to make a full load of around 65 bins for one of the EM Baldwin locomotives, up to 80 fulls for the *Kolan* (an ex-QGR 1067mm gauge DH 51 converted to 610mm gauge in 1996). As an aside, in the Bundaberg district crews refer to their locomotives as, for example, "*the Kolan*", rather than just *Kolan*, and crews can be assigned to a loco for the full season. Some crews have been on the same loco for years! At the end of a shift, the by-now completed running sheet will be faxed back to the Traffic Office.

There is more paperwork involved too. Each collection of bins comes with a Cane Consignment Note, or con note, which describes the details of the area cut, including the grower's details, what time the first bin was harvested, when the bins were collected, and the numbers of each bin in the rake. By the time a train has returned to the mill, the driver may have several such con notes, which are kept in order of collection and given to the weighbridge operator to load into the computer.



It's quite a sight to be at the cane marshalling yards at either Millaquin Mill or Bingera Mill at the start of a shift, with the trains leaving every few minutes for their assignments. For an outsider, this is where it's possible to simply wait for a train to leave the yard and follow it, but don't be surprised if you lose it among the fields. The mainlines and major sections can be found on maps, but they don't show just how dense the network of sidings really is, so even though much of the coastal area around Bundaberg has a lot of roads crossing the area, trains still seem to simply disappear, especially early in the season when there is a lot of tall cane to obscure the view.

I had the good fortune to meet Dave and Les in the Traffic Office at Millaquin Mill, which oversees the operation of both Millaquin and Bingera mills. They'd previously been drivers themselves before

becoming Traffic Officers, so they know what life's like out in the fields. They enjoyed the constant challenges being thrown their way, although they noted that the life of a Traffic Officer was not for everyone.

Train control is overseen by an in-house system based on Mapinfo, and since every loco is fitted with GPS the big screen that dominates their office shows the location of every train, updated every 40 seconds. Detailed views can be brought up on their desktop screens.

And, oh my goodness! What detail there is! There are branches off branches off branches and sidings everywhere. It's no wonder I managed to lose trains in the fields. I couldn't resist asking Dave and Les whether train drivers ever get lost, but they assured me that no, they didn't. And seeing it on the board like that, it was no wonder I lost that first train heading out towards Burnett Heads – I never had a chance.



**Above:** The mill at Fairymead closed in 2005, but there's still some remnants of the past in addition to the locomotive depot. *Oakwood* is just leaving Fairymead with a train of fulls on its way to Bingera Mill. **Left:** Just on sunset, a rake of empty bins is heading to the coastal area for loading. Not long after taking this shot, I completely lost the train in amongst the cane as it cut across the fields. No matter – I just went back to Millaquin Mill and waited for the next one.

**Above right (page 35):** EM Baldwin B-BDH *Barolin* takes a load of empty bins along McGills Road, part of the 8km Strathdee's extension first used in 2009. The newly-planted fields will be harvested the following year. **Right (page 35):** Out near the coast at Burnett Heads, EM Baldwin B-BDH *Fairydale* is about to collect a load of fulls from along Mittelheuser Road, before taking them to the mill at Millaquin.





The crew of *Burnett* enjoy a smoke, a cup of tea and a bite to eat as they take a break from collecting cane from around Wallaville, as a cane fire flares briefly in the background. Burning cane is unusual now, with almost all cane being cut green. The precast concrete building is the former Queensland Railways' Wallaville station.

Compared to say CTC or Direct Traffic Control, it's a simple system, with clearance to proceed from control point to the next control point being provided by radio; crosses with other trains are worked out by the Traffic Officer or by asking the drivers where they would like to pass or cross. There is no physical train order or in-cab message at either of the Bundaberg Sugar Mills.

Wallaville operates as an out-depot of Bingera and its yard occupies the site of the old QGR railway station and yard. The line to Wallaville from Bingera was originally part of the 1067mm gauge Queensland Government Railways Morganville branch line, connecting to the Mount Perry line at Goondoon, until it was closed and sold to the Gin Gin Sugar Mill. It was subsequently partly re-gauged to 610mm gauge for use as a cane railway in 1964. The Bingera Sugar Mill purchased the Gin Gin Sugar Mill in 1965 with closure coming at the end of the 1974 season. The cane railways around Wallaville were then connected to the Bingera system by the full re-gauging of the former QGR Wallaville to Goondoon branch line. Due to the large distance and steep grades between Wallaville and the Bingera Mill, new locomotives were ordered for this task. Three EM Baldwin 26-tonne locos were supplied, with the capability of remote control or slave unit operation, a first in the sugar cane industry. The yard at Wallaville was strategically built for the efficient marshalling of these so-called slave trains. Smaller locos were then based out of Wallaville to service all the former Gin Gin Sugar Mill branch lines and assemble rakes of up to 100 full bins. It's been several years though since slave trains operated anywhere on the Bundaberg Sugar system.

Driving in to the complex on a November morning, I was ahead of the crew, with the day's start being delayed because overnight rain had delayed harvesting in the fields. The *Burnett* was locked away in a fenced compound to the rear of the old QGR station building, with a sand dryer to one side. A small fuelling point and the old Gin Gin Sugar Mill traffic office (formerly the QGR Station Master's house) rounded out the facilities.

Not long after, the driver and his assistant arrived and got the *Burnett* ready. With the day's run sheet in hand, the crew soon got to work, dropping off small rakes of empties and picking up loads to store in the yard. I followed the crew for the day, watching them work, getting lost a few times, with an interlude following the *Miara*, which had run up from Bingera to collect all the available loads, to run down the impressive track back to the mill. That's the pattern at Wallaville: a smaller loco spending the day in the fields, with a bigger loco running a single train to the mill.

It looked intense to me, but the driver told me loads were well down on former activity since deregulation, with a number of growers opting to send their cane to the Isis Central mill. In its heyday, up to 900 bins per day would need to be hauled from Wallaville to Bingera Mill but these days you would be lucky to see 100 bins.

By sunset, after a steak at the nearby pub, I went to watch the crew finish off their work. During a brief break for a chat, a smoke, a sandwich and a cup of tea, our discussion was briefly interrupted by the sight and sound of a field being burnt. For just a few seconds the air was filled with the sound of old cane burning, and a bright orange glow from the flames lit up the sky to the north. The spectacle stopped all discussion until it died down, and work resumed. It was one of those moments that doesn't last very long but will linger in my memory forever.

From having almost no interest in cane railways, I'd grown to admire the work they do in the fields as a part of the landscape they serve, and the people that work for them. Like that cane fire, my interest had smouldered from a small spark into something more intense.

### Acknowledgements

I'd like to thank Robert Powell from Bundaberg Sugar, and Lincoln and Geoff Driver, for their generosity providing information and checking, helping make this article possible. All errors and omissions are strictly my own work.



*Kolan*, one of Bundaberg Sugar's heavily-rebuilt former Queensland Railway's DH class locomotives, leads a train of empty bins from Bingera Mill to Fairymead, seen here running along Heale's Road.



Control Point 14, with *Oakwood* on another outbound train of empties from Bingera Mill heading towards Fairymead. Control points like this one are the key to keeping the trains running smoothly and safely.

## BUNDABERG SUGAR MILLS LOCOMOTIVE LISTING

Current Fleet as of 2017

### MILLAQUIN SUGAR MILL BUNDABERG

Bundaberg Sugar Co. Ltd

<i>Vulcan</i>	B-BDH	EMB	5317-1-11-73	1973	DH24B
<i>Calavos</i>	B-BDH	EMB	4983-1-7-73	1973	DH24B
<i>Barolin</i>	B-BDH	EMB	6456-1-11-75	1975	DH24B
<i>Elliott</i>	B-BDH	BFE	002	1991	SDH650
<i>Fairydale</i>	B-BDH	EMB	10048-1-6-82	1982	DH28B

### Spare

<i>Tegege</i>	0-6-0DH	ComEng	FD4799	1966	FD
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### BINGERA SUGAR MILL STH KOLAN

Bundaberg Sugar Co. Ltd

### Based at Bingera

<i>Oakwood</i>	B-BDH	EMB	5800-1-5-75	1975	DH26B
<i>Givelda</i>	B-BDH	EMB	5800-2-6-75	1975	DH26B
<i>Delan</i>	B-BDH	EMB	5800-3-7-75	1975	DH26B
<i>Kolan</i>	B-BDH	Walkers	633	1969	GH500
		Rebuilt BFE	DH51	1996	
<i>Perry</i>	0-6-0DH	EMB	6-1576-1-8-66	1966	DH18
<i>Miara</i>	B-BDH	EMB	8988-1-6-80	1980	DH26B

### Based at Fairymead

<i>Booyan</i>	B-BDH	BFE	001	1991	SDH650
<i>Moorland</i>	B-BDH	EMB	5565-1-10-74	1974	DH15B
<i>Bucca</i>	B-BDH	EMB	6104-1-8-75	1975	DH24B

### Based at Wallaville

<i>Burnett</i>	0-6-0DH	ComEng	AH2967	1963	AH
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### Spares

<i>Wattle</i>	0-6-0DH	ComEng	FD4789	1965	FD
<i>Invicta</i>	0-6-0DH	ComEng	A1513	1956	AA
<i>Manoo</i>	0-6-0DH	EMB	3875-1-7-71	1971	DH20

### Out of use

<i>Thistle</i>	0-6-0DH	ComEng	A1207	1955	AA
<i>Sharon</i>	0-6-0DH	ComEng	A1935	1959	AE
<i>Dunethin</i>	0-6-0DH	ComEng	H1022	1958	AC



## INDIAN PACIFIC 2017 Part One: The Trip

Text and images by John Beckhaus

**T**he *Indian Pacific* is now normally only a weekly service, and *The Ghan* operates weekly but only for 48 weeks each year. Both trains are usually over 26 cars. They are now operated purely as cruise trains, with the former sitting car service for short distance passengers discontinued.

On Wednesday 30 August 2017 at Sydney Terminal the *Indian Pacific*, as the generally normal double length train, was standing in both Platforms two and three. The full train, ready for departure, consisted of NR 25, NR 28, HGM 900, BRJ 918E, ARM 990B, ARL 249Q, ARL 992T, ARL 248H, AFC 301G *John McDowell Stuart*, DF 232D *Queen Adelaide Restaurant*, DF 934 *Queen Adelaide Restaurant*, AOB 265G *Sir Augustus and Francis Gregory*, ARL 925M, ARL 309Y, ARJ 242Q, BRG 972M, BRG 974H, BRG 175G, AFC 938U, DF 231R *Queen Adelaide Restaurant*, AFC 305T *William Grosse*, ARL 291M, ARM 951H, ARL 326B, ARJ 984A, HM 957Q, BRJ 302P and HGM 900. The train was divided, with the cars behind BRG 974H in Platform three, and those in front in Platform two. I was travelling in the recently refurbished ARJ 984A, 23 cars back from the locomotives.

When you book, on most of the world's railways, you are provided with your car and berth or seat number. GSR has now ceased this practice and passengers are required to queue at the end of the platform in Sydney or in the Concourse in Adelaide and Perth to be provided with this information only at the last minute. Formerly passengers arrived at the station and proceeded to their car without the rush that this last-minute berth allocation causes. It is understood that part of the reason for this step backwards in service is that cars on the *Indian Pacific* that are serviced in Adelaide have to be exchanged there. By making the berth allocation at the last minute the cars to be shunted out have only passengers alighting at Adelaide booked in them.

**Above:** Musician Andrew set up on the platform at Rawlinna in the early morning of Monday 18 September 2017. While most access to the platforms is provided by movable steps at the lounge car doors, as food and drink has to be carried from the kitchens of the dining cars some ramps are provided.

As *The Ghan* and the *Indian Pacific* now have the Platinum Class cars in the centre of the train, they are run as four separate areas each with three to five sleeping cars, a lounge and a dining car. The Adelaide to Sydney journey had been limited to 26 cars but is now up to 30 cars.

The leading section on this day's train had four Gold Class sleeping cars, one with a deluxe compartment, providing 70 berths. The second section had three Gold Class sleeping cars, including one PWD compartment, and provided 54 berths. The third section had three Platinum Class sleeping cars providing 30 berths. The Platinum section has a Lounge-Dining Room car as it shares the kitchen in the fourth area of the train. This fourth area had four Gold Class sleeping cars, one with a deluxe compartment, providing 68 berths. This train provided a total of 30 Platinum and 208 Gold Class passengers. The present composition of the train has a far higher dining seats to passenger ratio than the 1970 original composition which was 52 first + 96 second but limited to 144 but within two years this changed to 88 first + 64 second. The present arrangement is not quite 'anytime dining', as the start times are 30 minutes apart with small groups in each time slot. This means the dining room staff are not serving the same course to all at the same time as in the past.

On this train both roomette cars had been refurbished. While there are now only 16 berths, compartments 17 and 18 now provide access to the

showers. The original shower compartments were small and although a plastic curtain was provided keeping things dry was a problem. In the new arrangement the shower has had the corridor door replaced with panelling and has a glass door into the adjacent compartment. This provides separate wet and dry areas. This arrangement I first experienced on Via Rail Canada, where on the 'Manor' and 'Chateau' sleeping cars, which both had four Pullman Sections, one Pullman Section, had been rebuilt into a shower similar to the GSR ARJ cars with access to the dry area off the corridor past the Double Bedroom compartments.

The double deck sleeping cars in Europe formerly identified as *City Night Line* had a similar arrangement for passengers in compartments without showers when the rarely-used luggage compartment was similarly rebuilt. However, the ARJ cars also have a toilet in this area supplementing the two toilets at the entrance end of the car.

In the past the welcome-a-board drink was provided early in the trip during the afternoon as the train crossed the Blue Mountains, but for Gold Class passengers it is now provided on the platform before boarding enabling those seeing passengers off to sample some of the *Indian Pacific* experience. The train musician provides a musical background for those on the platform. Platinum class passengers and their guests have private welcoming drinks in the lounge section of the Platinum Lounge-Dining Room car (AFC 938U). (As the train is now no longer in Platforms 2 and 3, after their welcome drink passengers in the leading cars now have to walk around to Platform 1.)

Departure was at 15.03 after the front section in platform 2 had pulled out and backed up to couple to the rear section in Platform 3. Great Southern Rail do paint themselves into corners regularly by running trains that do not fit the infrastructure!

I settled into lounge car AFC 305T *William Gosse* for a drink with some nibbles. As this car was originally an AFC lounge car it has plenty of windows, most of which have survived its four rebuilds. Before dinner Hors d'oeuvres were served in the lounge car.

The overnight run to Broken Hill remains a rough trip as ARTC has still not brought this track up to acceptable standards. The track desperately requires a full renewal program. It still appears that the same mistake has been made on this line as was made on the Sydney-Melbourne line, with the individual side insertion of the new sleepers instead of using track renewal machines to fully refurbished the track.

## Thursday 31 August

Arrival in Broken Hill was at 06:00. Silver City Bus, TV 610, a 50-seat Scania departed at 06:33. For these short town tours I have wondered why a suburban low floor bus with quick loading and unloading is not

used as generally ultrahigh floor buses with a single narrow entrance on a stairway are used resulting in long boarding and alighting times. This trip to the Trades Hall took five minutes.

An inspection of the hall was provided followed by a short dramatic presentation by three actors based on the 1919 Miners strike, with audience members invited to participate. A light breakfast of juice, tea or coffee with pastries, cake slices and fruit was provided in the Trades Hall. The bus departed at 07:24 for the ten minutes trip up to the Line of Lode Miners Memorial. The café and display area is at present closed but the memorial could be visited. After 19 minutes at the top, with a view over the *Indian Pacific* in the station and the town beyond, the bus tour returned us to the train at 08:04.



The Thursday morning stopover on 31 August in Broken Hill included a visit to the Trades Hall. A short play based on the 1919 strike was presented by these three actors, with passengers from the train and other audience members invited to become part of the presentation.

Departure from Broken Hill was at 08:20. The land was much greener in the semi-desert area east of Peterborough than I have seen it in recent years. While there were two ore trains at the mines west of Broken Hill awaiting departure, few crossings were made during the run to Crystal Brook.

Approaching Adelaide some wagon photography was obtained as the train passed the SCT Terminal, Dry Creek and Islington Workshops. Arrival at the Adelaide Parklands Terminal was at 15:00.



## Thursday 8 September

Continuing west after a week in and around Adelaide, the *Indian Pacific* was nearly identical to the train I arrived in earlier except for being in the reversed order. The 26 cars were now 30 cars with the addition of ARL 324X and ARM 953M along with an extra crew car ER 906U and the Motorail wagon, with ARL 246M replacing ARL 248H.

The train now was NR 18 hauling HGM 902, BRJ 302P, HM 957Q, ARJ 984A, ARL 326B, ARM 951H, ARL 291M, AFC 305T *William Gosse*, DF 231R *Queen Adelaide Restaurant*, AFC 938U, BRG 175G, BRG 974H, BRG 972M, ARJ 242Q, ARM 953M, ARL 309Y, ARL 925M, AOB 265G *Sir Augustus and Francis Gregory*, DF 934 *Queen Adelaide Restaurant*, DF 232D *Queen Adelaide Restaurant*, AFC 301G *John McDowell Stuart*, ARL 246M, ARL 992T, ARL 249Q, ARM 990B, ARL 324X, ER 906U, BRJ 918E, HGM 900 and AMPZ 263. The train provided accommodation for 30 Platinum and 224 Gold Class passengers.

The passengers from Sydney continuing on to Perth were on their dinner tours around Adelaide, with only some passengers boarding at Adelaide Parkland Terminal. An interesting feature here is that when you check in at this station your baggage is placed in your compartment, so you can record the composition of the train without having to trolley a bag along the platform. A voucher is provided to boarding passengers for coffee/tea and cake in the Railway Refreshment Room. During the evening the train musician was performing in the waiting room.

Departure was at 21:40 and I was again in ARG 984A, now at the front of the train, but in a different compartment.

## Friday 8 September

The current, later departure from Adelaide now has daylight emerging before Wirraminna. As we were running early a long stop was taken at Tarcoola to allow the timetable to catch up. Early running is a feature I have rarely seen on a GSR train, as GSR trains more commonly run late. Breakfast in DF 231R *Queen Adelaide Restaurant* commenced while the train was stationary, and continued as we departed Tarcoola and the junction of the line to Darwin.

Most of the day was spent in lounge car AFC 305T *William Gosse* watching the scenery pass while enjoying some drinks.

Arrival at Cook was at 11:55 with passengers able to have a walk around for 45 minutes before being returned to the train. The train then pulls forward approximately 150 metres where it then stands for another 36 minutes. This is another example where the train does not fit the infrastructure, as the water feeders are only provided for shorter trains and cannot service the train in a single operation. I do not understand



The dinner menu for Wednesday 30 August 2017.

why the passengers are not permitted to remain on the ground in Cook until the train servicing is completed.

During the day crossings were made with PN and Aurizon trains, as well as an SCT train on approach to Rawlinna.

Arrival at Rawlinna was at 17:55. GSR have contracted with the sheep station here to have outdoor tables and chairs set up along the platform with ground and table candle lighting for dinner under the stars. During the winter months predinner drinks and nibbles are provided on the platform with passengers returning to the train for a meal served in the stationary dining cars.

Due to some early running and the extended stop in Rawlinna, the three meals on this day were served mostly while the train was stationary; at Tarcoola, Cook and Rawlinna.



An interior view of lounge car AFC 305 'William Gosse' looking towards the bar on Wednesday 30 August 2017.



## Saturday 9 September

Breakfast was provided as we approached Merredin, where we stopped for the locomotive crew change and to cross an Aurizon freight. At Kellerberrin we were 37 minutes early and crossed the three-car Down *Prospector* DMU before departing ten minutes early. When we traversed the Avon Valley we were on the north track, to bypass upgrading work on the south line. To fill in the time we had a 45-minute stopover on the centre track at Avon Loop and also, later, another 34-minute stopover at another loop. At the latter loop the two-car Up *Prospector* overtook us. Later, we passed this train again, in the Perth suburbs, as it was returning to the depot.

After a slow crawl in to the station, arrival at the East Perth Terminal was at 15:08.

## Sunday 17 September

The return to Sydney, after a week in and around Perth, had the *Indian Pacific* as NR 25, AMRZ 263, HGM 904W, BRJ 918F, ER 906U, ARL 324X, ARM 990B, ARL 249Q, ARL 992T, ARL 248W, AFC 301G *John McDowell Stuart*, DF 232D *Queen Adelaide Restaurant*, DF 934 *Queen Adelaide Restaurant*, AOB 265G *Sir Augustus and Francis Gregory*, ARL 925N, ARL 309Y, ARM 953N, ARJ 272R, BRG 972M, BRG 974H, BRG 175G, AFC 938U, DF 231R *Queen Adelaide Restaurant*, AFC 305T *William Gosse*, ARL 291H, ARM 951E, ARL 326D, ARJ 984A, HM 957, BRJ 302P and HGM 902E.

The GSR check in was from 08:00 although the doors were not opened until 08:50. Here, the luggage is not taken to your compartment. The Musician was set up on the platform and he was definitely the better of the three musicians we encountered on our trip. Inside the station concourse drinks and nibbles were provided.

Departure was at 10:00. On this trip I was ensconced in ARJ 272R, located towards the middle of the train, although most of the trip was spent in lounge car AOB 265G *Sir Augustus and Francis Gregory*. This car was a former CDF Cafeteria car, and unfortunately now has fewer windows in the lounge area as the kitchen area is at the opposite end to that in the CDF. As the train is divided into the four sections, I had wondered about walking through the two sections that are possible to access. I walked through to the front of the train and spent some time in lounge car AFC 301G *John McDowell Stuart*, but when returning through dining car DF 232D a staff member questioned my walking through the train! AFC 301G *John McDowell Stuart* is one of the four former BRJ Economy class sleeping cars now rebuilt as lounge cars. As these cars had only eight compartments on each side of the centre zig-zag corridor there are fewer windows in the car with the panelling between the windows very wide.

This day we had more crossings starting with meeting the Up *Prospector* DMU near Northam along with a Mineral Resources ore train. During the afternoon the Musician ran a trivia quiz in each lounge car.

Crossings were made with a Pacific National container and covered vans freight service and at Merredin with a PN container and steel freight. In Merredin yard, a CBH Group standard-gauge grain train was at the terminal, as we stopped here to change the locomotive crew.

Continuing east, three more crossings were made; with a Pacific National and an Aurizon container train and an SCT freight service, and later a further freight in the dark, which I was not able to identify.

Approaching Kalgoorlie two freight trains were crossed, resulting in a 20 minutes late arrival at Kalgoorlie at 21:30.

An interesting concept is the middle-of-the-night tour of a country city where virtually all the buildings were closed and in darkness. Goldfields Tours Bus 78, another ultra-high floor Scania, departed the station at 21:40. Unfortunately, the driver felt he should give extended descriptions of everything, and had to keep stopping so his commentary did not get behind where he was! We reached the Miners Hall of Fame at 21:58 where two actors provided a similar dramatic performance as that presented at the Trades Hall in Broken Hill on the forward journey. This time dealing with the discoverer of the mineral wealth in Kalgoorlie, Paddy Hannan. The mining vehicles on display here included a Caterpillar-793C haul truck, which had a

tare of 113 tonnes and carried 262 tonnes and a Caterpillar-994 wheel loader which had a tare of 195 tonnes with the bucket holding 35 tonnes. There was also a model of the 'Super Pit' mine that we later saw in the dark so looking at the model provided some clues for when we were later looking at it in the dark! One of the guides at the Miners Hall of Fame had a 32 grams piece of gold for passengers to handle – but not take too far, as the price of gold is around \$50 a gram. The bus departed at 22:42 for the 16-minute trip to the 'Super Pit' viewing platform where we stayed for 22 minutes watching the lights of trucks climbing up the spiral road from the mine floor before arriving back at the station at 23:40. I was in bed before the train departed Kalgoorlie.



**During the Sunday night stopover in Kalgoorlie on 17 September 2017 a visit was made to the Miners Hall of Fame. One of the exhibits was a 32 gram gold bar, which was closely watched by the staff member – not surprisingly, as gold currently hovers around 30-40 dollars a gram!**

## Monday 18 September

Arrival in Rawlinna was at 06:00 where we crossed an Aurizon container freight. Juice and tea or coffee were provided on the platform to the accompanied of the train musician. After

having seen Rawlinna at night on the west-bound trip it was interesting to see it in daylight. One of the train staff was not too happy about passengers photographing the train from the standard three-quarter angle so you could only photograph the front of the train from the rear three-quarter angle. However, as the morning was overcast it was possible to photograph the individual cars dead side on.

Departure was at 07:43 as we settled into the Nullarbor Plain scenery. This morning, at Forest, at 10:40 a five-minute stop was made to unload some food and water supplies for those employees based there.

Arrival at Cook was at 13:17, with 66 minutes provided to walk around before reboarding for the 150 metres move forward for another 34-minute stop, to overcome the problem of the train not fitting the infrastructure.

The previous timetable had a three-hour stop at Port Augusta during the night before proceeding to Adelaide, which effectively has now been replaced by the stop at Rawlinna. This has extended the daylight portion of the eastbound journey to include the section of the railway where the train winds through the Red Hills. As the train climbs and curves through timbered countryside the scenery on this part of the journey is very different to the Nullarbor Plain.



**A view of the Nullarbor Plain in South Australia on Monday 18 September 2017.**



NR 25 heads the *Indian Pacific* standing on the long straight of the Nullarbor Plain at Rawlinna on Monday 18 September 2017.

## Tuesday 19 September

Approaching Adelaide some photography was possible passing Dry Creek Motive Power Depot and the construction work for the Outer Harbour broad-gauge suburban tracks to pass under the standard-gauge track and the Gawler suburban broad-gauge tracks.

Arrival at Adelaide Parkland Terminal was at 08:20. One of the tours offered here was a tour of the Central Markets. It turned out to be a strange but an interesting experience. Gray Line bus SB 04 BU, again an ultra-high floor Scania departed the station at 08:05 for the 15 minutes run to the markets. The guide collected coffee orders, which took some time to be prepared so there was much time wasted at the beginning of the tour. A juice would have been quicker and easier to serve. The tour group were provided with a paper bag containing a mandarin and a spoon. As we walked around sample foods were supplied at some of the outlets. This included yogurt, hence the spoon, along with samples of mettwurst, quiche from Baker's Tray, Korean pancake and from the Proudly Kangaroo Island Hand Cream and sample of a fig syrup. Among the items on sale in the Kangaroo Island shop was 'Snake Oil'! However, I did not buy any but later felt I should have. The bus departed the markets at 09:29 for the eight minutes trip back to the station where an eastbound Pacific National vans and container wagon freight train was awaiting departure. Devonshire Tea or coffee was provided in the concourse at the station.

Passengers boarded for the expected departure of the *Indian Pacific* at 10:00 but G 530, which was to have been the second locomotive, had derailed in the adjacent platform track. Departure was not until 12:04 with only NR 25 on the now-reversed train.



An interior view of dining car DF 934 looking towards the kitchen on Monday 18 September 2017.

At Dry Creek, a northbound Aurizon container freight was waiting to follow us and at the SCT terminal a south bound SCT freight sat waiting for the two trains to pass.

During the afternoon in lounge car AOB 265G *Sir Augustus and Francis Gregory*, a Baileys was enjoyed as we passed a Genesee and Wyoming Grain freight at Gladstone and an empty Pacific National steel freight at Peterborough. At Mannahill the *Indian Pacific*, now two hours 20 minutes late, crossed a PN container freight.

The Broken Hill tours were cancelled, a not unusual occurrence from my experience with GSR and an example of non-professional management of the operation of the trains – an observation made by many of the passengers. Arrival in Broken Hill was at 19:20, two hours late, and the train pulled forward at 19:48 for final watering before departure at 20:03.

Due to the poor condition of the ARTC track, there was some rough riding experienced during the night.

## Wednesday 20 September

Next morning a Qube Grain train was crossed at Kelso, 2km east of Bathurst..

Some passengers alighted at Lithgow to return to Blue Mountains homes by the following Interurban EMU. The conversation in the Lounge car was interesting, as many passengers who have travelled overseas on trains running at 200-300 km/h compared those rides with the GSR/ARTC ride at only around 100 km/h. The Train Manager had made an apology blaming the track owners without naming the guilty organisations. I remember the subject of the condition of the Sydney-Broken Hill line being discussed at a Rail Track Association of Australia Permanent Way Institution meeting in Wagga-Wagga in February 2007, when the subject of ARTC making financial compensation to passengers was raised. In ten years, ARTC has failed to bring the track up to a modern acceptable standard.

Approaching St Marys, in Sydney's western suburbs, it was announced that there would a further delay due to a points problem there. This resulted in our arrival into Sydney yard not being until 12:53. The 14th Car on the train sat under the Cleveland Street Bridge until 13:08 when it moved forward to the metro construction road bridge site from 13:10 until 13:20 and finally arrive in Platform 2 at 13:24! Not the best arrival into a major city and the biggest problem resulting from running trains that do not fit the infrastructure.

A better financial arrangement with respect to the ARTC's track access fees is required, which should result in a more frequent service being provided by shorter trains that actually fit the infrastructure. The operation of the trains would be streamlined with better time keeping to enable a more professional service to be provided on the Sydney-Perth and Adelaide-Darwin passenger trains. The operation of smaller trains that fit the infrastructure would provide more services as the current weekly service is very limiting in travel possibilities, especially for Adelaide-Sydney passengers.



## A Brief Interlude at Moss Vale

Text and images by Peter Clark

**O**n Monday 16 April, I was driving from Sydney to Canberra. I realised that, if I turned off at Berrima, I would arrive at Moss Vale just after 1400. I could then watch and photograph the Up Canberra *Xplorer* SP34 arrive and depart Moss Vale, where it was due at 1421. This made a good break to the drive and a good view could be had from the footbridge north of the station. It makes a reasonable photo on a fine afternoon, but there were clouds resulting in variable lighting this day.

Just after I arrived, the *Endeavour* from Campbelltown ran into the Up platform, then moved to the Down main near the Illawarra Highway bridge (a little south of the station) to await entry to the Up platform. *Endeavours* used to run to Bundanoon and reverse there, but when the local signalling arrangements were replaced by the ARTC with remote control from Junee, these trains were cut back to Moss Vale with a bus connection on to Goulburn for some services. The trains still run through to Goulburn during morning and evening peak periods. But while the *Endeavour* trains are in Moss Vale awaiting departure, one of the two main lines is blocked.

Moss Vale yard was modified when double track was introduced some 100 years ago. The straight platform face on the western side became the Up line, and a new curved platform was built on the east side to become the Down platform. This meant that access to the station was now via footbridges from both sides, and an access road bridge was provided north of the station with a ramp down to a small bus and car park.

A small goods yard was placed on the east side and sidings provided on the west side. The next major change was the opening of the Moss Vale–Unanderra line, with a triangle just north of the

**Above:** *Xplorer* service SP34 departs Moss Vale, led by 2528, a former *Endeavour* car and one of only two former *Countrylink* vehicles to carry NSW Trainlink Regional lettering. The *Endeavour* set was moved into the platform behind SP34 to clear the down main for a steel train. The unused Carriage Dock is seen to the right of the train.

station yard. This junction had its own signal box, with a larger box (still standing) west of the station.

These arrangements provided adequate space for the relatively small freight trains of the time, but more recently, problems arise when trains of a kilometre or more in length need to be handled (rather than just running straight through). Even for Down trains just passing through, the speed limitation imposed by the curved down platform means that the grade immediately following has to be climbed without the benefit of momentum.

Just after the Up *Xplorer* arrived, the 1506 departure *Endeavour* SN62 was moved into the Up platform immediately behind SP34 Up Canberra. This *Endeavour* is a weekday only service, so I hadn't seen this happen during my weekend visits to Moss Vale. But it struck me as strange, since these passenger trains have priority and often block freight services.

This move of SN62 allowed 2NY3 steel to run through on its way to Whyalla via Stockinbingal. Sadly, I wasn't expecting it and missed getting a photo. Why did this train get special treatment from Junee Control? Because 9329 empty PN Grain was approaching from the coast, with 2MW2 empty steel and 2928 loaded limestone following on the Up behind SP34. So they needed to get it clear rather than stowing 2NY3 in the Down refuge until the *Endeavour* cleared the Down main.



**Left:** Empty PN grain service 9329 pulls to a stop just short of the road bridge to change crews, before it heads off to the south west for another load of grain.  
**Below:** 9329 pulls forward past the Down platform as NR116 leading 2MW2 empty steel train from Melbourne stops to change crew.

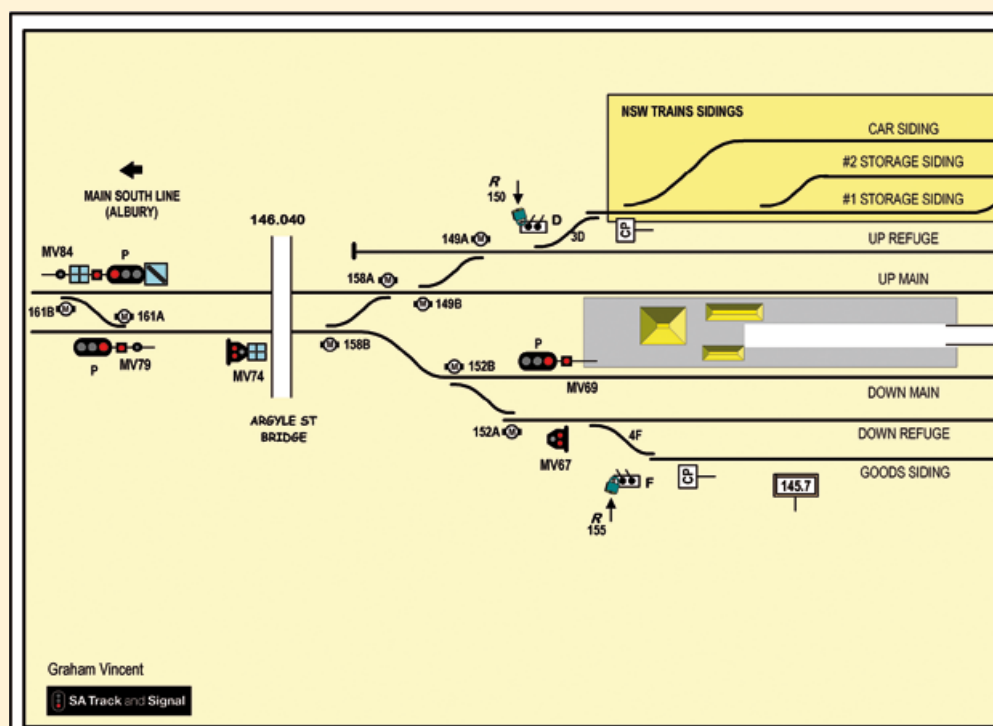


9329 (with the usual three 81s, in this case 8129, 8150 and 8132) arrived and ran into the Down side loop, stopping to change crews. 2MW2 (NR116, NR52, NR46, 9302) crossed from the Up main to the Down main and ran into the Down platform, changed crew, and then pulled forward still on the Down main to allow 9329 to depart south (2MW2 was about 1km long and was blocking both main lines and the crossover during the crew change). Apparently, it could not access the triangle until the empty grain had departed.

2928 Port Kembla Limestone pulled into the Up platform just after the *Endeavour* left, while 2MW2 backed right back staying on the Down main until the last wagon was well south of the Illawarra Highway bridge, then headed off towards the coast, while 2928 waited to follow it.

2928 had NR1 and 9301 (and 8109). I can't imagine the 81 was needed for that load except to increase the speed on the rising grades from Medway Junction. NR1 is looking in need of new paint. The PN yellow has peeled off in the area where the rectorized National Rail nose emblem had been placed.

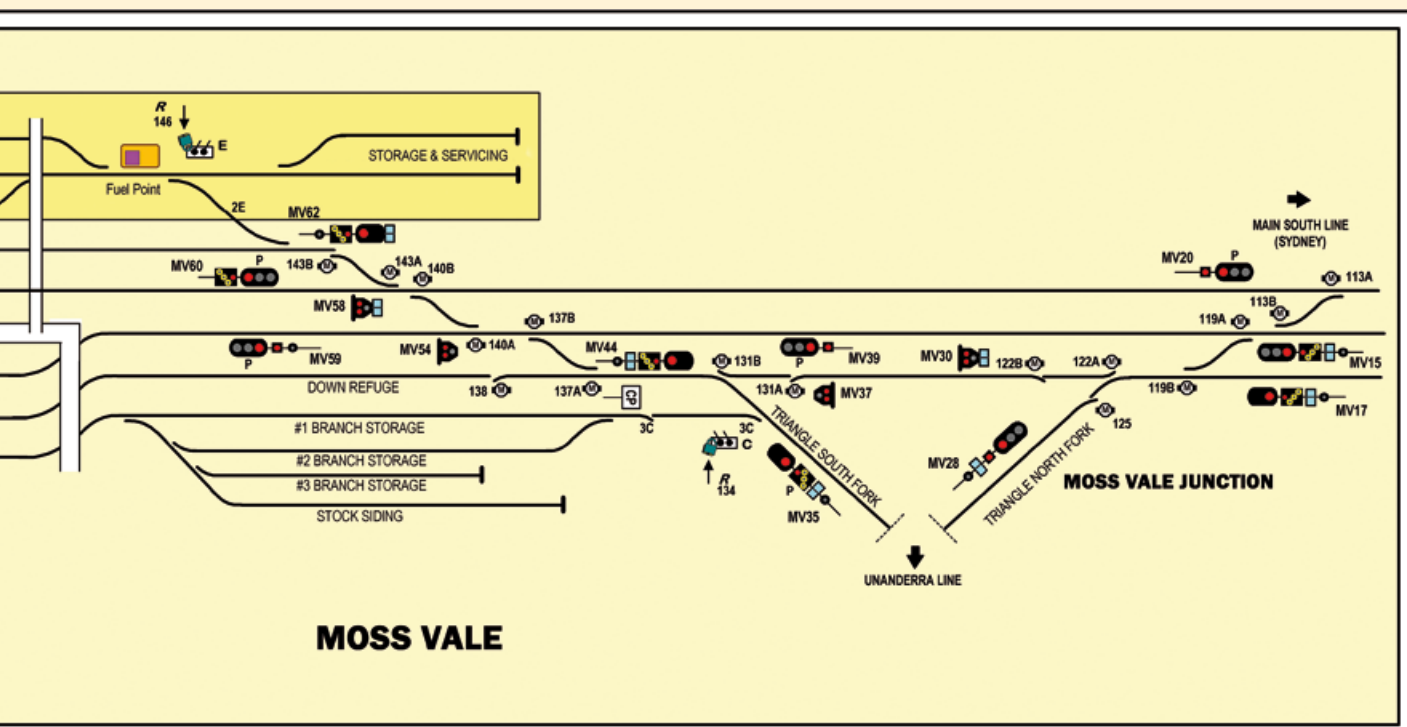
At this stage, I headed home.





**Above:** NR 1, looking quite a bit worse for wear, with 9301 and 8109, brings 2928 limestone from Marulan South to Port Kembla to a stand in the Up platform.

**Right:** 2MW2 makes its way towards the triangle and the Unanderra line as 2928 limestone awaits its turn to head to Port Kembla. It is unusual to see two 93 class, here 9302 on 2MW2 and 9301 on 2928, in Moss Vale on separate trains.



# Rolling Stock news & contracts Issue 167

Compiled by  
John Beckhaus and  
Peter Clark



## Rio Tinto 160 Gross Tonne China Northern Iron Ore Wagons

Text and images by Peter Clark

The Robe River and Hamersley operations merged in 2001. Robe had a port at Cape Lambert and mines west of Pannawonica while Hamersley had a Port at Dampier and mines at Tom Price and Paraburdoo. The two lines crossed at Western Creek, now the site of an extensive junction. The combined system was initially known as Pilbara Rail, later as Pilbara Iron and more recently as Rio Tinto. Locomotives can be seen in operation with both pre-merger titles as well as all the merged titles, but the wagons themselves are not lettered. However, the merged organisation opened a new mine at West Angelas in 2002 on a lease allocated to Robe River, and until the Rio Tinto name was adopted, all locomotives and wagons were allocated to either Robe or Hamersley and were painted grey (Robe) or Red-Brown (Hamersley). Another line was later extended to Hope Downs to a mine jointly owned with Hancock Prospecting in 2007, and Rio developed mines at Yandicoogina as well.

I have previously described the Bradken wagons of 55 m<sup>3</sup> capacity built from April 2013 until August 2014 in the September 2016 issue of *RD*. This article also outlined the development of Hamersley Iron and Rio Tinto iron ore wagons. Although equivalent to the Bradken wagons, the China Northern wagons are of a more conventional appearance but are of the same overall dimensions and capacity.

An earlier order of 3900 wagons of 50m<sup>3</sup> capacity were built by China Northern (now part of CRRC) from January 2008 until November 2011 (numbered from 10000+15000) and were all painted red-brown, previously used to identify Hamersley (rather than Robe River) wagons. These were the first new wagons equipped with ECP braking, which was a particular advantage to Rio Tinto owing to their steep gradients and long trains of 200 or more wagons.

This group of 55m<sup>3</sup> China Northern wagons are numbered from 30000+35000 and are painted grey, with an orange-yellow end painted

**Above right:** On 17 June 2015 Rio Tinto Locomotives 8157, 7044, and 8196 lead a train of 160 tonnes gross wagons, across the North West Coastal Highway level crossing north west of Karratha. While the train is mainly made up of China Northern vehicles, two pairs of the Bradken wagons described in a previous article can be seen just past the curve.

**Right:** The prototype China Northern 160 tonnes gross cars 30000/35000 near Western Creek Junction on 22 June 2017. In the background, the former Robe River line can be seen on an embankment climbing away towards the south west. These cars were delivered in October 2011.





**Left:** A pair of loaded cars 31047/36047 are seen at Cape Lambert 22 June 2017. These cars were delivered in November 2016.

**Below:** A pair of empty cars 30857/35857, are seen in Cape Lambert yard 16 June 2015. The shape of the internal framing can be seen clearly, and contrasted with the narrower frames of the adjacent Bradken wagon to the right.



on the rotary coupler end of the wagon pair. The wagons are coupled in pairs with a solid drawbar between the cars, which share a single set of air brake (and in this case ECP) controls. The car without the air brake equipment carries the rotary coupler and is numbered 5000 higher than the control vehicle. The grey scheme had earlier been used to indicate allocation to the Robe operation, but now appears to identify vehicles of 55m<sup>3</sup> capacity. The first CNR 55m<sup>3</sup> wagons were built in October 2011, earlier than the equivalent Bradken wagons. They are more conventional in appearance than the Bradken cars, with 'waffle pattern' stiffening on the side panels, also seen on CNR wagons built for FMG and BHP. Since the carbody is as wide as the loading gauge allows, a handbrake wheel is fitted in a recess in the body on one side of each wagon.

The highest observed number is 31153/36153, with a build date of January 2017, suggesting that between 2300 and 2400 wagons are in service. The only visible variation in these cars is that some cars built in 2013 appear to have been painted a slightly darker shade of grey than the remainder. These cars, like all Chinese-built cars to date are coupled in matching pairs numbered 5000 apart, something that could have been done with Australian built wagons but was not.

The later China Northern wagons and the larger Bradken wagons do operate in the same trains, but wagons of different capacity are not normally mixed in service trains.

It is interesting to note that about half of these wagons were obtained following the stated end of the 'Mining Construction Boom', some having been delivered as recently as early last year. BHP have also continued to expand their fleet, since both the big companies have a production cost low enough to profit from currently depressed iron ore prices. Both FMG and Roy Hill appear to be coping with the downturn, although neither is expanding to the extent that the two major producers have demonstrated.

<b>Length</b>	8.53 m	<b>Bogie Centres</b>	5.19 m
<b>Width</b>	3.28 m	<b>Bogie Wheelbase</b>	1.829 m
<b>Height</b>	3.30 m	<b>Wheel Diameter</b>	970 mm
<b>Capacity</b>	139.6 t	<b>Bearings</b>	7" x 9" short G
<b>Tare</b>	21 t	<b>Brake</b>	Wabtec TMX
<b>Gross</b>	160 t	<b>Brake Control</b>	Wabtec ECP with Overlay

Gauge mm	Qty	Class	Description	Builder - Location	Jan 18	Feb 18	Mar 18	Total
<b>LOCOMOTIVES</b>								
<b>Aurizon</b>								
1435	3	6040	C44ACi 3246kW Locomotives 6043-6045	UGL Rail Broadmeadow	-	-	-	-
<b>CBH WA Watco</b>								
1067	10	DBZ	G26C-2 1490 kW Locomotives 2301 - 2308, 2312, 2313	ex Aurizon WA	2	8		10
<b>Linx Rail</b>								
1435	2	G	JT26C-2SS 2240 kW Locomotives 516, 534	ex Aurizon				
<b>Pacific National</b>								
1067	6	83	GT42CU-Ace 2240 kW Locomotives 8347 - 8352 ex LDP 016 - 020	Progress Rail Redbank	-	-	-	-
<b>Progress Rail</b>								
1435	3		GT46C-ACe Phase II 3200 kW locomotives	Muncie USA	-	-	-	-
<b>Rio Tinto</b>								
1435	9		ES44ACi 3280 kW locomotives # 9120-9128	GE Erie PA USA	-	6	-	9
<b>Watco</b>								
1067	2	DR	G26C 1490 kW Locomotives 1565, 1564 ex Tasrail 2020-2021	Overhaul at BRM Bendigo	2	-	-	2
<b>INTERCITY PASSENGER CARS</b>								
<b>Great Southern Railway</b>								
1435	7	ARJ	Refurbish cpts, rebuild Showers to 16 cpts #242 243 272 282 941 945 984	CFCLA Islington Workshops		No Advice		
<b>INTERURBAN PASSENGER CARS</b>								
<b>Rail Connect (NSW TrainLink)</b>								
1435	222	OD	Double Deck Interurban EMU Driving Tlr Cars #	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	111	ON	Double Deck Interurban EMU Intermediate Motor Cars	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	111	ONL	Double Deck Interurban EMU Intermediate Motor Cars (PWD tlt)	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	34	ONL	Double Deck Interurban EMU Intermediate Motor Cars (tlt)	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	34	OT	Double Deck Interurban EMU Trailer Cars #	Hyundai Rotem ROK - UGL Rail	-	-	-	-
<b>V/Line</b>								
1600	16	DM(D)	V'locity DMU (a/c) # 1160-1175	Bombardier Transportation Vic	-	1	1	15
1600	16	TM	V'locity DMU (a/c) # 1360-1375	Bombardier Transportation Vic	-	1	1	15
1600	16	DM	V'locity DMU (a/c) # 1260-1275	Bombardier Transportation Vic	-	1	1	15
1600	4	DM(D)	V'locity DMU (a/c) # 1176-1179	Bombardier Transportation Vic	-	-	-	-
1600	4	TM	V'locity DMU (a/c) # 1376-1379	Bombardier Transportation Vic	-	-	-	-
1600	4	DM	V'locity DMU (a/c) # 1276-1279	Bombardier Transportation Vic	-	-	-	-
1600	9	DM(D)	V'locity DMU (a/c) # 1180-1188	Bombardier Transportation Vic	-	-	-	-
1600	9	TM	V'locity DMU (a/c) # 1380-1388	Bombardier Transportation Vic	-	-	-	-
1600	9	DM	V'locity DMU (a/c) # 1280-1288	Bombardier Transportation Vic	-	-	-	-
1435	1	PZ	Rebuild ACZ to Powervan PV 260	Downer Rail Vic	-	-	1	1
<b>SUBURBAN PASSENGER CARS</b>								
<b>Adelaide Metro</b>								
1435	3	J	Citadis 302 Trams (five unit) #207-209 (ex Madrid)	Alstom France (ex ML Madrid, built 2010)	-	-	3	3
<b>QueenslandRail</b>								
1067	75	DMA	MU Driving Motor Car #3701-3775	Bombardier Savli India	4	2	1	10
1067	75	DMB	MU Driving Motor Car #8701-8775	Bombardier Savli India	4	2	1	10
1067	75	MA	MU Intermediate Motor Car #5701-5775	Bombardier Savli India	4	2	1	10
1067	75	MB	MU Intermediate Motor Car with toilet #6701-6775	Bombardier Savli India	4	2	1	10
1067	75	TA	MU Trailer Car (Pantograph) #4701-4775	Bombardier Savli India	4	2	1	10
1067	75	TB	MU Trailer Car (Pantograph) #7701-7775	Bombardier Savli India	4	2	1	10
<b>Canberra Metro</b>								
1435	14		Urbos 3 Trams	Construccion y Auxillar Ferrocarriles Spain	-	-	-	1
<b>KDR Yarra Trams (PTV)</b>								
1435	30	E2	Flexity Swift Trams # 6051-6080	Bombardier Transportation Vic	2	-	1	12
1435	2	W8	Rebuilt W6 Trams # 981, 983	Bendigo Tramway Workshop	-	-	-	1
1435	6	W8	Rebuilt W6 Trams #	Bendigo Tramway Workshop	-	-	-	-
<b>Metro Trains Melbourne (PTV)</b>								
1600	36	M	EMU X'trapolis Driving Motor (a/c) #253-288	Alstom Ltd ( Poland - Ballarat Vic)	4	4	4	12
1600	18	T	EMU X'trapolis Trailer (a/c) #1427-1444	Alstom Ltd ( Poland - Ballarat Vic)	2	2	2	6
1600	20	M	EMU X'trapolis Driving Motor (a/c) #289-308	Alstom Ltd ( Poland - Ballarat Vic)	-	-	-	-
1600	10	T	EMU X'trapolis Trailer (a/c) #1445-1454	Alstom Ltd ( Poland - Ballarat Vic)	-	-	-	-
<b>Evolution Rail (PTV)</b>								
1600	65		EMU Seven Car Trains	Downer Rail - CRRC PRC	-	-	-	-
<b>PTA Transperth</b>								
1067	22	BEA	EMU Driving motor cars (a/c) # 4095-4116	Downer- Rail Division -Bombardier JV Qld	1	-	-	22
1067	22	BEB	EMU Driving motor car (a/c) # 5095-5116	Downer- Rail Division -Bombardier JV Qld	1	-	-	22
1067	22	BET	EMU Trailer car (a/c) # 6095-6116	Downer- Rail Division -Bombardier JV Qld	1	-	-	22
1067	10	BEA	EMU Driving motor cars (a/c) # 4117-4126	Downer- Rail Division -Bombardier JV Qld	-	-	-	-
1067	10	BEB	EMU Driving motor car (a/c) # 5117-5126	Downer- Rail Division -Bombardier JV Qld	-	-	-	-
1067	10	BET	EMU Trailer car (a/c) # 6117-6126	Downer- Rail Division -Bombardier JV Qld	-	-	-	-



Gauge mm	Qty	Class	Description	Builder - Location	Jan 18	Feb 18	Mar 18	Total
<b>Sydney Trains (Transport for NSW)</b>								
1435	96	N	EMU Motor(a/c) #1601-1624,1701-1724; 1801-1824,1901-1924	Hitachi-CRRC CNR Changchun RSW PRC	-	-	-	-
1435	48	T	EMU trailer (a/c) #1301-1324, 1401-1424	Hitachi-CRRC CNR Changchun RSW PRC	-	-	-	-
1435	48	D	EMU Driving Trailer (a/c) #1101-1124; 1201-1224	Hitachi-CRRC CNR Changchun RSW PRC	-	-	-	-
<b>Sydney Metro (Transport for NSW)</b>								
1435	44	DTC	Terminal trailers for driverless Metropolis EMU #0101~2201, 0102~2202	Alstom Sri City Andhra Pradesh India	-	-	-	-
1435	44	MPC	Inter pantograph motor Cars for Metropolis EMU 0103~2203, 0104~2204	Alstom Sri City Andhra Pradesh India	-	-	-	-
1435	44	MC	Intermediate motor Cars for Metropolis EMU #0105~2205, 0106~2206	Alstom Sri City Andhra Pradesh India	-	-	-	-
<b>South East Light Rail (Transport for NSW)</b>								
1435	60		Citadis X05 Trams #2125-2184	Alstom	-	-	-	-
<b>Newcastle Light Rail (Transport for NSW)</b>								
1435	6		Urbos 3 Trams	Construccion y Auxiar Ferrocarriles Spain	-	-	-	-
<b>FREIGHT WAGONS</b>								
<b>Pacific National</b>								
1067	88	RGWY	Sugar Hopper Wagons 00011~00442	CRRC CSR PRC	-	-	86	86
1067	50		2 TEU Container wagons	CRRC CSR PRC	-	-	-	-
<b>Aurizon</b>								
1435	284	QHCH	Coal Hopper Wagon #	CRRC CSR PRC	-	-	-	-
<b>Genesee and Wyoming Australia</b>								
1435	180?	AHAH	Coal Hopper wagons	CRRC	-	-	-	4
<b>Southern Shorthaul Railroad</b>								
1435	42	BGTY	Grain Hopper Wagons #1401-1442	CIMC RSA Guiyang PRC	42	-	-	42
<b>ROLLING STOCK MAINTENANCE</b>								
<b>Downer-Rail Division--Bombardier</b>								
1067	18	-	Five-year contract for TransWA EMU Bogies and Wheelset Maintenance	GEMCO Rail WA		Ongoing		
<b>John Holland</b>								
1435	10		Rail Guidance System for 10 Trucks	HMA Techniplan Qld	-	-	-	-
<b>PTA Transperth</b>								
1435		-	Three-year contract for DMU Prospector Bogies overhaul	GEMCO Rail WA		Ongoing		
<b>Queensland Rail</b>								
1067	26	-	Overhaul Motor Bogies on SMU 220 Sets	Downer - Rail Division Qld	-	-	-	-
1067	20	-	Overhaul Motor Bogies on IMU 120 Sets	Downer - Rail Division Qld	-	-	4	4
1067	10	-	Overhaul Trailer Bogies on IMU 120 Sets	Downer - Rail Division Qld	-	-	2	2
1067	52	-	Overhaul Motor Bogies on SMU 200 Sets	Downer - Rail Division Qld	-	-	-	4
1067	26	-	Overhaul Trailer Bogies on IMU 200 Sets	Downer - Rail Division Qld	-	-	-	2
1067	19	160-260	Miscellaneous Pneumatic Equipment Overhaul - 16 Sets + 3 Spares	Downer - Rail Division Qld	-	-	-	18
1067	33	160-260	Overhaul Transformer	Downer - Rail Division Qld	2	2	-	6
1067	32	160-260	Overhaul Heating,ventilation,airconditioning	Downer - Rail Division Qld	3	2	2	8
1067	55		Overhaul Wheelset Cairns- Kuranda Cars	Downer - Rail Division Qld	-	-	3	23
1067	72		Overhaul Motor Bogies on 160/260 Sets	Downer - Rail Division Qld	-	-	-	-
1067	36		Overhaul Trailer Bogies on 160/260 Sets	Downer - Rail Division Qld	-	-	-	-
1067	6	1720	Locomotive Overhaul and upgrade	Downer - Rail Division Qld	-	-	-	-
1067	10	2400	Locomotive Overhaul and upgrade	Downer - Rail Division Qld	-	-	-	-
1067	2	SMU	Repair 3-Car Set SMU 202, 210	Downer - Rail Division Qld	-	-	-	-
<b>TRACK MAINTENANCE EQUIPMENT</b>								
<b>Aurizon Infrastructure Services Group</b>								
1435	1	SLM	Track Layer #4	Aurizon Workshops Redbank Qld		No Advice		
1067	2	MMA	Refurbish Ballast Tamper Mk III # 49	QR Workshops Maryborough Qld		No Advice		
1067	1	MMY	Ballast Cleaner RM 902 #520	Plasser Australia NSW		No Advice		
1067	1	MMY	Ballast Cleaner Unit FRM 902	Plasser Australia NSW		No Advice		
1067	1	MMY	Ballast Cleaner Hopper Wagon ( MFS 40)	Plasser Australia NSW		No Advice		
1067	1		Isuzu RRV	HMA Techniplan Qld	-	-	1	1
<b>ENSCO Inc.</b>								
1435	1		Track Geometry Vehicle	HARSCO Rail Brendale Qld		No Advice		
<b>KDR Yarra Tram</b>								
1435	2		ACM 105SP Hi-rail Overhead Wiring vehicle	Aust Crane & Machine Vic		No Advice		
<b>Queensland Rail</b>								
1067	2		Refurbish TR-10 Sleeper Inserter/Extractor	HARSCO Rail Brendale Qld		No Advice		
1067	11		Hi Rail Excavators	HMA Techniplan Qld	-	-	2	11
1067	2	MMA	09-16/32 CAT Tamper #MMA 081, 082	Plasser Australia NSW	-	-	-	-
1067	4	MMB	SSP 302 Ballast Regulator #MMB 064-067	Plasser Australia NSW	-	-	-	-
1067	2	MMA	Unimat 08-457 4S Switch Tamper #MMA 083, 084	Plasser Australia NSW	-	-	-	-
1067	2	MMB	PBR 500 Ballast Regulator #MMB 068-069	Plasser Australia NSW	-	-	-	-
1067	2	MMA	08-12 Split Head Tamper #MMA 085, 086	Plasser Australia NSW	-	-	-	-
<b>PTA Transperth</b>								
1067	1		Track Recording Car	Mermecc Italy	-	-	-	-
<b>Sydney Trains</b>								
1435		-	One-year contract for supply of Tamping tools	Engenco WA		Ongoing		
1435	4	-	Hirail Overhead Wiring vehicles	France		No Advice		
1435	2	NDZF	Track Carrier Wagon # 40051-40052	Bluebird Rail Operations SA		No Advice		

# Steamfest 2018



**H**unter Valley Steamfest was held over the weekend 14-15 April, and the railway component featured steam locomotives 3642 and Beyer, Garratt 6029. The operating schedules for the entire event, including transfers, were virtually a carbon copy of the previous year, with the steam excursions all confined to the Newcastle-Branxton-Paterson envelope. On Thursday 12 April, 3642 and 4490 in distributed power mode hauled an empty car set from Thirlmere to Eveleigh, ready to work an advertised passenger train from Sydney Terminal to Maitland on Friday morning. It was preceded by the

'support train', which worked through from Thirlmere to Maitland the same morning hauled by the colourful combination of 1950s vintage 6029 + 4201 + 4001.

All excursions were operated in push-pull mode with steam leading on the Down. 6029 plus 4201 were scheduled to work Maitland – Branxton shuttles throughout the weekend, while 3642 plus 4490 operated over the extended route Maitland – Paterson – Broadmeadow – Port Waratah – Maitland, performing two of these circuits on Saturday and one on Sunday, plus an additional Maitland – Paterson return trip



**Above:**The Great Train Race on Sunday 15 April was between 3642 and 6029, seen here approaching East Maitland, with 4490 and 4201 completing the consists. Robert Driver

**Left:** 3642 and 4490 pass Mt Harris, at the crest of the Moonabung Range, with an Up Paterson shuttle service on Saturday 14 April. Robert Driver

**Above right (page 51):** Aurizon's 5004 leading a coal train is about to pass 6029 as it sits at Branxton Station at Midday on Sunday 15 April. Robert Rouse

**Right (page 51):** Returning from a Steamfest excursion trip to Saxonvale, the Rail Motor Society's 621/721 waits at Branxton while 4201 and 6029 on a terminating shuttle commence their run back to Maitland on Saturday 14 April. Robert Driver



to round off the day on Saturday. Sunday commenced with the traditional Great Train Race, but an unseasonal westerly gale kept the Tiger Moth biplanes grounded. During the weekend, The Rail Motor Society's CPHs provided additional excursions between Maitland and Paterson, while two-car diesel 621/721 made return trips to Saxonvale Junction.

The program was disrupted on Sunday afternoon when 6029 en route to Branxton overran a signal at danger at Greta, and the train had to be hauled back to Maitland by 4201. The crew was

stood down, and as no qualified relief crew was available the Garratt was stabled and replaced by 4001 for the last run to Branxton, a change not well received by the patrons.

The return of the support train on Monday 16 April, which was scheduled with 6029 in the lead, instead had the engines marshalled in order from the front 4201 + 4490 + 4001 + 6029. As tabled, 3642 followed unassisted with an advertised passenger train to Sydney. This locomotive is about to be withdrawn from service for essential maintenance. *Robert Driver*





**Left (page 52):** On Sunday 15 April, 6029 makes its way to Maitland station on the Up Mainline, after being hauled out of the Sydney end of Maitland Yard by 4201, to pick up passengers prior to the Great Train Race. 6AB6 intermodal freight, hauled by NR10 and NR64, has come to a stand on the Down Coal road to wait for the line to clear before crossing to the Down North Coast and continuing towards Brisbane. Jim Rumble

**Below left (page 52):** 3642, 6029 and 5004 (leading an empty Aurizon coal train), are all lined up at Maitland on Saturday 14 April. Robert Rouse

**Right:** CPH1 leads CPH3 and CPH7 around the bend at Oakhampton returning to Maitland with a Paterson shuttle service on Saturday 14 April. Luke Stewart

**Below:** On Sunday 15 April, 4201 leads 6L60 Great Train Race consist, tailed by 6029, out of platform 3 at Maitland. The race itself (minus the aircraft, which was unable to fly that day due to the fierce wind conditions) started at Hanbury Junction after both trains had reversed at Broadmeadow. Still to depart here are 6L70 Race Train behind 4490 tailed by 3642, 7R11 Paterson shuttle operated by railmotors CPH 7, CPH 3 and CPH 1, and 7R51 Saxonvale Junction shuttle worked by railcar set 721/621. 4001 occupies No 1 siding, on standby, at the head of the crew cars. Out of view on the up coal line, TT102, 9320 and TT128 had just passed through with a loaded coal train, while the Down coal line is occupied in rear of signal MD213DC by 6AB6 intermodal freight behind NR10 and NR64 (also out of view), waiting to follow the CPH railmotors. Jeff Melvaine





**Above:** Former Hammersley Iron 4079 *Pendennis Castle* was bought to life with lights, smoke machines and re-enactors during a Timeline Events photo charter at Didcot Railway Centre, 24km south of Oxford, England, on Saturday 24 February. The two re-enactors are Jack Bosket (wheelbarrow) and Jack Haynes (an actual driver on the Swanage Railway). Work on the locomotive's overhaul is continuing, with a return to steam planned for 2019. The 1924-vintage former Great Western Railway and British Railways 4-6-0 express passenger locomotive was sold to Hammersley Iron by its then owner, the late Sir Bill McAlpine, in 1977 following an approach by Rio Tinto Managing Director Sir Russell Maddigan (who had actually hoped to buy *Flying Scotsman*!). From 1978 until 1994 it operated regular excursion trains in the Pilbara. In 1999 the company donated the historic locomotive to the Great Western Society, and in April the following year it was shipped back to the UK. Dave Bowles

**Below:** Pichi Richi Railway's former SAR Steam Motor Coach No 1 'Coffee Pot', built by Kitson in 1906, stands in the station at Woolshed Flat, South Australia ready for its return to Quorn on Sunday 22 April. Iain Wilson





**Above:** A fortunately rare event on Sunday 25 March when Railmotor RM55 *Red Fred* suffered mechanical problems at the Rosewood Railway Museum, having to be towed back to Kunkala Station by Walkers 2-6-ODM DL3 *Mt Surprise*. Joshua West

**Right:** At 8.17 am, on Wednesday 4 April, Pacific National's NR27 in *Indian Pacific* livery, assisted by non-liveried G530, eased the east-bound service into the historic Mount Victoria Station, where it made two stops for passengers to alight, as seen here. They joined a local coach operator for a tour that included the western Cliff Drive, time at Scenicworld, the options of guided bushwalks and time at Echo Point, the home of the Three Sisters. Light refreshments were served at 'The Lookout' Echo Point before the coaches returned the passengers to the Katoomba Railway station. Here, a privately chartered V set, operating as special train W026, departed Katoomba station at 1.32 pm for the non-stop run to Central Station. It is planned that the Blue Mountains stop and the private charter of the V set will become a regular weekly occurrence. John Cronshaw





42103's driver has switched on the unit's headlight and sounded its oversized array of horns for the departure of 8L72, the return of the eponymous 'Rylstone Rocket', from its newly-recommissioned namesake station on Saturday 31 March. Wayne Eade



## Inland Rail issues

An article in the April *RD* and a news item in the May issue mention a protest by broadacre grain farmers situated on the Condamine River flood plain in the vicinity of where a proposed Inland Rail crossing of the flood plain is to be built.

I lived in Millmerran from 1983 to 1989 and witnessed the Condamine River in full flood early in 1983. I canoed across the very wide flood waters and there was a decent current whilst crossing the deeper sections. The narrow gauge line to Millmerran was constructed on a low embankment where the flood waters flowed across the top. The Gore Highway is also on a low embankment to allow high floods to flow across.

The protestors are not against the Inland Rail project, they would just prefer the Condamine River rail crossing to be situated on a narrower section of flood plain further upstream.

So I suppose we wait and see what engineering design of the crossing will be suggested. My thoughts are for a Murrumbidgee floodplain type of viaduct as seen at Wagga Wagga.

I recall when the line from near Blackwater was extended to Rolleston Coal mine that the track engineering designers didn't listen to local advice when it came to the height of floods across the Comet River flood plain. The embankments with insufficient openings caused the floodwaters upstream to rise with the flood reaching a height that did much damage to the rail infrastructure. There was also resultant damage to cultivation which the land owners sought compensation for.

I also noted in April's *RD*, an Inland Rail comment that passenger trains would not be able to use the 5.4 km tunnel planned to go through the Toowoomba range due to a lack of ventilation shafts. With the proposed tunnel to be bored to take double-stack container trains and the ready availability of ventilation shaft boring equipment as used in the coal mining industry, ventilation of the tunnel should not be an issue. Toowoomba badly needs a fast rail passenger service to Ipswich and Brisbane.

Paul Antonio, Toowoomba Regional Council's Mayor has stated that the planned dual-gauge Inland Rail line from Toowoomba to Calvert should also carry a fast passenger service.

*Andy Plunkett  
via email*

## Rail trails

It is a curious thing that Rail Trails, so well understood and patronised in Victoria, are still a subject for deep suspicion and anxiety in NSW. I have had the enormous pleasure of riding the three longest Rail Trails in Victoria, Wangaratta to Bright, Bairnsdale to Orbost and the longest of all, Mansfield to Tallarook and Alexandria (and Seymour to look at the Rail Heritage Centre).

These were all return journeys and involved many hundreds of kilometres of riding and well over 300 kilometres in the case of the last trip. I have also ridden the shorter Wadonga to Tallangatta trail. They are a complete joy with no steep grades beyond about 1:40' and all have magnificent scenery. I have even ridden through a tunnel.

Not only are they wonderful to ride on but they are of great benefit for the towns they pass through, with an increase of visitors, especially in holiday periods, who of course spend money in food outlets, hotels, motels, caravan parks etc. Victorian Governments of both parties have spent quite massive amounts of money replacing bridges and surfacing the trails and it seems that this very human approach to development is widely accepted in that state and seen as cost productive.

NSW on the other hand is making very heavy weather of this concept. While bicycles are a fact of life in Victoria, in NSW there is the general belief that cyclists are dangerous, green, lefty radicals rather than being those who just enjoy the open air, a few thrills, a bit of adventure and exercise. No doubt this perception (without being actually dangerous...) may be true of some, but even if that is the case, these Mavericks are very unlikely to tote guns or make a mess of the environment as

has been suggested in Readers Write in the May *Railway Digest*. I think that is more the province of car-borne tourists who cannot drive on rail trails anyway.

I can honestly say that in my experience of well over 1000km of Victorian rail trails, I saw very little if any litter or any other bad behaviour (or anyone carrying guns....). All those trails were in beautiful condition in beautiful surroundings.

However, there are obviously some challenges in creating these trails and I can well imagine that not all disused railways will be suitable candidates. The objection that a railway might need to be reactivated at some point in the future is a very real and important one which would need very careful consideration indeed and probably the decision should favour re use. Land owners' objections must also be examined closely, although with the proviso that the rail easement is in fact government property, not the landowners' on either side and that historically, the landowner would not have had any use of it at all. However, I am not familiar with the actual legalities of the situation so this is probably surmise on my part.

On one occasion I met a farmer driving his sheep along the trail and there was no problem at all, I just got off the bike, sat down and waited until the mob passed. We were both very happy. No doubt there have been issues with land holders in Victoria, but I think that given the right access points to their property and a bit of common sense, most of these would probably evaporate. The trails are fenced and vehicles cannot access the trails because of lockable barriers etc and so I doubt if destruction of property and bad behaviour is an issue at all. I don't see why NSW should be any different as long as common sense prevails.

*Jeff Rigby  
Bullaburra, NSW*

## Bi-mode trains

Further to John Speechley's letter in the May 2018 issue, bi-mode trains are not new. They have been around for

many years. London Transport had a prototype electro-diesel locomotive for works trains in 1940, and there may well have been earlier examples, but modern technology is making them attractive and practical in many operations.

The Hitachi bi-mode trains he mentioned are basically electric trains with diesel engines under a number of the trailer cars. These drive alternators which power the electric motors used in normal electric operation. The trains can change between power modes on the move.

At present there are 1055 bi-mode Hitachi cars on order in the UK, made up into various combinations of 5-car and 9-car trains for four operators, a total of 159 trains, plus a further 167 straight electric cars forming another 23 trains. In addition a further 136 Stadler bi-mode cars are on order for a fifth operator, making up a further 38 trains. The first of these trains are already in use and all 1191 bi-mode cars should be in service by 2020. It can be expected that further bi-mode trains will be ordered since the UK government is now using them as an excuse to cancel previously planned electrification schemes. Indeed a batch of 35 thirty year old Class 319 four-car EMUs is to be converted for Regional operations by the addition of diesel engines and it is likely that further conversions of EMUs may follow, using either diesel engines or batteries.

In France SNCF have operated a massive fleet of 1182 Bombardier AGC bi-mode articulated cars (variously diesel +1500 V DC, diesel+25kV AC, diesel +1500V DC+25kV AC) on Regional services at 160 km/h for over ten years, plus many more diesel-only or electric-only versions, and more recently a large fleet of at least 299 Alstom Regiolis bi-mode trains in various lengths (so in excess of 1200 cars) has been entering service, also operating at 160 km/h. Similar sets are currently being supplied to Senegal. The Regiolis sets have the diesel engines mounted on the roof. In Spain a number of Talgo sets are capable of running on electric or diesel power.

There are many other bi-mode fleets in service or planned in many countries around the world, and as fuel cells and battery/supercapacitor propulsion technologies mature, the use of bi-mode trains can be expected to increase considerably.

As for locomotives, in New York bi-mode locomotives have switched from diesel to electric operation to take trains through the Hudson River tunnels for more than sixty years, and the latest generation of Bombardier bi-mode locomotives is now entering service with New Jersey Transit. In the UK a number of the Class 73 electro-diesel locomotives dating from the 1960s are still in service, while a batch of Stadler Class 88 bi-mode locomotives has entered service recently. In Spain FEVE has electro-diesel locomotives. Again there are many more examples around the world.

A development in Europe in recent years has been the fitting of "Last Mile" diesel engines in a number of electric locomotives to enable them to work freight trains into freight yards and to shunt them without the need for overhead wires. However, these are low-powered diesel engines and are only intended for low speed moves, not for main line haulage. Similarly the metro sets used in Lausanne in Switzerland have auxiliary diesel engines for traction in the depot area. In all cases, the diesel engines power alternators to feed the existing traction motors.

Bi-mode trains have many advantages, some of which were mentioned by Mr Speechley, and modern diesel engines provide power to weight ratios close to, though usually inferior to, electric operation, allowing high speeds and good performance on gradients. Advantages include greater flexibility, ability to operate both on and off the electrified network, ability to operate on electrified sections during overhead maintenance work, quieter, cleaner and more efficient operation under the wires and a "get you home" contingency in case of loss of overhead power. Disadvantages are increased first cost, greater complexity (and hence higher maintenance and operating costs) and increased weight,

meaning that the trains are less energy efficient than a lighter electric or diesel only train.

In Australia applications could be envisaged on both the NSW Trains and V-Line networks. Whether bi-mode operations actually eventuate is another matter altogether.

*Gerry Brown  
via email*

### Dubbo Intercity Fleet Maintenance Centre

May I join Des Ball, your April Correspondent, in wondering why Dubbo has been chosen as the new fleet maintenance centre? Once the XPT fleet is retired, it could be assumed the existing maintenance facility, near Sydney, would be available to accommodate the new trains, at relatively little cost. Why would trains needing repair and servicing, pass the existing works to undertake a 900-kilometre round trip. Apart from the apparent political motivation, can anyone possibly explain or guess the logic of such a move.

Also, your April edition report on the Inland Rail project raised the suggestion that there could be deficiencies in the standard of planning for the project, possibly limiting the potential of the line. If this is the case, surely it must be asked whether we are capable of creating real 'nation building' programs. Have we forgotten the lessons of the different state rail gauges, etc? I have even heard claims that the Alice Springs to Darwin line was built to a standard below its full potential, in the name of economy.

Are our rail planners aware that we have moved on from the steam age and many countries are running their trains at speed of 200 km/h plus and planning for even higher speeds? While this line is intended for freight, who knows what the future holds. Possibly passenger services, and with developing technologies, freight trains may be running at higher speeds, up to 150 km/h or even more. Any builder knows that it is more efficient and cost effective to build it right the first time rather than have to modify at a future date. This project is starting with a relatively clean slate,

over mostly flat country. Even if it costs more now, can't we be progressive and do it right in the interest of future economies? Perhaps we should start by removing the 'bean counters' from the project immediately.

*Trevor Halliday  
Bathurst, NSW*

### Intercity Trains

Mr John Speechley in the May *Digest* writes concerning the new British class 800 trains but has some errors and omissions. The new Hitachi designed and built 80X units have been designed as an HST (High Speed Train, on which the NSW XPT is based) replacement and for other services where a medium speed (200km/h plus) train is required. The HST when introduced 40 years ago was, and still is, a brilliant concept that revolutionised intercity rail travel in the UK (and indeed in NSW). But 40 years is a long time for any piece of kit to stay in front line service, plus the need to cater for Persons of Reduced Mobility (PRM) in legislation that comes into effect in 2020 means that for most units their time has come. The British Department for Transport (DfT) called for tenders for replacement trains and Hitachi submitted designs based upon their successful class 395 'Javelin' trains that provide commuter services along High Speed 1 (London to the Channel Tunnel) and around the south east corner of the UK.

Hitachi planned to build these new trains in a purposed built factory in North East England, apart from the first few units that were built wholly in Japan. But success has its penalties and the Hitachi factory in the UK cannot keep up with the avalanche of orders. Hence the need to build some units at the Hitachi plant in Italy. To the best of my knowledge, the Italian factory is not actually

building the new trains, essentially they are assembling the trains from 'flat packs' (eat your heart out Ikea) that are shipped in from Japan.

The new trains come in several versions, hence the 80X tag. Some units are all electric at 25kva ac. Others, where the journey will go 'beyond the wires' are what are now called 'Bi-modes'. That is, they are electric trains that have several diesel generator sets mounted beneath the carriages. When the drivers gets to the limit of the wired area, they start up the diesel generator sets and the train then proceeds as a diesel electric, albeit with distributed power rather than a diesel locomotive at the front. On paper this is a good concept, except there has been some criticism. London to Edinburgh is some 630km and if a Bi-mode is used so that passengers don't have to change trains to travel beyond Edinburgh, then the train has to lug all those heavy generator sets, plus fuel, all the way from London to Edinburgh, and the same on the return journey. The gen sets also add to the build cost of the train, to its operational cost and to its maintenance cost. There is also some concern on 80X trains that are replacing HST units on West of England services, where several gradients in the south west are particularly severe. Reports to date are that the Bi-modes don't cope all that well. Fortunately, the length of such grades is relatively short. It is also interesting that there are reports that the Bi-modes don't perform any better than the HST's that they are replacing, especially when running on their diesel engines, and that they are not as comfortable. Shades of the V-set replacement! Time will tell.

*Ron Brown  
Lake Cathie, NSW*

## Catchpoints

In the April issue, in the second paragraph of "A Steel Train parts", the author referred to SCT/SBR ore trains running from Wirrida to Port Adelaide. These in fact ran from Rankine Dam, some 30km north of Wirrida and ran to Outer Harbour, not Port Adelaide. These trains were also run by GWA until the end of last year, when the remaining PQGY wagons were leased by PN. We thank a correspondent for pointing out this error.

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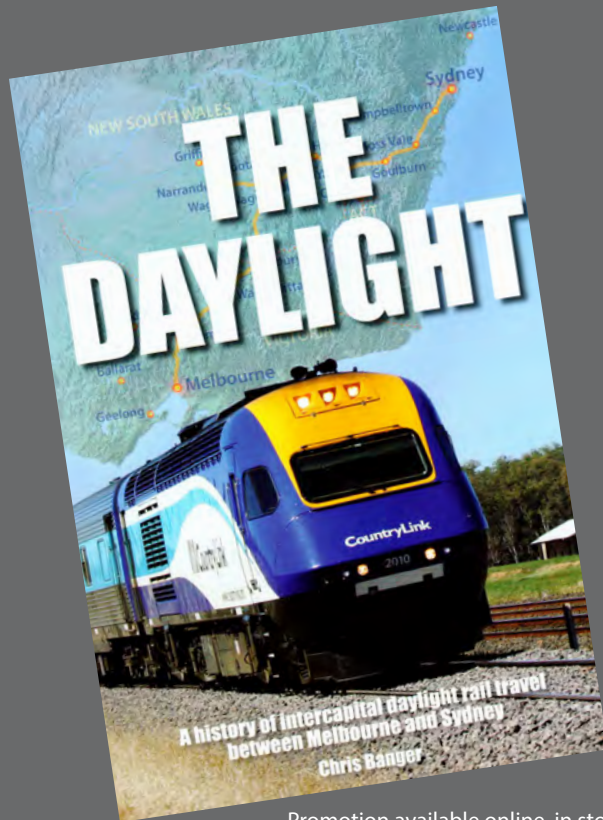
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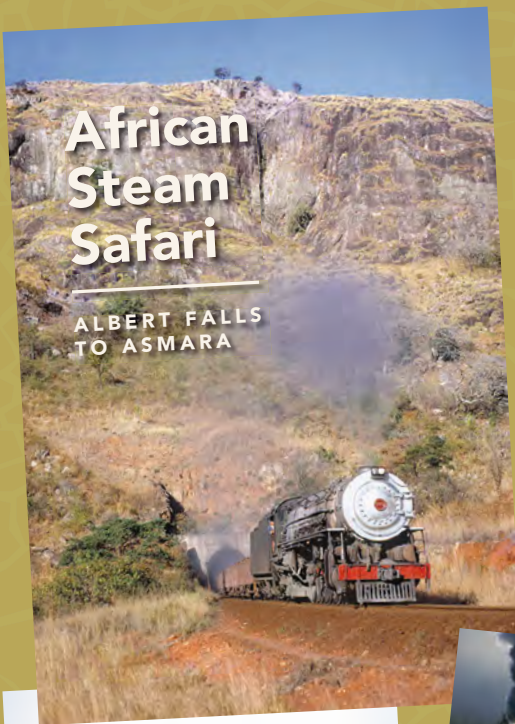


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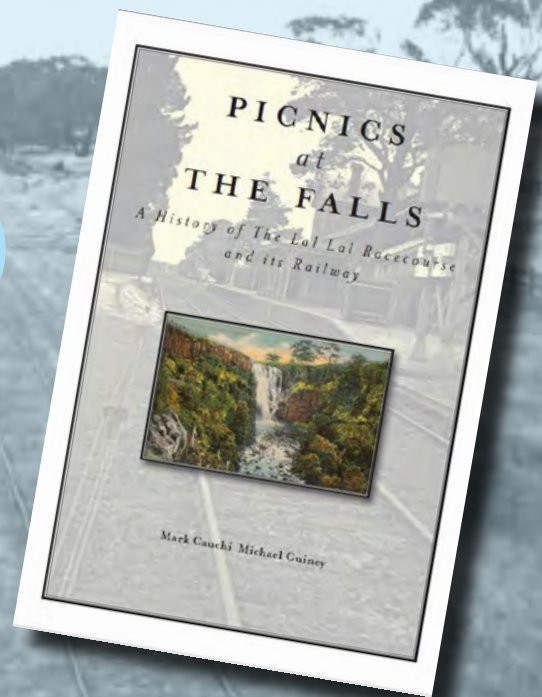
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