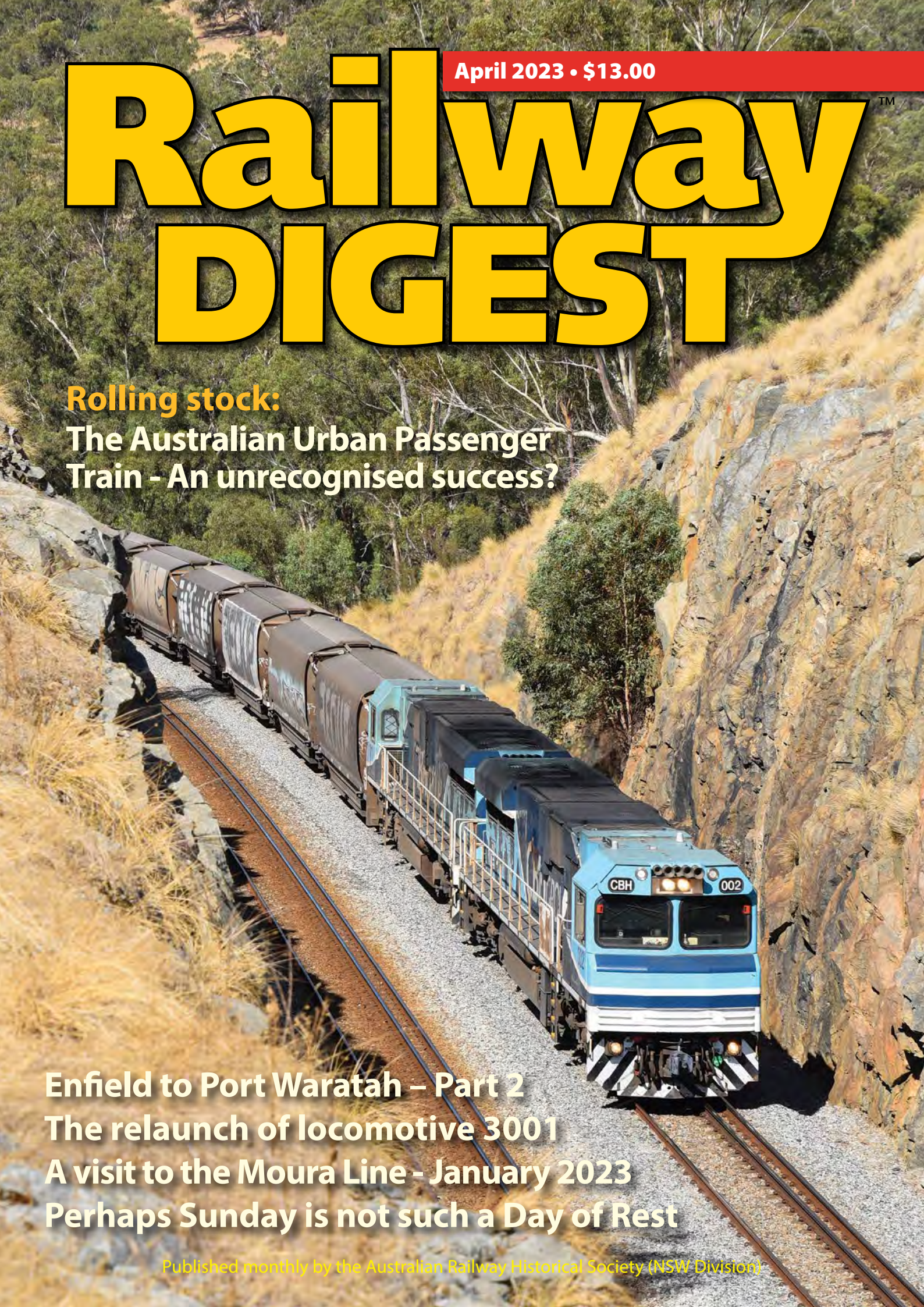
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Rolling stock:
The Australian Urban Passenger Train - An unrecognised success?



Enfield to Port Waratah – Part 2
The relaunch of locomotive 3001
A visit to the Moura Line - January 2023
Perhaps Sunday is not such a Day of Rest

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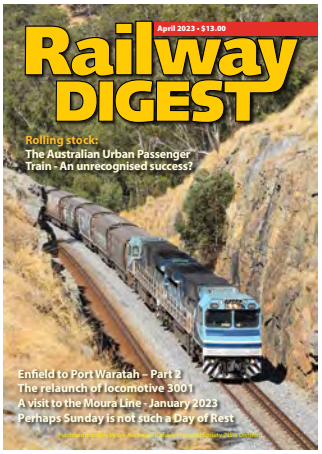
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April 2023

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Features

Enfield to Port Waratah – Part 2 **32**

In our March issue, David Shield described driving SSR 3476N, the SSR Green train, from Enfield Yard in Sydney, to Gosford, on the NSW Central Coast. We pick up the story as the train heads north from Gosford, towards its ultimate destination, Port Waratah.

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Cover: On Sunday 19 February, narrow-gauge MotivePower/Cummins units CBH002 and CBH011 are on mixed-gauge track at Brigadoon on Perth's outskirts with CBH 1K44 Up loaded grain train from Kalannie. John Scott

Opposite: TasRail Clyde/EMD DQ class locomotive 2010 was at Devonport working the Railton to Devonport cement train on Monday 13 February. Peter Sansom

Back cover (upper): The Sydney to Newcastle line is a busy railway, which may explain why the three yachties appear oblivious to the passing of the SSR empty Centennial Coal Train banked by CLF3 and CLP12, as they go about their business near the remote, waterside Wondabyne station on Saturday 3 December 2022. Larry Zanker

Back cover (lower): The whole of Pacific National's colourful 5MP1 Melbourne–Perth freight, powered by NR61 and NR24, is visible as it snakes around the curves on the approach to the floodplain and river crossing at Murray Bridge on Friday 17 February. In the foreground, rail photographers Gavin Hughes and Mark Carter are getting their shots, while in the background are the flooded Long Flat Swamp and Swanport Wetlands; the Murray Bridge raceway is also partly visible on the left. John Kirk

Aurizon re-enters interstate intermodal market

Confirming long-standing rumours Aurizon announced on 20 February 2023 that it would return to the interstate intermodal market following the awarding of an Australia-wide 11-year contract with Team Global Express (TGE). Under the contract Aurizon will deliver rail services connecting Perth, Adelaide, Melbourne, Sydney and Brisbane. The contract is reported to be worth around $1.8 billion.

The TGE contract requires Aurizon to spend about $280 million on rail infrastructure and rolling stock. It will increase the amount of containerised freight Aurizon carries nationally from about 480,000 Twenty-Foot Equivalent Units to up to 680,000 TEUs over the next 12 months. The TGE contract does not include take-or-pay arrangements, which are common in Aurizon's, and other coal rail hauler's coal haulage contracts, to protect rail operators from unexpected volume declines. No announcement has been made relating to rail terminals but Aurizon says they are expected to be a mix of open access facilities and the company's own terminals.

TGE already moves freight on rail, including foodstuffs, steel and copper. It previously had a 20-year rail agreement with Aurizon's main competitor, Pacific National, but that contract expired on 19 February – the day before the Aurizon announcement. Pacific National chief executive Paul Scurrah told the *Australian Financial Review* (*AFR*) his company had not wanted to enter into a bidding war over the contract. "As we strive for commercial discipline in a sector that cannot claim to have ever been commercially run, this comes as no surprise to us and our strategy remains on course," he said. Pacific National has in recent times lost the Bluescope steel contract to Qube (north-south) and SCT (east-west), a Townsville – Mount Isa mineral contract to Qube and is understood to be about to lose the Manildra Group contract in NSW to Southern Shorthaul Railroad (see page 7 this issue).

TGE will be a cornerstone customer for Aurizon, helping support expansion into the growing interstate east-west and north -south containerised freight market. TGE is an Australian-owned transport and logistics business. It employs more than 8,000 people, serves over 36,000 customers and provides freight operations from courier to specialised multi-modal transport throughout Australia and New Zealand. TGE was rebranded from Toll Global Express to Team Global Express after its sale to Australian private equity group Allegro Funds was completed in September 2021. At the time Toll said the sale of Global Express was consistent with Toll's strategy to focus on its Asia-Pacific logistics strengths.

Aurizon Managing Director and CEO, Andrew Harding, said the TGE contract was the company's biggest non-coal revenue contract ever. Mr Harding said, "It is another step in achieving our ambition to double the earnings of Aurizon's Bulk business over the decade, and to deliver sustainable growth in non-coal areas of the company." He said the contract delivers to Aurizon a high-volume contract with a tier one customer, closely matched to the company's national footprint and network of assets.

The contract includes five weekly rail services east-west (Melbourne-Adelaide- Perth) and two north-south (Melbourne - Sydney - Brisbane). Around two thirds of the capacity will be on the east-west corridor and the remaining one third on the north - south. As a cornerstone customer TGE will account for approximately 70 per cent of the capacity of these services based on TGE's historical volumes. In addition, there will be an opportunity for Aurizon to build on this foundation and increase volumes through additional customer growth to meet the fully installed capacity of these services of more than 200,000 TEU (this is in addition to Aurizon's current containerised freight volumes). Services for TGE will commence in April 2023 with a ramp-up to a full service offering by April 2024.

CEO of Team Global Express, Christine Holgate said the partnership will significantly improve Australia's rail freight capacity and choice for more greener options to deliver important freight across Australia. The arrangement with TGE, which requires Aurizon to spend about $280 million on rail infrastructure and rolling stock, will increase the amount of containerised freight it carries nationally from about 480,000 Twenty-Foot Equivalent Units to up to 680,000 TEUs over the next 12 months.

Ms Holgate said, "Our partnership with Aurizon is game changing for TGE customers, securing them important extra capacity and more choice, in what to date has been a very limited rail market with restricted capacity and rising tariffs." She told the *AFR* it had been hard to get containerised freight off trucks and onto rail networks due to a lack of rail haulage capacity. The TGE CEO said rail networks were run "like a monopoly" and that created challenges to increase rail usage, even though it was often cheaper and created fewer carbon emissions.

Ms Holgate said, "We've not been able to really help customers transition more into rail because we've had very limited capacity available on top of what we've already got."

She said the weather events of recent years had demonstrated how important both choice and capacity on major routes are, to ensure important freight, including food, can still be delivered at times of great need. Ms Holgate said the contract highlighted the importance of leveraging rail as a greener solution for transporting freight, to help address climate change and secure our nation's carbon ambitions. "Through this partnership, we are able to offer our customers much-needed capacity along crucial routes linking major cities," she said. TGE says it has about a quarter of the national rail freight forwarding market and expects the value of goods to be moved over the life of the new contract will be about $1.8 billion based on forecast volumes and a two per cent rise in the consumer price index.

In July last year Aurizon acquired One Rail Australia which includes a major bulk and container haulage business, together with the 2,200-kilometre Tarcoola to Darwin railway. "This acquisition has been a key enabler in Aurizon being able to deliver a national service for customers such as TGE," Mr Harding said. "We are well-positioned to expand our presence in a growing market and demonstrate the many strong competitive advantages of rail, including cutting greenhouse gas emissions and congestion-busting in our towns and metropolitan areas."

Some analysts questioned whether the profit margins on the new contract would be "slim" given Aurizon no longer makes any money managing freight hubs and warehouses after it sold its loss-making intermodal business. The new contract will also increase the company's operating costs. While Aurizon expects the new contract to be profitable if the trains it runs for TGE are 70 per cent full, Chief Financial Officer George Lippiatt said they needed to be 75-85 per cent full to achieve returns on invested capital of more than 10 per cent.

Macquarie brokers told the *AFR* the deal reflected tougher competition in an expanding market for rail freight and forecast "sharp pricing" on new contracts. It said Qube had started a new haulage service between Melbourne and Sydney in late 2022, and Pacific National has been increasing its rail capacity and can carry about one million TEUs nationally.

RBC Capital Markets analyst Owen Birrell said Aurizon's diversification into "shorter, higher-risk and more volatile" bulk haulage services could hurt the company's profit margins.

"From an equity investor's perspective, the increasingly large (and growing) deployment of capital to support the 'bulks' strategy has in the near term directly impacted the cashflow available for distribution, resulting in a lower payout ratio (of about 75 per cent) and therefore the group's underlying dividend yield," Mr Birrell said.

Aurizon's return to interstate intermodal business has attracted some scepticism given it shut down that operation in 2017. However, that business lacked an "anchor" customer like TGE. Aurizon told analysts it had about 600 intermodal customers at that time, but utilisation was at best 50 per cent of available rolling stock. Aurizon also says that previously it had concentrated too much on the Brisbane – Sydney – Melbourne corridor whereas under the new contract only a third of services will be north-south and the rest concentrated on the Melbourne – Adelaide – Perth corridor, which was more profitable. Aurizon said there was a "lot more" demand for rail freight in the six years since it

exited interstate intermodal services and the "Nullarbor" rail market needed additional capacity.

Clayton McDonald, Group Executive Bulk told analysts Aurizon already moved 480,000 TEUs (20' or 6.1 metre containers) per annum annually – as mentioned above. Mr McDonald said Aurizon ran intermodal trains for Linfox over Christmas between Adelaide and Perth given there was an emergency, so this demonstrated its capability. He said Aurizon's new services will provide further capacity for road-using customers, over time, who'd like to use rail. Aurizon's Chief Financial Officer, George Lippiart said the TGE contract was for 11 years and is about 70 per cent of capacity compared to 2017 when none of the big freight forwarders were aboard with Aurizon. Aurizon said it also wants TGE to grow its own volumes. Rail observers will be following Aurizon's venture back into the interstate intermodal world with great interest.

In other Aurizon news on 6 February 2023, Aurizon confirmed that it had received approval from the Australian Competition and Consumer Commission to proceed with the sale of the East Coast Rail business to the Magnetic Rail Group Pty Ltd. Aurizon confirmed that sale was completed on 17 February 2023.

John Hoyle

Wet weather dampens Aurizon's 2023 Half Year Financial Results.

On 13 February 2023 Aurizon reported Group Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) of $673 million for the half year ended 31 December 2022. This was down 7% against the prior comparable period (PCP) (1HFY2022 of $727 million) with:

- Bulk business EBITDA up 33% ($25 million) to $100 million, due to the $1.45 billion acquisition of One Rail Australia (ORA) and higher grain volumes in Western Australia (WA), partly offset by wet weather, customer specific production issues and third-party derailments and incidents impacting Aurizon.
- Coal EBITDA down 20% ($56 million) to $230 million primarily due to lower above rail volumes from the impact of prolonged wet weather. In addition to an 8% reduction in volumes, there was also a decrease in above rail revenue yield and moderately higher operating costs.
- Network EBITDA down 4% ($17 million) to $363 million also due to 2% lower volumes from the impact of prolonged wet weather in Central Queensland.

Underlying Net Profit After Tax (NPAT) was $169 million, a 34% decrease compared to 1HFY2022. This compares to EBITDA down 7% per cent with increased depreciation and interest costs reflecting the capital investment in Bulk growth including the acquisition of ORA. Return On Invested Capital (ROIC) decreased by 1.9ppt to 8.5 % compared to 1HFY2022. Free cashflow decreased $306 million to $95 million reflecting lower EBITDA, an increase in tax payments and adverse working capital movements compared to the corresponding period last year. The Aurizon Board has declared an interim dividend payment of 7.0 cents per share, 100% franked, which is 75% of Underlying NPAT. The dividend aligns with the strategy for growing the Bulk business.

Managing Director & CEO, Andrew Harding said, "Consistent with our strategy, we delivered strongly on key initiatives to diversify and expand the business in rapidly growing markets and regions. These were substantial steps in our aspiration to double the size of the Bulk business over the decade through organic growth and acquisitions."

Key initiatives included:

- The $1.45 billion acquisition of the ORA business in South Australia (SA) and the Northern Territory (NT) which is exposed to growing markets for new-economy commodities such as copper, manganese, lithium and rare earths; and
- An investment commitment of more than $400 million in new and upgraded assets to support growth of existing and new customers, including new rollingstock, track infrastructure in SA, port equipment, and port real estate in Newcastle. Aurizon said it was "delighted" to secure a range of new contracts and to support the growth of existing customers.
- Supporting WA grain growers and CBH to deliver a record grain harvest, with record volumes being delivered by rail. Aurizon is now the largest rail hauler of grain in Australia, with operations in WA, SA, Queensland and New South Wales.
- Enabling Centrex to deliver the first export tonnages of phosphate rock out of the North West Minerals Province into the Port of Townsville, under a new four-year contract (includes road, rail and stevedoring). The phosphate rock is road-hauled from the Centrex mine near Duchess to Mount Isa from where it is railed to the Port of Townsville.
- Securing contracts with OZ Minerals for the haulage of copper in SA/NT; BP for the haulage of fuel in WA, SIMEC for haulage of iron ore in SA and Aeris Resources for rail haulage and logistics for base metals from the company's Tritton mine which is loaded at Hermidale on the Cobar line and railed to the Aurizon Port Services export loader at Carrington (Newcastle).
- Delivering capital investment for track upgrades under a 10-year contract extension with Gypsum Resources Australia in SA for haulage of gypsum to the Port of Thevenard.
- Trainguard automatic train protection (based on European Train Control System technology) was deployed on the Blackwater network.

Aurizon's total coal haulage for the half year was 90.5 million tonnes, comprising 66.9 million tonnes on the Central Queensland network and 23.6 million tonnes in NSW and Southern Queensland. Total Bulk volume for the same period was 33.7 million tonnes, a 35% increase over the same period last year, reflecting the ORA acquisition and record WA grain tonnages. Bulk's revenue share (excluding the Network business unit) was 44%.

Mr Harding said these achievements were accomplished during a challenging period operationally, with prolonged flooding on the East Coast together with a number of significant third-party derailments and incidents that resulted in reduced volumes and revenue. For example, compared to the ten-year average, double the amount of rainfall was recorded during the period in the key coal producing regions of Central Queensland and the Hunter Valley.

In its outlook for FY2023 Aurizon's EBITDA market guidance has been lowered by 4%, reflecting the prolonged wet weather and a two-week Blackwater derailment outage in February 2023. Group underlying EBITDA guidance for FY2023 is $1,420 million – $1,470 million while non-growth capital expenditure (capex) guidance is in the range of $500 million - $550 million and growth capex guidance is at $210 million. Key assumptions for this guidance include coal remaining at a lower EBITDA due to volumes now expected to be lower compared to the prior year and a revenue yield reduction. Bulk revenue and EBITDA growth is expected from increased volumes and services and the inclusion of Bulk Central (the former ORA operations). Aurizon Network anticipates lower EBITDA with volumes now expected to be below regulatory forecast resulting in a revenue under-recovery of around $100 million, partly offset by take-or-pay contracts of $60 million. The guidance is on the assumption of no further disruptions to commodity supply chains (such as major derailments or extreme/prolonged wet weather).

John Hoyle

Viterra and Aurizon seek Commonwealth funding to part reopen Eyre Peninsula lines

South Australia's dominant grain marketer, Viterra and rail operator Aurizon announced on 1 March that they were preparing a joint funding bid to the Federal Government to reinstate and upgrade rail infrastructure on the dormant eastern section of the Eyre Peninsula rail network, based on Port Lincoln. The bid covers reopening the section from Port Lincoln to Cummins and Wuddina (214 kilometres) on the "main" line to Ceduna/Thevenard and from Cummins to Kimba (176 kilometres) on the former Buckleboo (now Kimba) branch. Since acquiring One Rail Australia in July 2022 Aurizon is the track owner of the Eyre Peninsula system and it has recently announced that it is investing in track rehabilitation at the western end of the system – the 74-kilometre line between Thevenard and Kevin which is used for gypsum haulage (see Aurizon half year report, page 5, this issue

In a message to Aurizon Bulk Central (the division that manages SA/NT operations) staff the company said its Bulk Central division and Viterra had been in recent months assessing the opportunity to get grain back on rail on the Eyre Peninsula following the closure of the line based on Port Lincoln in May 2019 due to the poor condition of the rail line which meant slow speeds and lower productivity, making rail uncompetitive with heavy road vehicles. At the time of closure only one grain train was serving the network on track that supported just a 16-tonne axle load. The two companies said that with rail doing the heavy lifting for growers, it would create a more efficient, high-volume supply chain with lower emissions per tonne moved and far less trucks on regional roads.

The move by Viterra and Aurizon comes after complaints from some Port Lincoln residents and other Eyre Peninsula residents about the large number of trucks travelling to the port area following the closure of the eastern end of the system in 2019. Media reports at the time of closure suggested that depending on shipping schedules up to an additional 100 grain trucks a day were expected to unload at Port Lincoln following the rail closure. In a May 2019 report to the Port Lincoln City Council examining improvements to the city's foreshore area comment was made that the rail closure would result in even greater truck numbers through the city, especially along Liverpool Street in the city's major retail area. At that time the then SA Liberal government added an additional $6.4 million to an existing allocation of $25.6 million from the Federal Government for road upgrading on the Eyre Peninsula with then SA Transport Minister Stephan Knoll saying in a 7 May 2019 media release that "…..the announcement followed Genesee & Wyoming Australia and Viterra's decision to no longer use the rail network to transport grain on the Eyre Peninsula." Mr Knoll said at that time about 60 to 70 per cent of grain was currently hauled by road on the Eyre Peninsula.

In the second half of 2022 Grain Producers SA invited grain producers and the wider community to submit online the grain road they believed was in the worst condition in South Australia as part of a campaign for more road funding in grain areas. Out of 146 entries 58 different roads were entered and the Flinders Highway which links Port Lincoln to Ceduna was rated the fifth worst grain road in SA. One entry stated that there are huge volumes of grain being transported over it annually and wear and tear had taken its toll.

Viterra Australia chief operations officer, James Murray told *Grain Central* Viterra supported reinstating rail on the Eyre Peninsula to benefit local growers and communities and its export customers.

"Viterra operates an efficient and effective fully integrated network on the Eyre Peninsula and is committed to a long-term future in the region," Mr Murray said. "Partnering with Aurizon and the State and Federal Governments to fund an upgraded rail system on the Eyre Peninsula would create significant long-term economic, social and environmental benefits for local growers and communities, export customers, government and flow on effects for the state."

"For Eyre Peninsula growers, it means they will have more opportunities to achieve higher prices for their grain, with increased supply-chain capacity and shipments in the first half of the year when global demand for Australian grain is higher and pricing is at a premium." "The project will also provide reductions in freight costs, which Viterra passes back to grower customers."

Mr Murray said positives from the project include the reduction of approximately 25,000 tonnes of CO^2 equivalent a year, and the removal of approximately 42,000 annual truck movements between up-country sites and Port Lincoln annually.

If the project receives government funding, significant upgrades are planned at key Viterra sites to support the reintroduction of rail in the region. Viterra said this would include fast rail loading infrastructure at Viterra's Cummins, Lock, and Wudinna sites on the main line and Rudall and Kimba on the branch line to maximise efficiency and improved loading infrastructure at Viterra's Port Lincoln terminal to reduce turnaround times for rail and allow increased volume capabilities. The rail infrastructure within the port area was not removed in conjunction with modifications carried out in 2019 to allow large trucks to unload at the port. Aurizon and Viterra have said they will make long-term commitments to the Eyre Peninsula rail network if it is reinstated. Aurizon will maintain the line once upgraded and invest in the rollingstock fleet to meet Viterra's commitment of moving at least 1.3 million tonnes of grain on the rail network each year.

Aurizon's Adelaide-based general manager Bulk Central, Matt Jones told *Grain Central* Aurizon was keen to invest in and grow its rail business following on from its acquisition of One Rail Australia.

"Aurizon is the nation's largest hauler of grain, supporting growers in South Australia, Western Australia, New South Wales and Queensland," Mr Jones said. "We see a great opportunity to work with Viterra and provide efficient and reliable supply chain operations for grain producers and to get grain back on rail on the Eyre Peninsula, one of Australia's most valuable and productive grain-growing regions."

"Not only is rail the most efficient mode for bulk freight like grain, but it also delivers major benefits for the community by reducing the need for thousands of truck journeys on regional roads and achieving a significant reduction in greenhouse gas emissions."

Some rail industry observers said that should funding eventuate and part of the former Eyre Peninsula system was reopened it would be a remarkable turnround in a state where decades of a State Government rail freight policy vacuum by both sides of politics has been the major factor in contributing to the closure of virtually the entire intrastate regional rail network. This closure had included lines serving significant grain growing areas such as the Riverland and Eyre Peninsula. A former SA-based rail manager told *Railway Digest* that ongoing relatively small amounts of funding each year for infrastructure improvements, such as is carried out under the successful NSW Fixing Country Rail program, would have resulted in at least some of the SA regional network being retained. Observers have also pointed to Western Australia's Agricultural Supply Chain Improvement Program, jointly funded by the State and Commonwealth governments, which is currently funding rail and grain train loading infrastructure in the WA Wheatbelt (see page 28 this issue).

In examining Australia Bureau of Statistics figures *Railway Digest* noted that the highly centralised distribution of population (and therefore voters) in Adelaide may also be a factor in the complete political neglect of the former regional rail network. Latest SA figures indicate that the state's population is 1,781,516 while Adelaide's population is 1,356,000 leaving just 425,516 persons living in regional SA. An examination of state electorate distribution by *Railway Digest* revealed that of the 47 electorates in the SA House of Assembly just 11 were located outside the Adelaide metropolitan area.

By mid-March there had been no public comment from the SA Labor government regarding the possibility of it contributing to funding alongside the Federal Government for track rehabilitation. The state electorate of Flinders, which covers the Eyre Peninsula, is currently held by the Liberal Party. Aurizon says there is a "long way to go" with the funding application. The rail industry will be watching this development with great interest.

John Hoyle

Watco's management team and more locomotives for Queensland operations

The new CEO of Watco's Australian operation is Gavin Bignell. Mr Bignell joined Fremantle Ports as operations manager in March 2020 and had previously held senior management positions for over seven years with WA grain marketer CBH before becoming Watco Australia CEO late last year. Based at the company's Australian head office at West Perth, Mr Bignell will lead Watco Australia's 400 employees. Mr Bignell said one of the expansion opportunities for Watco was its Queensland cattle haulage business which the company commenced in 2021. He said there were plans to add 65 wagons to the existing fleet during this year and recruit 30 train drivers. (The existing Queensland cattle service is operated under contract with the Queensland Government) Mr Bignell said Watco had hauled 600,000 tonnes of grain (in Queensland) in 2022 and the company hoped to increase that to 800,000 tonnes.

Apart from Mr Bignell the Australian leadership team comprises Vice Presidents David Rankine (Western Australia/New South Wales), Maria Zappala (Queensland), Adam Lebihan (Intermodal), Cameron Swaine (Maintenance and Rolling Stock), Ken Hammat (Corporate Services and Chief Financial Officer) and Paul Hammersley (Customer Service, Marketing and Development).

In other Watco news the Queensland locomotive fleet is continuing to grow from the original fleet of eight new WRA Class locomotives from NREC in the USA that entered service in 2020. The fleet now comprises 24 units through the purchase of former Queensland Rail/Aurizon Clyde/EMD locomotives that had been exported to South Africa. These locomotives are reported to now comprise (or soon to join Watco) the following: four 2250 class (Nos. 2251, 2252, 2257 and 2266); nine 2170 class (2174, 2177, 2180, 2181, 2183, 2184, 2188, 2202 and 2206) and three 1720 class (1762, 1723 and 1766) although 1723 was purchased directly from Queensland Rail and had not been to South Africa. In early March 2252 was yet to arrive at the Port of Brisbane.

Unconfirmed reports suggest Manildra moving its grain rail business to SSR

As this issue went to press unconfirmed reports suggest that the Manildra Group is planning to move its rail business from Pacific National to Southern Shorthaul Railroad, with Manildra providing its own locomotives and rolling stock.

Manildra's rail activities are based in NSW and involve transport of grain from its country storage sites to its Bomaderry wheat starch and gluten plant, transport of grain to its mill in the NSW central west town of Manildra and flour from that mill to the Bomaderry plant plus movement of export containers from Bomaderry to Port Botany (Sydney).

Contact by *Railway Digest* with Manildra at deadline did not elicit any confirmation of this contractual change.

Freight on Rail Group opposes proposed emissions safeguard mechanism changes.

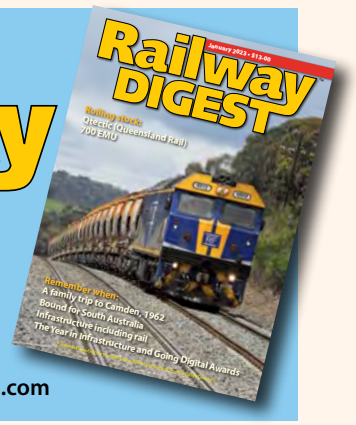
The federal government's proposed changes to the emissions safeguard mechanism could have the perverse effect of pushing more trucks onto roads and driving up carbon emissions in the transport sector, according to the Freight on Rail Group (FORG). Spokesperson for the Group, Aurizon Managing Director Andrew Harding, told *The Australian* the Federal Government's proposed toughening of the safeguard mechanism would apply to major rail haulers such as Aurizon and Pacific National but, because it is only applied to major carbon emitting companies, it would not apply to the legions of small trucking companies – potentially pushing up rail freight costs and leading to more freight haulage on the roads, rather than rail.

A September 2022 submission to the Federal Government by FORG – of which Aurizon is a member – noted the safeguard mechanism captured 65 per cent of rail transport's scope 1 emissions, and only 2 per cent of freight carried by road. However, the proposed revisions to the policy reset existing emission baseline values and introduce a 4.9 per cent decline rate each year to 2030 to encourage big polluters to invest to reduce their operating carbon emissions – or buy offsetting carbon credits where they cannot. FORG argued there is a lack of reliable alternative technologies to diesel freight trains and electrification of freight lines would require heavy investment in infrastructure that is usually managed by organisations that are outside the control of freight operators.

The FORG submission said that to reduce transport sector emissions the government should instead encourage the shift of freight haulage to lower carbon intensity rail rather than penalise rail haulers – which have emissions on average 16 times lower than road for the same tonnage of freight moved. However, Mr Harding said the draft of the safeguard mechanism rules released in January reflected none of the rail industry's recommendations. He said as it currently stood it was bad policy and, if implemented in its proposed form, will economically encourage people to shift freight from rail to road.

Mr Harding told *The Australian* Aurizon was not arguing that it or any other rail freight operator should be exempted from meeting carbon reduction targets, but rail already released significantly lower emissions per tonne of freight moved than trucking. He said he was concerned that the "structural flaw" in the safeguard mechanism would drive more freight away from rail and inevitably cause an increase in the transport sector's overall emissions. Mr Harding said that would be a ridiculous and perverse outcome considering it was a policy being promoted on the back of getting greenhouse emissions down – but in the transport sector it would actually drive emissions up per tonne of freight moved. In mid-February Aurizon was preparing a new submission to the Federal Government's consultation on the proposed new rules, which was to close on 24 February.

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Recruitment process underway for High Speed Rail Authority board members

Recruitment is underway for board members for the new High Speed Rail Authority (HSRA). The High Speed Rail Authority Bill was passed on Thursday 24 November 2022 to guide the delivery of a high speed rail network in Australia (see January 2023 *RD*, page 5).

On Friday 24 February Federal Minister for Infrastructure, Transport, Regional Development and Local Government, Catherine King announced the opening of a merit-based process to select five Board members, one chair and four part-time members. The process will ensure the Board is comprised of people who have the appropriate skills, qualifications, knowledge and experience to best bring high speed rail to reality.

Experts from the rail and infrastructure sectors, as well as planning and financing have been encouraged to apply.

The HSRA will be an independent body tasked with advising on, planning, developing and overseeing the construction and operation of a transformational network along Australia's eastern seaboard.

A high-speed rail network will allow passengers to travel between major cities and regional cities at speeds exceeding 250 kilometres per hour.

The merit-based process will identify suitable candidates for appointment by the Minister, with applicants assessed by an Australian Government selection panel against specific criteria.

Applications closed on Sunday 12 March but as the positions are statutory appointments made by the Government finalisation of appointments may take an extended period. Once the section process is complete the HSRA board will meet at least four times each year.

"The High Speed Rail Network will not only revolutionise travel along the east coast, but has the potential to touch the lives of all Australians as the project continues to advance," Minister King said.

"The roles we are recruiting for will play a pivotal role in the future of high-speed rail in Australia.

"I am confident we will assemble a Board that can deliver on the Government's vision for this transformational project. I look forward to working with the successful candidates".

Gamuda to acquire Downer transport projects arm

Gamuda Australia (the Australian subsidiary of Malaysian engineering group Gamuda) has entered a binding agreement to acquire Downer EDI's Australian Transport Projects division from Downer EDI Limited.

The $212 million (enterprise value) transaction will transfer DTP's business, people and capabilities to Gamuda. This includes around 1,000 staff and a forecast work in hand of approximately $2 billion across Australia.

The newly acquired business will operate standalone within the Gamuda group of companies, trading as DT Infrastructure Pty Ltd (DTI).

Gamuda Australia secured three major NSW project wins in 2022 with revenue of more than $3.3 billion including the Sydney Metro West – Western Tunnelling Package, Coffs Harbour Bypass and M1 Raymond Terrace extension.

"This acquisition is a strategic move for Gamuda in line with its regional growth plan", said Group Managing Director Lin Yun Ling on Wednesday 22 February. "The group is targeting to achieve a sustainable $3 billion of annual revenue from the enlarged Australia business within the next three years. "We believe there are very substantial growth opportunities in Australia, and this move enables us to expand not only the volume of projects we do but also the different aspects of transport infrastructure work we will be undertaking — from large tunnelling jobs to medium-sized projects, rail, track construction and maintenance, line electrification, delivery of depots and stabling yards, and construction of railway stations".

The Chief Executive Officer of Downer, Grant Fenn, said the sale of the Australian Transport Projects business is part of Downer's ongoing focus on enhancing the alignment of its portfolio and Downer's commitment to realise value for shareholders. "The divestment of Australian Transport Projects is a demonstration of the quality and value of the assets that have been developed within Downer," Mr Fenn said.

Disclosures of the binding agreement have been made to the ASX and Bursa Malaysia. Completion of the sale will be subject to Foreign Investment Review Board approval and is expected to occur before 30 June 2023.

Former senior rail manager slams Sydney's "metro mania"

Former RailCorp senior manager Dick Day has launched an attack in the *Sydney Morning Herald* on what he calls "metro mania" in Sydney. In a paper prepared for Sydney University and co-authored by his son Christopher, Dr Day argued that the NSW government was rushing to commit to huge rail projects in Sydney for which there was "little rationale".

He said the $11 billion to be spent on the 23-kilometre metro linking St Marys with the Western Sydney Airport was a gross misuse of public funds because it would see "quite limited use". Dr Day said he expects people will travel primarily by car to the airport after it opens in 2026 and that an express bus network would initially provide the best form of public transport access. He said Infrastructure Australia had warned two years ago that the cost of the airport line would far outweigh the benefits.

He was also critical of the $27 billion Metro West line linking Westmead and Parramatta to Sydney's CBD saying that most passengers travelling towards central Sydney from the outer west by rail will have boarded double-decker trains at stations west of Parramatta and will not change there to Metro West because it would have only one main CBD station (Hunter Street). In comparison he said existing western line trains serve three CBD stations.

Dr Day argued it was reckless to keep committing vast sums of money to extra metro lines because of the "very real possibility " that peak hour commuting by train will never return to pre-pandemic levels. He warned that plans to link the "orphaned line" between the new airport and St Marys to the Metro North West line at Tallawong cemented Sydney's position as a city that built "high-capacity metro lines in peripheral areas of low demand". He said the cost of building three new metro lines as well as the original Metro North West line (Chatswood to Tallawong) is now estimated at $63 billion.

Dr Day said Sydney was out of step with London, Melbourne and Brisbane where existing rail networks were being expanded with new rail tunnels to accommodate existing train services at improved frequencies and offer relief for the existing network.

Responding to the criticism Sydney Metro said that investment in major transport infrastructure was designed to respond not only to current circumstances but to ensure growing areas had access to fast and reliable transit networks in the future. The agency said the new airport was designed to support the growth of a city planned for Sydney's west while the Metro West would double rail capacity between greater Parramatta and the CBD and provide travel times between the two centres of around 20 minutes.

Pacific National comments on Scotts collapse and Aurizon/TGE announcement

In response to the well-publicised collapse of national transport provider Scotts Refrigerated Logistics, Pacific National (PN) issued a media release on 7 March indicating that PN has "stepped into the breach" to help maintain transport of refrigerated goods. PN CEO Paul Scurrah said the loss of such a big player in the cold storage supply chain had sadly impacted thousands of skilled frontline freight workers who are the unsung heroes in ensuring essential refrigerated goods are delivered daily to Australian households.

"Essential frontline freight workers from Scotts who toiled day and night during the pandemic to help keep supply chains open and flowing under the most challenging conditions in a generation don't deserve the current state of confusion and uncertainty," he said.

Mr Scurrah said to help mitigate current disruptions and maintain the future integrity of the national cold storage supply chain, Pacific National was working closely with a range of customers in the sector to keep refrigerated freight flowing. "During the coronavirus pandemic and associated border lockdowns, rail proved itself to be the safest, most efficient, and environmentally friendly way of transporting large volumes of containerised freight across the length and breadth of the nation."

The PN CEO said Pacific National has more than 180 main line locomotives and 2,000 wagons dedicated to its nationwide containerised freight business, including the largest footprint of intermodal and import-export terminals in major capital cities and regional centres. "Our rail terminals are unrivalled in terms of both strategic locations and capacity, allowing Pacific National to service its 300-plus freight customers at sites in close proximity to processing plants, supermarket distribution centres, and warehouses in major cities and regional centres," he said.

He said collectively, Pacific National's national network of interstate and regional intermodal and IMEX terminals can consolidate and tranship about 1.1 million containers (TEUs) each year, notably at major facilities in Sydney (including St Marys Freight Hub, Western Sydney), Parkes, Junee, Taree, Melbourne, Brisbane, Townsville, Rockhampton, Adelaide, Port Augusta, Whyalla, and Perth. Of this total TEU volume, Pacific National currently hauls more than 150,000 refrigerated containers each year for a range of logistics partners, notably Linfox and Lindsay Transport.

Just two weeks before the Scott's collapse was announced PN issued a media release to address what is said were "some misconceptions" relating to the announcement that Aurizon and Team Global Express (TGE) were entering the interstate intermodal rail market (see page 4 this issue), especially with regard to rail capacity in the intermodal market. Mr Scurrah said that despite the Aurizon/TGE announcement PN would continue to grow in the containerised freight market, holding a strong position in both interstate and regional intermodal operations and services.

Furthermore, he said PN's essential frontline train crews, terminal operators and maintenance staff were "unmatched in terms of both expertise and experience". Mr Scurrah said this depth of capacity and experience was on show for all to see during the coronavirus pandemic – Pacific National "hardly missed a beat." He said these unique attributes also came to the fore during major network disruptions in 2022 and earlier this year due to inclement weather and associated widespread flooding.

The PN CEO said that as part of the company's staged transition to balance what has been in the past a heavy reliance on coal earnings, the company has and is making significant investments in the containerised (intermodal) business including $330 million purchase of 50 new UGL-built locally designed and manufactured environmentally friendly freight locomotives. Due to be delivered in 2024, these new 94 Class locomotives would add greater capacity to interstate intermodal operations, including on the future Melbourne-Brisbane Inland Rail. PN says these new locomotives will help enhance the Environmental, Social and Governance (ESG) credentials of Pacific National customers.

Mr Scurrah said it was also spending $160 million to overhaul Pacific National's NR Class locomotives plus purchase of 110 new tandem well wagons (RRUY class) to further lift service capacity. Other expenditure items include the $200 million acquisition of Acacia Ridge Terminal (Brisbane), plus further investments to optimise existing operations at the terminal, $40 million to construct and optimise the first phase of the Parkes Logistics Terminal and $5 million to upgrade locomotive provisioning facilities at Sydney Freight Terminal (Chullora), one of the busiest containerised terminals by volume on the eastern seaboard. In addition, he said detailed planning was underway in relation to proposed future intermodal terminals at Little River (Victoria) and Wellcamp (Toowoomba), the latter in partnership with the Wagner Corporation.

PN says these investments have allowed the company in the past year to add 12 percent more capacity (or seven additional weekly interstate services) to its interstate intermodal business. Additionally, Pacific National says it has committed to an investment program to increase capacity for intermodal customers by an extra five percent annually in the foreseeable future.

ARTC powers ahead with solar signalling system and improved signal hut passive cooling on Inland Rail

The Australian Rail Track Corporation (ARTC) is looking to increase the use of environmentally friendly solar powered signalling systems to provide electricity when Inland Rail becomes operational. Following a successful trial of a solar powered signalling system at Coolleearlee, NSW (between Camurra and Milguy on the Moree – North Star section) , ARTC has approved its use at the remaining 82 signalling sites across the Inland Rail program between Albury in NSW and Gowrie in QLD. The solar systems will eliminate the need to use the local power infrastructure or to acquire easements to transmit power to the proposed rail corridor thereby eliminating impacting adjacent landholders.

At Coolleearlee the solar system is designed with battery back-up that provides for ten days of back-up operation and delivers a system which runs 24-hours a day, 365 days a year, powering the signals and points. The ARTC says using solar power saved around $300,000 in construction costs, mostly savings from not building a new transmission line to connect to the electricity network and a reduction in trackside infrastructure associated with mains equipment, plus over $10,000 per year in operational electricity cost savings.

In another initiative to reduce costs and increase sustainability the ARTC is looking to expand the use of passive cooling for its Inland Railway signalling huts. The huts will have improved building design alterations, including better shade roofs and improved screening to reduce the huts' walls to direct exposure to the sun. The ARTC says that historically signalling huts have been cooled by air-conditioning, a method which is often costly, highly electricity-resource dependant and incurs continued maintenance costs and alterations due to exposure to Australia's harsh climatic elements.

Rebecca Pickering, Interim Chief Executive Inland Rail, said the hut design was trialled at Murgo Loop, between Camurra and North Star, and compared to air-conditioning, the use of passive cooling resulted in a 26 per cent reduction in energy consumption in a 24-hour period. Ms Pickering said, "Adopting the passive cooling system not only reduced energy consumption but was also able to maintain the integrity of the signalling system under heat conditions – improving performance compared to traditional air-conditioning methods."

Rail industry

XPT power-car XP2018 from Wallan derailment returns to service as XP2019

XPT power-car XP2018, involved in the fatal derailment at Wallan in north east Victoria on 20 February 2020, returned to service as XP2019 on 24 February 2023 following rebuilding at UGL's Unipart plant at Auburn, Sydney. The rebuilt power-car, leading five XPT trailers and XP2009, worked a trial trip to Campbelltown on 10 February followed by a longer run to Goulburn via East Hills and return on 16 February. Final commissioning work on the rebuilt vehicle is understood to have been carried out at the Meeks Road XPT maintenance centre at Sydenham. Following the practice involving NR Class locomotives 121 (formerly NR3) and 122 (ex-NR80), XP2018 was renumbered out of respect for the two people killed in the derailment. Since re-entering service, XP2019 has been rostered on to the WT27/WT28 daily return Sydney – Dubbo XPT service.

In other XPT news, work continues on conversion of two XF economy class sitting cars to an XAM sleeping car and a XBR first class sitting/buffet car at UGL Unipart. It is understood this work, which comes as the XPT fleet enters its final period in service, has been prompted by the delivery delays to the XPT-replacement CAF bi-mode fleet.

Major Sydney Metro West contracts awarded

More than 60 lifts, 140 escalators, 1,300 CCTV cameras and a range of station systems equipment have been ordered for Sydney Metro West as part of two framework contracts.

The Systems Frameworks package, which comprises two contracts, ensures consistency of products and systems along the Sydney Metro West alignment.

As part of the first contract, Schindler will design, supply, install and maintain about 60 lifts and 140 escalators for the nine new Sydney Metro West stations between the CBD and Westmead.

The second contract, awarded to Honeywell, includes the design, supply, installation and maintenance of other systems including:

- Public Address Systems with about 8000 speakers to keep customers informed,
- Closed Circuit Television Systems (CCTV System), with about 1300 cameras across the alignment,
- Passenger Information Display Systems providing about 120 display boards with up-to-date trip information,
- Fire Detection Systems to ensure safety across the alignment,
- Building Management Control Systems to supervise operation of the Sydney Metro West stations; and
- Electronic Access Control Systems to manage staff security access to operational areas of the stations.

Sydney Metro West is a new 24-kilometre metro line with stations confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD. It is planned to open in 2030.

Railway people

New ARTC Board appointments

In a 13 February announcement Peter Duncan has been appointed as the new Chair and Dr Collette Burke made a non-executive director of the Australian Rail Track Corporation (ARTC) Board. Both appointments are three-year terms. Mr Duncan replaces Warren Truss, who stepped down as Chair in November 2022. He has more than 40 years' experience in government and infrastructure, working at local, state and national levels. He is the current Chair of WaterNSW, Deputy Chair and Commissioner of the NSW Independent Planning Commission and a Board Member of the Office of Projects Victoria. He is a former chief executive of NSW Roads and Maritime Services, director-general of the NSW Department of Services Technology and Administration and managing director of Forests NSW. Dr Burke is an engineer with more than 25 years' experience in the infrastructure construction sector. She was the inaugural Victorian Chief Engineer and had previously held various senior roles with Leighton Contractors and management positions with Thiess John Holland.





Peter Duncan and Dr Collette Burke

Victoria's Big Build boss departs after eight years

After eight years leading Victoria's Big Build, Director General of the Major Transport Infrastructure Authority Corey Hannett has informed the Victorian Government of his decision to seek a new career challenge.

Since the election of the Andrews Labor Government in 2014, Mr Hannett has overseen an unprecedented construction blitz across the state.

Mr Hannett has led the Big Build as it grew from the removal of 50 level crossings to now 110 by 2030, the construction of the Metro Tunnel and a $100 billion pipeline of transport projects across Victoria, employing more than 50,000 workers.

Mr Hannett will be replaced by Kevin Devlin, currently CEO of the Level Crossing Removal Project.

Mr Devlin has worked alongside Mr Hannett on the delivery of Victoria's Big Build over the past eight years and is uniquely placed to ensure the ongoing success of the program.

Mr Devlin took over the role as Director General following Mr Hannett's departure in late March, allowing time for a seamless transition and the opportunity to move quickly to fill his role at the Level Crossing Removal project.

Victorian Premier Daniel Andrews was quick to praise Mr Hannett's achievements; "Corey's passion for the sustainability of the construction sector, and the safety of workers on the ground, have been hallmarks of his leadership and I thank him and wish him, and his family well for the future".



Corey Hannett

VicTrack CEO exits organisation after extended unexplained leave

The chief executive of VicTrack, Campbell Rose, has left the government rail agency after 12 months of unexplained "extended leave".

(VicTrack is a Victorian Government state-owned enterprise which owns the state's rail and tram lines, associated rail lands and other rail-related infrastructure.)

Mr Rose went on leave in early 2022 but stayed on as chief executive amid the failure of a bridge monitoring venture, Eloque. The joint venture to remotely monitor bridges for cracks and other structural deficiencies was struck between VicTrack and Xerox's Palo Alto Research Centre (PARC) with the aim of commercialising the technology internationally (see July 2021 *RD*, page 5).

However, the joint venture was scrapped in mid-2022, just 16 months after it was set up. The Victorian government had spent $16 million of a $50 million budget earmarked for the joint venture before it collapsed.

The departure of Mr Rose was announced in early February in an email sent to staff by VicTrack chair Geraldine Gray. A copy of the email was seen by *The Age* newspaper and quoted in an article on Wednesday 8 February.

"As many of you will be aware, chief executive Campbell Rose has been on leave since late February 2022, I can now advise you that Mr Rose's employment at VicTrack has been concluded", Ms Gray said in the email. "I acknowledge that this has been a challenging period for VicTrack and on behalf of the board I would like to thank the entire VicTrack team for your hard work and professionalism in continuing to support the operation of the transport system".

Ms Gray said deputy chief executive Chris Olds would continue as acting chief executive for "the forseeable future".

An investigation by the Victorian Auditor General's Office is considering whether bias influenced the state government's investment in Eloque. The probe came after *The Age* revealed in October 2022 that Victoria paid almost $10 million to install Eloque sensors on state bridges, despite the devices not working as expected.

A VicTrack spokeswoman refused to reveal why Rose stepped down as chief executive. "The matter remains confidential between VicTrack and Mr Rose", she said.

Mr Rose also refused to comment on the reason for his departure



Campbell Rose

Australian Capital Territory News

New ticketing system for Transport Canberra

"Following an extensive market sounding and procurement process, NEC Australia has been appointed to deliver MyWay+, a new and improved public transport ticketing system for Canberra," said ACT Minister for Transport Chris Steel on Monday 27 February.

NEC will deliver the system from its Canberra-based facilities and use a local ACT team to operate and maintain the system throughout the life of the contract. This will include undertaking a design and development process over the next 12 months to ensure the new system is specifically customised for the Canberra market.

Major changes to the ACT public transport experience includes a simpler payment process. Customers will be able to tap on and tap off public transport using debit and credit cards and devices, such as mobile phone or smart watch. In addition, customers will also be able to use a traditional travel card or paper ticket.

The improved system will also provide a new real time passenger information system and journey planner. Customers will be able to plan their journey, track the arrival of their next service, and pay for their travel, all from a web portal or mobile app.

Once established, the new mobile application will be available to download from Google Play and the Apple Store.

There are three core elements to MyWay+:

Real Time Passenger Information

- Customer personalised public transport related messages and alerts.
- Provides real time information to passengers to help them plan their journey.
- Information available on each vehicle's current occupancy level.

Journey Planning

- Ability to plan journey via various transport modes including bus, light rail, walking, e-scooter and rideshare/taxi.
- Provision of accessibility-related information covering stops, stations, paths and walkways.
- Ability to customise journeys based on preferences or priorities.

Ticketing

- Increased choice for customers including provisions to tap on and tap off with a debit and credit card for ease of fare payment.
- Ability to set up a personalised, secure account.
- Cheapest fare calculated when using any of the supported fare methods (credit card, debit card, travel card) including ability to register any relevant concessions.

ACT residents have been encouraged to sign up to Transport Canberra's weekly e-newsletter and connect on social media to stay in touch as the transition to MyWay+ progresses.

ACT Greens reaffirm support for Canberra light rail for everyone

The ACT Greens have reaffirmed its support for light rail expansion as part of a sustainable, accessible city for all Canberrans.

"The ACT Greens have always had a vision for a sustainable, well-connected city, where people – regardless of which side of the city they live – can get where they want to go comfortably, easily, and sustainably" said ACT Greens Leader, Shane Rattenbury. "Of bustling transit corridors where people can choose to walk, ride or catch the light rail to get to where they want to go. A city that is taking action on climate change by actively reducing transport emissions and reducing urban sprawl".

Mr Rattenbury said that this vision was shared by the majority of Canberrans "because they have voted for it in the last four elections".

He continued, saying that "the Canberra Liberals have slammed the door on light rail once again" (see February 2023 *RD*, page 13). "Not only are they out of touch, they're out of ideas".

"An integrated Canberra-wide light rail network, along with frequent zero-emissions buses, is the gold standard public transport network that Canberra needs and deserves", said ACT Greens MLA, Jo Clay.

"With over 60 per cent of tracked emissions coming from transport, this is an essential project to address our climate crisis. It is also essential to deal with Canberra's congestion, which is growing at a rate three times faster than any other mainland Australian city".

Fixing Country Rail program to provide sidings for Australian Grainlink at Wumbulgal

New South Wales Minister for Regional Transport and Roads Sam Farraway announced on 23 February 2023 that under the Fixing Country Rail program $19 million will go towards construction of two rail sidings at Wumbulgal, between Leeton and Griffith, to help lower freight costs for local farmers and primary producers. The sidings will be provided at Australia Grainlink's terminal which is currently served by main line loading of container wagons. The wagons are detached from Pacific National's Melbourne – Griffith service (MC2/CM3) at Linx Cargo Care's Griffith terminal, hauled 29 kilometres back to Murrami where the locomotives run round and haul the train 9.8 kilometres back to Wumbulgal for loading before returning 19.2 kilometres to Griffith for attachment to the Melbourne-bound train. This costly and time-consuming arrangement means the wagons destined for Australian Grainlink pass Wumbulgal four times in this process.

Mr Farraway said rail sidings, like the ones that will be installed at Wumbulgal, allow freight trains to load and unload freight while simultaneously enabling other passenger and freight trains on the same line to pass. Construction work for the rail siding is expected to start this year, weather permitting.

Australian Grainlink Managing Director Dean Salvestro said the project will improve processes at their Wumbulgal site. "Currently, it can take up to 8 hours during mainline loading of bulk and container trains several days per week. The new siding will improve capacity and allow loading activities to proceed without impacting other services on the Junee to Griffith Line," Mr Salvestro said.

LINX Cargo Care General Manager Wayne Alpen also welcomed news of project delivery funding. "This project is a very positive step for regional freight operators, we're pleased to see it progress through to delivery and provide tangible benefits for the movement of freight throughout south-western NSW," Mr Alpen said.

Under the NSW Coalition government's Fixing Country Rail program, twenty-seven projects have been completed, including the 13-kilometre upgrade of the South Coast Line between Berry and Bomaderry and the 174-kilometre rail upgrade from Junee to Griffith. Currently the crossing loop at Coolamon on the Junee – Griffith line is being extended under the program.

Secret report reveals $1 billion-plus cost blowout in bungled NSW trains project

The cost of the NSW government's new fleet of Spanish-built passenger trains is set to blow out by more than $1 billion – doubling the bill for taxpayers – because the state's transport bureaucracy botched the handling of the project, which is running three years late, according to a major exposé in the *Sydney Morning Herald* on Monday 6 February.

In a highly confidential report Infrastructure NSW, the government's independent adviser, is scathing of Transport for NSW for inadequate planning, weak oversight and failing to heed warnings which have led to the Regional Rail project suffering a "significant cost and schedule blowout".

"Poor scoping, cost overruns, schedule delays and unmitigated risks are key features of this project," the report says. "It is expected that the costs to complete will easily exceed the existing budget by more than $1 billion".

Creating a major headache for the government weeks out from the state election, a blowout in the cost of the 29 trains and infrastructure upgrades to almost $2.5 billion will double the bill, which had been estimated in last year's budget at $1.26 billion.

The NSW Regional Rail project will see ten long regional and nine short regional trains replace the ageing XPT and *Xplorer* fleets, and ten regional intercity trains replacing most of the current *Endeavour* fleet. In addition, the NSW Government is constructing the purpose-built Mindyarra maintenance facility in Dubbo, that will service the new diesel multiple unit train fleet.

The first of the new trains were meant to start running on key intrastate lines and between Sydney, Canberra, Melbourne, and Brisbane in January. However, internal forecasts show it could be as late as December 2025 before they enter service.

"There is no way that the project can recoup the lost schedule or be delivered within budget," the Infrastructure NSW report warns.

A $1 billion-plus blowout will increase the cost of the entire project, which includes a 15-year contract to maintain the trains, to nearly $4 billion.

The latest estimate is higher than a confidential figure in August by Transport for NSW, which warned of an $827 million funding gap.

Transport for NSW has been embroiled in a dispute with a consortium led by Spanish manufacturer CAF, which is building the fleet, for the last



Trainlink *Hunter* DMU set HM 2705+HMT 2755, forming the 1137 Telarah to Newcastle Interchange service, arrives at Maitland through very heavy rain fall on Wednesday 22 February. This was the last passenger train to leave Maitland but it is thought that it was held at a station along the way when the Australian Rail Track Corporation cancelled all train movements in the lower Hunter from around 1200 until around 1500, when following extensive roster rewriting by Trainlink, services resumed.
John Beckhaus



Aurizon grain train 9349 approaches the top bridge at Cullerin, on the Main South, behind 6001, ADC6046 and 6002 on Friday 17 February. Dennis Forbes

18 months over "contentious design changes" sought by the agency to the trains.

Some within Transport for NSW believed the wrong train had been selected, and the agency later sought to alter the "off-the-shelf" design.

Described as a "deep dive", the Infrastructure NSW review obtained by the *Herald* found the bungled project's genesis lies in the agency's inability to adequately scope the fleet before going to tender and awarding the contract.

The report, which is marked cabinet "sensitive", found a major rejig of Transport for NSW in the project's early days led to "changing accountabilities, altered reporting relationships and significant turnover in staff".

"Senior executive supervision (with those occupying these senior positions having now left Transport for NSW) was technically and commercially inadequate," it says.

The report – completed in late 2022 – concludes that a lack of understanding of the high cost of the design changes has "led to significant cost and schedule blowout" despite previous warnings from Infrastructure NSW.

"The time taken for the new train design work and the erosion of the relationship with the [public-private] partners has put significant additional pressure, time and cost risk on to the project," it states.

The dispute between the agency and the consortium has centred on the space between passenger seats, toilets, rubbish bins, crew seats, the audio entertainment system and the location of bicycle racks, as well as grills on the front of trains.

Infrastructure NSW says the design changes should have been identified earlier because "the longer the delay, the higher the cost" for a public-private contract.

Major delays to the project mean passengers will continue travelling on decades-old XPT, *Xplorer* and *Endeavour* trains much longer than planned. The age of these trains pose risks to the reliability of services and increases maintenance costs.

Regional Transport Minister Sam Farraway said the project had suffered setbacks from the pandemic and negotiations over the final design of the trains. However, he argued the figures in the Infrastructure NSW report "are no longer current", saying he was confident negotiations would deliver an "outcome significantly better than the scenario presented".

The confidential report also warns that the risk of the Rail Tram and Bus Union objecting to the final design of the new trains "remains real", and that extra modifications could result in "additional cost and time delays".

A protracted dispute last year between the union and the government over the Korean-built *Mariyung* fleet of intercity trains crippled the rail network.

"There is a real likelihood of industrial action against the regional rail trains," the report states.

Infrastructure NSW has listed among "critical recommendations" the need for a "deep dive review" of any proposed settlement with the consortium before it is agreed. Transport for NSW will need approval from cabinet to sign a settlement and "re-baseline the project".

WANTED

NSWGR CAST IRON SIGNS

LEVEL CROSSING SIGNS – SIGNAL BOX NAMEBOARDS – RAIL CORRIDOR SIGNS

ALSO

LEVER PLATES / SIGNAL BOX DIAGRAM BOARDS (ILLUMINATED OR LINE DRAWING)

SIGNAL BOX DATE PLATE INSCRIBED AS FOLLOWS

NSWR SIGNAL BOX BROUGHT INTO USE 1937

CONTACT ANDREW 0411 445 940 or SYD_444@HOTMAIL.COM



Above: On Thursday 5 January, V33 forming W060 Lithgow to Katoomba shuttle passes the 126km post between Mount Victoria and Blackheath on a chilly 8° summer day. At the time, the line was unavailable to intercity services between Katoomba and Springwood. Wayne Eade
Below: Qube QBX units 002, 005 and 006 lead No. 1311 freight through Bundanoon on its way to the Riverina Intermodal Freight Terminal at Bomen on Wednesday 25 January. Ken Date



Around Sydney

Bridge construction a major milestone for Botany Rail Duplication

In an ultimate knockdown-rebuild for the Botany Rail Duplication project, the Australian Rail Track Corporation (ARTC) has dismantled an existing steel single-track rail bridge and constructed a new concrete double-track bridge in just five days, on Robey Street in Mascot.

The Australian Government is fully funding ARTC to deliver the $400 million project, which will deliver better access to global export markets via Port Botany, improve freight supply chains across New South Wales and help reduce the number of trucks on local roads.

The rail line is located in a constrained and high-traffic area, over a major road and situated next to Sydney Domestic Airport, making the challenging works a major achievement.

Ultra-High Performance Concrete (UHPC) was utilised to ensure works were completed efficiently and safely. UHPC is extremely durable with a fast curing time.

Completed in early-February the bridge works included moving and installing two 36.5-metre-long main bridge girders over Robey Street, weighing 330 tonnes each, during a five-day track closure.

Twenty-four planks were also installed to form the bridge deck using a 600-tonne crawler crane and a 650-tonne mobile crane working simultaneously.

The project will duplicate the remaining 2.9 kilometre section of single line track to Port Botany, and construct a passing loop on the Southern Sydney Freight Line at Cabramatta to accommodate freight trains up to 1,300 metres in length.

For more information about the project, please visit the Botany Rail Duplication website at: https://proj.artc.com.au/botany-duplication/

Sydney Trains Rides with Pride

Text and images by Chris Walters

To promote the 'Sydney WorldPride 2023' event, Sydney Trains decorated cars from Tangara sets T29 and T81 and Waratah sets B13 and B39 to take the 'Ride with Pride' message into Sydney's suburbs during mid-February. WorldPride is an annual LGBTQIA+ festival that made its debut in 2000, and is staged in a different city each year. This year's event was the first to be held in a Southern Hemisphere location and hosted concerts, displays, human rights conferences and of course the city's renowned Mardi Gras parade on 25 February. Coupled four-car sets T29 and T81 went into service during the morning peak on Monday 20 February working run 603 on the T4 Eastern Suburbs and Illawarra line before returning to Mortdale Maintenance Centre at around 10:00am. The train returned to service that afternoon working run 601 serving the same route.

Within days it was joined by set B39, with its two driver-trailer cars, D1139 and D1239, treated with a similar look, while set B13 with driver-trailer cars D1113 and D1213 also 'decaled up', quickly followed. While it was anticipated that T29/T81 would largely stick to the T4 Eastern Suburbs and Illawarra Line (serving Bondi Junction – Cronulla/Waterfall), B13 and B39 were dedicated to T1 and T9 (Main North, North Shore and Western line) workings. B13 and B39 were both sighted working through the city and across the Harbour Bridge during the WorldPride March across the famous structure on Sunday 5 March.

With events stretching for two weeks from 17 February to 5 March, B13, B39 and T29/T81 operated wearing their spectacular new look through to the end of the festival.

Below Waratah set B39 arrives in Asquith with run 123L from Berowra to Sydney Central (via Gordon) on Saturday 25 February 2023. Unlike Tangara set T29/T81, where the treated cars are located mid-train (at least while the two four-car sets remained coupled as they are), B39's treated cars are D1139 and D1239, the terminal end driving cars. The latter is seen here leading set B39. Set B13 was similarly adorned. **Bottom (left and right):** Operating as run 603D from Bondi Junction to Hurstville, Tangara set T81/T29 rolls non-stop through Arncliffe with cars N5154, D6154 (from T81) and D6158 and N5158 (T29) showing off their Ride with Pride colours. At this stage, the other four cars from both sets have not had the decals applied.









Above: Preliminary work has commenced on the Sydney Metro – Western Sydney Airport automated metro railway – a 23-kilometre line linking St Marys on the Western Line with the airport. In this Monday, 20 February 2023 view looking west an eight-car Tangara EMU has just departed St Marys for the City and Gordon, on Sydney's North Shore Line. The historic goods shed can be seen in the distance, to the left of the station. The station box and tunnelling contract was awarded to CPB and Ghella in December 2021, the contract for surface and civil alignment works was awarded to CPB and United Infrastructure in March 2022 and Parklife Metro, a consortium comprising Plenary Group, Webuild, RATP Dev and Siemens Mobility to provide stations, systems, trains, operations and maintenance for the line, was awarded that contract in December 2022. Expected to be completed in 2026 the line will use 25kVAC overhead traction power supply. John Hoyle

Below: Transdev 2125, a CAF *Urbos 3* tram, has arrived in Sydney from Spain and is seen during unloading in Hay Street in the early hours of Tuesday morning 28 February. This is the first of four extra trams ordered for the L1 Dulwich Hill line. Scott Mitchell



New St Marys footbridge

Laing O'Rourke has been awarded an $82.5 million contract to build a new footbridge at St Marys as part of the Sydney Metro – Western Sydney Airport project.

(St Marys is located on the NSW Main Western line 47.4 kilometres from Sydney Central station. The new St Marys metro station will be located under the existing Sydney Trains suburban rail station and have two entries, one on Station Street and one on Harris Street.)

The fully accessible concourse will enable commuters to seamlessly transfer between new metro platforms and suburban trains on the T1 Western Line. (See top photo, previous page, for general view of initial Metro works at St Marys station.)

It will also link to a new pedestrian plaza at the northern end of the footbridge and allow commuters to transfer from the newly expanded multi-storey carpark at Harris Street.

The addition of a new plaza and entry on the northern side of the existing rail corridor will provide quick and easy access to the existing station and generally improve connectivity in St Marys. This space will include green areas, kiss and ride, bicycle storage and the opportunity for future development.

Work on the footbridge is expected to commence in April 2023 and is expected to be completed by the end of 2025.

"New metro rail will be the transport spine for the Western Parkland City," said Federal Infrastructure, Transport, Regional Development and Local Government Minister Catherine King on Wednesday 22 February. "St Marys station will have an important role to play as a major transport gateway that will connect the Western Parkland City to the rest of Sydney.

The Sydney Metro – Western Sydney Airport project is jointly funded by the Australian and NSW governments at an estimated cost of $10.5 billion, with the Australian Government contributing $5.25 billion.

The Australian and NSW governments have a shared objective to have the Western Sydney Airport line operational when the airport opens for passenger services in late-2026.



Left: Sydney's Central station is undergoing a transformation in conjunction with the construction of the automated metro line from Chatswood to Bankstown, known as the Sydney Metro City and South West. The new railway will pass under the station and, in addition to its two new platforms, extensive additions and improvements are being made around the station. These include new canopies over platforms 12 to 14, escalator access to suburban platforms 16 to 23 for the first time and new underground access between platforms. A highlight of the alterations at Central is the new concourse on the eastern side of the station as shown in this Monday, 20 February 2023 view looking towards the suburban platforms which can be seen in the background. The metro is expected to open in 2024. John Hoyle



On a dull Thursday 19 January, Aurizon UGL/GE unit 6004 with three AGUY grain wagons in tow headed through Heathcote on its way down the coast to perform some trials for an upcoming Aurizon grain hauling contract. Evan Deacon

New sensors improve safety on the Toowoomba Range

Dozens of innovative new sensors have been installed across the Toowoomba Range to help detect land movement and provide valuable information to Queensland Rail engineers to help improve safety. (The Toowoomba Range is the single-track section of the Queensland Main line that climbs 470 metres up the Great Dividing Range from Helidon, passing through nine tunnels before cresting at Harlaxton from where it descends to the Toowoomba CBD.)

On Friday 17 February Acting Head of Queensland Rail Regional Scott Cornish said the devices, known as 'Kurloo' sensors, were designed and manufactured in Brisbane to help detect real-time risks to the rail corridor.

"We've been exploring how innovative technology can identify land movement on the Toowoomba Range, which is incredibly important in helping us minimise disruptions to passenger and freight services that use the West Moreton Line," Mr Cornish said.

"The 'Kurloo' systems were placed on one embankment during significant rainfall events last year and helped our engineers retrieve invaluable land movement data from areas they were unable to access".

Following the successful trial, 35 newly upgraded devices have been installed on nine embankments to monitor the impact heavy rainfall has on the mountainous territory and reduce unplanned closures of the West Moreton system, which provides an important link to the Port of Brisbane.

In addition to this technology, Queensland Rail is investing $37 million in the Toowoomba Slope Stabilisation Project to ensure the safety and reliability of the rail network (see November 2022 *RD*, page 7).

"By trialling new effective innovations, we can help support traditional activities and be better informed about risks in the environment and target investment accordingly, paving the way for more safe and reliable network operations," Mr Cornish said.

Kurloo can measure real-time displacement, giving daily readings with an accuracy within 3mm which helps inform Queensland Rail teams when inspections are required.

A video of the Kurloo displacement monitoring system in operation can be viewed at: https://vimeo.com/788888273/441dd85597

Mount Isa rail line Waterways Resilience project moves forward

The multi-million-dollar project to improve flood resilience on the Mount Isa rail line has reached a major milestone, with Queensland Rail awarding a $1.2 million contract for the detailed design phase.

On Friday 17 February Queensland Rail Acting Head of Regional Scott Cornish said Queensland-based company ARUP Pty Ltd had been appointed to complete the design of new rail bridges on the line with works underway.

The proposed works will increase the flow of water at critical locations and help ensure recovery processes are as efficient as possible when major weather events occur.

Design works would build on reality modelling recently completed on the Mount Isa rail line. To prepare for the design phase, Brisbane-based company, Rapid Capture was enlisted last year to complete reality modelling of the line, giving crews 3D digital access to site specific information, reducing the need for onsite visits.

The Mount Isa line Waterways Resilience project is part of a $50 million investment by the State Government to bolster safety and reliability on the line. The project will complement 21 existing weather monitoring stations that help monitor weather impacts remotely along the 1,000 kilometre line.



Queensland Rail usually sends the North Coast freighters via the Exhibition Loop line but Cross River Rail construction has temporarily closed that line forcing the diesel-hauled freight trains to run through the city tunnels and Roma Street Station. On Friday 3 March this train, 87P8 Cairns to Moolabin Yard intermodal freight, led by PN005, will be held for several minutes at Roma Street station while commuter trains pass before crossing over the suburban lines and travelling via South Brisbane Station to Pacific National's terminal at Moolabin. Neill Farmer



WRA 004 and WRA 002 lead a loaded Watco grain train under the wooden footbridge at Rosewood at 8.10am on Tuesday 7 March. The train is headed for the export grain terminal at Fisherman Islands, a further hour or so away. Mike Martin

Milestone for North Coast rail line freight improvement project

Works on the $77 million North Coast Line Capacity Improvement project optimising freight movement between Rockhampton and Townsville are forging ahead. When completed the project will extend eight passing loops between Rockhampton and Townsville. The extension works will allow the passing of freight services on what is otherwise single track. The loops being extended along the line are located at:

- Kunwarara – operational February 2023,
- Kooltandra – operational,
- St Lawrence – operational,
- Koumala – operational,
- Mount Ossa,
- Longford Creek – operational,
- Guthalungra– operational, and
- Gumlu – operational.

The extended loops mean freight trains up to 950 metres will be able to operate on the line, a 45 percent increase from the current maximum length of 650 metres.

Queensland Rail Head of Regional Jim Benstead said the works at Kunwarara involved track works and earthworks in the rail corridor, followed by signal testing on the upgraded equipment.

"The project is also delivering significant safety improvements, with the critical Automatic Train Protection System at the passing loops also being upgraded," Mr Benstead said.

Queensland-based Civil Mining & Construction (CMC) were enlisted to undertake the earthworks, design and construction elements, while Queensland Rail track and signalling teams undertake the tie-in, testing and commissioning works.

Crews will next get to work on the project's final loop extension at Mount Ossa, north-west of Mackay. Works at Mount Ossa are expected to be completed in April.



Southern Shorthaul Railroad's 44204 and 44206 arrive at Roma Street station on Wednesday 18 January 'top and tailing' ARTCs AK track testing cars. This arrangement was necessary due to the closure of Platform 2 and the locomotives not being able to run around the train. Clancy Davies



Above: Watco NREC/EMD units WRA006 and WRA002 load their grain train at Goondiwindi on Wednesday 21 December 2022. John Scott
Below: Proserpine sugar mill's EM Baldwin B-B DH number 9 is seen picking up some full 10-tonne cane bins from Mackay Corner on Sunday 8 January. The 2022 'crush' at Proserpine ran quite late, not coming to a close until Thursday morning 12 January. Luke Horniblow



Adelaide Metro customers warned over scam SMS

On Wednesday 8 February Adelaide Metro customers were warned to ignore an SMS message claiming to be from Adelaide Metro or Transport-GOV and fraudulently seeking their credit card details.

The message advised that the passenger's recent trip could not be processed, requesting they click on a link to pay now. Some messages warned that a $330 penalty would apply if the bill was not paid within three business days.

The South Australian Department of Infrastructure and Transport confirmed that the messages had been sent from an unknown third party and assured customers that Adelaide Metro's own accounts and databases had not been compromised.

Pedestrian hit near East Grange station, second such incident in two days

A pedestrian was struck by an Adelaide-bound train at a pedestrian crossing just west of the Port River near Terminus Street, Grange about 1.30pm on Wednesday 1 March. (The crossing is located about 300 metres west of East Grange station – approximately 12 kilometres from Adelaide on the Grange line.

The train comprised two 3000 class diesel railcars led by 3025.

The 74-year-old local woman suffered life-threatening injuries and was taken to the Royal Adelaide Hospital by ambulance in a critical condition. Unfortunately, she passed away two days later.

Train services in the area were interrupted while police examined the scene of the collision. The Grange line was reopened after being closed for about two hours.

One day earlier, just before 8.15am on Tuesday 28 February police and paramedics were called to Tambelin railway station (37.4 kilometres from Adelaide on the Gawler line) after an 11-year-old boy was struck by a city-bound 4000 class electric multiple unit train.

A witness told 7NEWS that the boy was crossing the tracks with his friends when the train hit him. "(They were) waiting for the boom gates to nearly get down and then running and this poor kid was the last one and the train hit him," witness Steph Grant told 7NEWS.

Another witness, Morgan Taylor, who was a passenger on the train, told the ABC that said she felt for the train driver. "These things are difficult and hopefully he's OK," she said.

The boy was treated at the scene by paramedics for over an hour before he was taken to the Women's and Children's Hospital with critical head injuries. He was later reported to be in a stable condition.

Passengers remained on the train until the site was cleared.

Services along the Gawler line between Elizabeth and Gawler were halted after the incident causing disruptions to the network throughout the morning. South Australian Education Minister Blair Boyer said CCTV at the station would be reviewed to see if safety could be improved.

Three pedestrians died after being hit by trains in Adelaide last year, including one on the Gawler line, which reopened in June after being closed for 18 months for electrification work.



It's late afternoon on Friday 17 February and Control has allowed Pacific National's 4PM6 to overtake SCT's 4PM9 at Mambray Creek. Eight multi-deck car carriers are near the front of the consist as NR 93 and a sister smokily bring the former train back up to track speed through the undulations en route to Port Germein and points south. Malcolm Holdsworth



Above: When the Adelaide to Gawler electrification project was commissioned on 12 June 2022, there were insufficient EMUs for Adelaide Metro to operate the full timetable, so DEMUs have continued to supplement services on this line until delivery of a further 12 three-car 4000 class EMUs from Alstom's Dandenong (Melbourne) plant is completed to join the existing EMU fleet of 22 three-car sets. This order is expected to be completed by the end of this year. In this Thursday, 16 February view the historic Gawler station building overlooks a three-car 3000/3100 class DEMU set departing for Adelaide while on the right 4000 class EMU set 4001 will form the following service to Adelaide. John Hoyle

Below: Opened in October 2018 (the same day as the Botanic Gardens line) the Festival Plaza tram line, extending along King William Road for 300 metres from North Terrace, is intended to serve the Adelaide Festival Centre and Adelaide Oval and consequently it is provided with a service only on weekends, public holidays and when special events are held at the Adelaide Oval. On Saturday, 18 February 2023 Bombardier *Flexity* car 115, the final delivery of that type to Adelaide, is ready to depart for Glenelg. A 20-minute frequency is provided between Festival Plaza and Glenelg. St Peter's Anglican cathedral, a prominent Adelaide landmark, can be seen in the background. John Hoyle





Above: Colebrook, in the Southern Midlands, is one of relatively few places on the Tasrail system still with an intact station building. St Patrick's church is a pretty structure, which sees three trains in daylight, six days a week. On Sunday 5 March, No.132 from the Boyer paper mill to Burnie, led by TR07 and TR14, is one such movement. Malcolm Holdsworth

Below: At the Brighton Hub on Thursday 16 February, TR12 and TR14 are at the head of a log train, while 2001, TR08 and TR11 sit outside the servicing shed. Peter Sansom



Waurn Ponds stabling works complete

Trains travelling on the Geelong line will soon have a new home to rest overnight, with major construction complete on the Waurn Ponds stabling facility, which will provide improved reliability for Geelong line services with additional trains able to stable overnight.

(Waurn Ponds is 84.9 kilometres from Southern Cross station. It is located on the Warrnambool line and is the terminus for V/Line's Geelong line services.)

Six stabling tracks have been built at the new yard, which will house VLocity trains overnight and provide storage capacity for the growing fleet of trains that will service the line following critical upgrades between South Geelong and Waurn Ponds.

The project team installed more than 1.65 kilometres of track, 2,700 sleepers, 25 kilometres of signalling cabling and combined services routes and a 4-kilometre pressure sewer system.

The stabling facility will be operational later this year following commissioning, with minor works continuing in the coming months including refuelling installation works, landscaping, line marking, CCTV installation and site clean-up.

Stabling at Waurn Ponds will support planned improvements for the Geelong Line. These include the South Geelong to Waurn Ponds Duplication, Geelong Fast Rail and the completed Waurn Ponds station upgrade (see March 2022 *RD*, page 24).

The Geelong Line is the fastest growing and busiest line on the Victorian regional rail network.

Qube's Ultima train now "as required", Maryvale paper train reduces frequency

Qube's twice weekly Ultima - Melbourne container train (Nos. 9171/9172) has been reduced to an "as required" service due to changes in customer requirements. The train transported hay and grain from the Ultima region and wine from Robinvale that was trucked to the Ultima terminal, operated by Pentarch Agriculture. However, in recent times the wine has been trucked to the Port of Adelaide as it is cheaper than the Port of Melbourne. Some hay and grain have also been trucked to the Port of Adelaide from Ultima, but that was partly due to track disruptions affecting the Ultima train's operation.

The Goschen mineral sands deposit at Lalbert, 30 kilometres south of Ultima, would assist the Ultima train's viability by initially adding 3,000 containers per annum to the train's volume. However, that project is not due to commence for another two years, which may be too late for the Ultima train's continuation. It is understood that Qube was also seeking State Government support for a small intermodal terminal at Kurting, just north of Bridgewater on the closed Inglewood – Eaglehawk line. This terminal would have added additional containers of grain and hay to the Ultima train, further boosting its volume.

Qube's Maryvale to Melbourne paper train (Nos 9465/9475) is to reduce from a timetabled daily service to three days a week following Opal Australia Paper's decision to cease production of white plain paper (marketed under the Reflex brand).



Late on Tuesday afternoon, 17 January, 7PM5 Perth-Melbourne intermodal freight, consisting of 106 wagons hauled by Goninan/GE units NR118 and NR75 pauses at Dimboola, in western Victoria, for a crew change. The station here, dating back to 1887, is still served by the *Overland* passenger service. The tracks in the right foreground lead to the Grain Elevators sidings, while the track curving right in the distance leads to the turntable and SteamRail compound. James Dalton



Above: On Monday 20 February, Qube locomotive G532 arrives 'Light Engine' at the Hanson quarry at Kilmore East, 65 kilometres north east of Melbourne, where it will attach to and load a rake of empty hopper wagons placed in the quarry on the previous Saturday afternoon. This is not a regular practice, happening only occasionally as per the requirements of Qube and Hanson. Once loaded the train will return to the Brooklyn facility in Melbourne as No. 9342. Steve Munro

Below: With transport of another bumper grain harvest underway the Linx/Pacific National Tocumwal train makes a valuable contribution to the task. Here the train is seen near Numurkah hauled by G541, XR555 and XR554 with 84 20ft containers of mostly grain and some hay on a mixture of 60ft and 40ft wagons enroute to the Port of Melbourne on Wednesday 1 March. David Hill



Around Melbourne

Grade separation works underway at Union station site

Boom gates at Union Road, Surrey Hills, as well as Mont Albert Road, Mont Albert, came down for the last time on Friday 17 February. On the same day the last trains also visited Surrey Hills and Mont Albert stations (located 12.6 and 13.4 kilometres respectively from Flinders Street station on the Lilydale and Belgrave lines.)

As mentioned in last month's *RD* (page 27) grade separation works have resulted in the permanent closure of the two stations and removal of the level crossings. Due to the proximity of Surrey Hills and Mont Albert a new Union station will be built between them.

The two sets of boom gates were down for 40 per cent of the morning peak, causing traffic delays for more than 22,000 vehicles with as many as 61 trains passing through every morning peak hour.

With the boom gates gone and the former stations closed, 600 workers will be on site at the peak of construction, carrying out crucial works aimed at completing the grade separation project as quickly as possible.

Crews will excavate around 200,000 cubic metres of soil to build the rail trench, one of the largest amounts ever removed from a Melbourne level crossing removal project site.

To allow crews to safely carry out this crucial work, buses will continue to replace trains on sections of the Lilydale and Belgrave lines. Sections of Union and Mont Albert roads will also remain closed.

As well as the massive excavation, work will include carefully dismantling the historic Mont Albert station building, which will be re-homed close to its original position on a new heritage plaza over the rail line at Hamilton Street. The new position of the station building will create an open space at the top of the Hamilton Street shopping village while maintaining its relationship to the rail line.

When works are completed the new rail trench will carry trains beneath the two roads, there will be a new Union station with better facilities, more trains and improved pedestrian connections, and work will begin on three new community spaces.

Some 67 Melbourne level crossings have been removed already and as with all projects a comprehensive trader support program is in place at Surrey Hills and Mont Albert to minimise disruption to local businesses.

Eight level crossings have already been removed on the Belgrave and Lilydale lines, with work underway on a further six, which will make the lines level crossing free to Lilydale and Ferntree Gully by 2025.

Trains will return to the Lilydale and Belgrave lines in late May.

Motorists urged to drive safely around trams

The Victorian government is urging motorists to drive safely around trams, as the number of serious vehicle-to-tram collisions rise across Melbourne.

There were 960 vehicle-to-tram collisions recorded in 2022, with 166 of them classified as serious. This is a jump of 60 per cent on the previous year, equating to an average of almost three collisions a day.

In January 2023, there were 10 vehicle-to-tram collisions in one day, prompting a call for motorists to share the road safely with trams and to never drive in the path of a moving tram.

Most collisions involving trams occur when a vehicle turns in front of a tram or drives on to tracks attempting to overtake others. Around 95 per cent of tram-to-vehicle collisions are caused by vehicles on the tracks.

Vehicle-to-tram collisions can cause major damage to trams and vehicles, as well as injuries and fatal consequences to those involved.

Clearing a collision can also take hours, leading to disruptions for all road users and often extending journeys across multiple routes and roads.

On average there are 10 trams out of service for collision repairs at any one time - about half of one route's trams that are unavailable for service.

Melbourne's trams weigh up to 62 tonnes, and while some vehicle-to-tram collisions are minor, other collisions require major work by a skilled team at the Preston Depot to bring the trams back into service. The team complete varied tasks to safely return the trams to service, including panel beating and electrical works.

Trams with more significant damage, such as Z-class tram number 123 which was side-swiped by a garbage truck in late 2022, can take many months to repair.



NR 112 arrives at Southern Cross with a lengthy *Overland* service from Adelaide just before 7pm on Sunday 26 February. Mike Martin



Comeng/ABB B2-class tram 2069 crosses Church Street, North Richmond (and the route 78 North Richmond – Balaclava tracks), while running along Swan Street operating a route 70 service to Wattle Park via Swan Street on Saturday 25 February. Peter Sansom

New designs released for Croydon Transport Hub

Updated designs have been released for the new Croydon Transport Hub that is being built as part of the removal of the Coolstore Road level crossing. (Croydon station is located on the Lilydale line 29.8 kilometres from Southern Cross station.)

The project will build new road connections and a new rail bridge to unify Croydon's town centre, replacing the level crossing and roundabout at Coolstore Road where five roads currently intersect north-east of Croydon station, causing traffic chaos when boom gates are down.

Community consultation has helped shape the design of the new Croydon station, by incorporating bluestone paving, wooden seating and glazed brick buildings to complement the look and feel of the nearby Main Street shopping precinct. It will also be built with open spaces to create better sightlines, more CCTV and upgraded lighting to create a safer precinct for commuters.

The new Croydon station will provide commuters with a modern precinct that includes elevated platforms, two new entrances and forecourts, upgraded parking, and safer drop-off zones on both sides of the tracks.

The project team has also refined the construction methods to build the new rail bridge to ensure more than 200 trees that were previously marked for removal will be retained, and will plant more than 70,000 trees, shrubs and grasses during landscaping works after the rail bridge has been completed.

About 10,000 vehicles and 100 train services travel through the level crossing every weekday, causing traffic snarls in the heart of Croydon's shopping precinct. The busy bus interchange is also home to up to 19 bus routes every day and will be revamped with better access for buses and safer links to the station for pedestrians.

Works will also begin to relocate the 100-year-old Croydon war memorial from the middle of the congested Coolstore Road roundabout to a safer, more accessible site for the community at Civic Square, Croydon. The Level Crossing Removal Project has been working closely with the Croydon RSL to ensure their plans for moving the war memorial can be completed, paving the way for the roundabout's removal.

To view the updated designs visit: https://bigbuild.vic.gov.au/news/level-crossing-removal-project/updated-designs-for-croydon-transport-hub

Metro Trains Melbourne $6.3b contract extended, but bids sought for tram network

The Victorian government confirmed on 9 March that Metro Trains will operate Melbourne's rail network until at least mid-2026 after the government extended its $6.3 billion contract for 18 months while it completes the $12.6 billion Metro Tunnel project. The contract was set to expire at the end of 2024 and the Metro Tunnel is anticipated to be operational in 2025. Metro has operated the rail network since 2009 and its current seven-year contract was renewed in 2017 with the proviso of a possible extension of up to three years.

Metro Trains is owned by a consortium made up of Hong Kong's public transport operator MTR Corporation, construction company John Holland and UGL Rail, which is a subsidiary of construction group CIMIC. John Holland and CIMIC subsidiary CPB Contractors is building the underground rail tunnel.

However, the contract to run Melbourne's 250-kilometre-long tram network will go out to tender with *The Age* suggesting a new operator could take over from Keolis Downer at the end of 2024.

Brookton sod-turning kicks off WA grain rail upgrades

SITE works began in late February at the Western Australian Wheatbelt town of Brookton, located 105 kilometres south of Avon on the Great Southern (Albany) Railway, to upgrade the first of 11 rail siding upgrades to optimise the transport of the state's bumper grain harvests to domestic and international markets.

Constructed by WA company Multiplant, the Brookton rail siding extension will connect to the CBH Group grain bin, allowing longer trains to load grain adjacent to the Great Southern Line without blocking the main line. The upgrade is part of Package 1 of the $200M Agricultural Supply Chain Improvement Program, jointly funded by the State and Commonwealth governments.

WA Transport Minister Rita Saffioti said the works will bring several benefits to the grains industry and regional communities.

"With WA's recent run of record-breaking grain harvests, it's more important than ever to optimise the efficiency of our agricultural freight transport supply chains to manage the increase in product," Ms Saffioti said.

"As well as an economic boost, the ability to transport more grain by rail will improve community safety and decrease environmental emissions and road maintenance, by reducing the need for road freight," she said.

To complement the government funding and further improve grain-handling and loading, CBH will also invest in rapid loading bins and elevators at all rail siding-upgrade sites. These include Broomehill, which will be the next to begin construction in March, followed by Moora and Cranbrook. The seven remaining sites of Avon (Meenaar, east of Northam), Kellerberrin, Dowerin, Konnongorring, Ballidu, Mingenew and Perenjori North are expected to break ground during 2024.

CBH Group chief executive officer Ben Macnamara said CBH was very pleased to see the funding commitment by State and Federal Governments into transport infrastructure which will enable Western Australian agricultural products to reach export markets more efficiently. WA Agriculture and Food Minister Jackie Jarvis said there was a now a greater need than ever for investment into projects that will contribute to future productivity.

ASCI Package 1 funds focus on freight rail upgrades in the Wheatbelt, Mid-West, Great Southern and Goldfields-Esperance regions. In addition to allocating $68M for 11 rail siding upgrades, $60M has been allocated to upgrade the main Midland Rail Line between Carnamah and Mingenew, and $72M for investigation and recommissioning of rail lines in the Narrogin-Wickepin-Kulin area.

Solar battery first at Whiteman Park station construction site

The METRONET Morley-Ellenbrook Line, is home to Western Australia's first 50 kilovolt-ampere (kVa) hybrid solar battery used in a construction setting, with the battery powering the off-grid Whiteman Park station construction site.

(Whiteman Park Station is located alongside Drumpellier Drive, just south of the entrance to the 4,000-hectare Whiteman Park, a recreation and conservation reserve and a major tourist destination about 28 kilometres from the Perth CBD. The station will provide transport services to the communities of Henley Brook, Dayton, West Swan and Brabham.)

The environmentally friendly solution uses a combination of solar panels and batteries, replacing the need for a standard diesel generator.

The use of solar and batteries will save an estimated 45,000 litres of diesel fuel across the life of the project, and an associated reduction of approximately 128 tonnes of carbon dioxide equivalent (CO_2e) emissions.

The Hybrid Power System consists of a large solar fold out array, a battery and a small backup generator. The 44-kilowatt Solar photovoltaic (PV) panels generate electricity, with excess energy sent to charge the battery and stored for overnight use or when the sun is not shining.

Aside from emissions reduction and electricity cost savings, using solar power backed by battery storage provides certainty in delivery. Already the system has exceeded expectations, requiring less than five per cent of energy from the backup diesel generator during the evenings.

The 21-kilometre Morley-Ellenbrook line is expected to open in late 2024.

New Midland station designs revealed as major works set to begin

Designs for the new Midland station were released in early February, coinciding with the lodgement of the project's Development Approval (DA) application. Lodgement and approval of the DA application paves the way for major construction to begin in the middle of the year.

(Midland station is the terminus of the Perth suburban Midland line. It is located 16 kilometres from Perth station.)

The new station will be a landmark for the Midland community. It features a contemporary design reflecting the local Noongar culture and landscape against the industrial backdrop of the Midland Railway Workshops.

Midland Junction Alliance, made up of McConnell Dowell Constructors (Aust), Georgiou Group, Arcadis Australia Pacific and BG&E Resources, is building the new three-platform station, located between Helena and Cale streets, approximately 200 metres east of the original terminus.

Major construction on the $315 million project, which is jointly funded by the Federal and Western Australian Governments, is expected to begin in the middle of this year, with completion due in 2025.

The new location brings the station closer to the Midland CBD and improves access to sites such as Midland Health Campus and Midland Gate Shopping Centre.

The new station will include:

- Two platforms servicing the narrow gauge Transperth Midland line and one platform serving the standard gauge regional AvonLink, MerredinLink and Prospector services,
- a pedestrian overpass accessible to the public 24/7,
- 12-stand bus interchange,
- a multi-storey car park with more than 800 bays to replace the existing at-grade carpark,
- 1 kilometre of new shared path to extend the existing network,
- a kiosk,
- bike shelters; and
- operations facilities.

The public spaces surrounding the northern and southern station entries will link to the bus interchange, kiosk, and wider precinct.

The project will also connect the Midland Line to the new Bellevue railcar depot and train assembly facility and accommodates a potential extension of the passenger rail to the future Bellevue Station.

The new Cale Street level crossing will be opened by early 2024, before the permanent closure of the current Helena Street level crossing.

The designs and DA are available on the DevelopmentWA website.

Armadale line open spaces concept plans released

Concept designs for new public open spaces at Carlisle and Oats Street stations (7.4 and 8.2 kilometres respectively from Perth) on the Armadale line were released in February.

The designs are part of planning for the joint Federal and State government funded METRONET Victoria Park–Canning Level Crossing Removal project. The project is Perth's first major elevated rail designed to improve public transport safety, create new and versatile public space for the community and reduce traffic congestion.

Up to six hectares of new public space will be created by removing six level crossings on the Armadale Line at Mint Street, Oats Street,



ACN4174 and P2504 are nearing Narngulu on Friday 13 January returning on 5755 transfer from Forrestfield to Narngulu. 10 more ex-Queensland VGHM/VGKM grain wagons are in the consist for use on the Geraldton zone grain trains. The Narngulu-based ACN's are normally captive to the Karara iron ore trains. Phil Melling

Welshpool Road, Hamilton Street, Wharf Street and William Street and replacing them with an elevated rail between Victoria Park and Beckenham. New modern elevated stations will be built at Carlisle, Oats Street, Queens Park, Cannington and Beckenham. These stations will integrate with the local community through architecture and design. Welshpool station will close.

The new design images have been released as part of the Development Application for the Carlisle and Oats Steet station precincts. They showcase a range of new public amenities including playgrounds, fitness zones, basketball courts, skate parks, new walking and cycling paths, public art, and activation spaces for community activities and events.

The high-level concept designs were workshopped and refined by incorporating feedback from local government, community reference groups and the broader community on what they would like to see around these stations.

Following a 21-day period for public comment, the designs were submitted to the Western Australian Planning Commission for approval.

Concept designs for the City of Canning section will be released in coming months with a formal advertised public comment period. This area covers Queens Park and Cannington stations and surrounding areas.

Shutdown supports construction on new Bayswater station

A shutdown of the Perth suburban Midland and Airport lines will facilitate essential works on the new Bayswater station (6.7 Kilometres from Perth) and support the connection of the new METRONET Morley-Ellenbrook Line.

The New Bayswater station will improve connectivity with Midland Line, Airport line and Morley-Ellenbrook Line connections providing a new level of public transport service to Perth's north-eastern suburbs.

The shutdown between Friday 31 March and Wednesday 26 April will enable crews to complete works on the new station, realign the Midland line, facilitate the connection of the new Morley-Ellenbrook line, and complete construction of the Leake Street underpass. The works will also see the removal of the old rail over road Bayswater Bridge with its restrictive 3.8 metre clearance.

Along with the removal of the old Bayswater Bridge, approximately 1.8 kilometres of new track and other rail systems will be installed during the shutdown, allowing the Midland and Airport lines to begin running on the new and higher Bayswater rail bridge from 26 April.

During the 26-day shutdown train replacement bus services will operate.

The shutdown comes on the back of several recent milestones on the project, including laying of the first new tracks at the station in February, installation of precast concrete planks for the new elevated southern platform and the concrete slab for the station concourse, which will allow structural steel works to begin.

While the Midland and Airport Lines will reopen from 26 April, Bayswater Station will remain closed until September. The decision to keep the station closed will ensure passenger safety while critical work on the 150-metre-long elevated southern platform and station area is completed.

With the station closed, a shuttle service will operate between Bayswater and the nearby Meltham station (5.5 kilometres from Perth), so Bayswater passengers can continue to access the Midland and Airport Lines. In recognition of the inconvenience this will cause, the WA government will provide three months of free travel to eligible regular Bayswater station passengers.

After the demolition of the Bayswater Bridge - a local landmark made famous for bringing countless trucks to a grinding halt beneath its low span - a free celebratory community event will be held on Sunday 30 April to farewell the infamous structure.

"This 26-day closure of the Midland and Airport lines marks the end of the old Bayswater Bridge and creates space for work to start on the second half of the new Bayswater station," WA Transport Minister Rita Saffioti said on Wednesday 15 February. "When completed, the new Bayswater Station will become a key connection point, joining the Midland, Airport and the future Morley-Ellenbrook lines".

International

USA

Union Pacific Railroad (UP) has undertaken an overhaul of its marshalling yard in Minneapolis, Minnesota. The so-called Twin Cities Intermodal Terminal has been upgraded with new track and turnouts and is now able to deal with five times the number of containers than in its earlier configuration. New technology to assist truck drivers obtain the correct container has been installed. Additional improvements to be completed by the middle of this year include asphalt-paving work and the construction of canopies for inbound and outbound traffic.

UP has opened a new intermodal terminal in Oregon. Partially funded by the state's Department of Transportation, the new yard was built on the site of a former paper mill. The Mid-Willamette Valley Intermodal Center is designed to enable trucks to bring containers loaded with export products to the rail yard for loading on trains that will run to the ports at Seattle and Tacoma, in the neighbouring state of Washington. Over 80% of agricultural products from the district are exported through the two ports that are vital links in the country's export chain. The new terminal is also expected to reduce traffic congestion on Interstate 5 and truck movements through Portland, Seattle and Tacoma.

UP has discontinued the use of cab signals in locomotives following regulatory approval for Positive Train Control (PTC) systems to replace the technology that has been in use for 100 years. The loco cab signals worked by receiving data from trackside detectors that was transmitted through the rails and the federal regulatory agency mandated the use of such systems on various lines as far back as 1922. However, the legislated introduction of PTC in 2008 has seen the old technology replaced by computer aided systems that communicate with locos by radio data or cellular networks. PTC also provides additional information beyond signal displays to train crews, including speed limits and information about work zones. UP began to decommission cab signalling in 2016, with the final withdrawal of remaining equipment to take place this year. The next stage of the program will see the removal of trackside signals in PTC territory, with all signal information to be provided to train drivers through the locomotive's PTC display.

Long Island Railroad (LIRR) trains began serving their new terminal below Grand Central station in late January, following the opening of the 'Grand Central Madison' station in New York City. Located 15 storeys below ground, the new station is at the heart of the long running 'East Side Access' program, which was intended to improve access to midtown Manhattan for LIRR users. Eight new platforms feature in the new station, which has a capacity to handle up to 24 trains per hour. The new route to the station from Queens uses two single track tunnels that were built below the East River in the 1960s as part of a subway expansion project that was never completed. LIRR joins Metro-North as a commuter train operator at Grand Central, which is also served by several subway lines.

The Los Angeles light rail network will be extended with a new line built to serve the east San Fernando Valley region. Following Van Nuys Boulevard north from the Orange Line Van Nuys metro station, the southern segment of the line will feature 11 new stations before reaching the corner of Van Nuys Boulevard and San Fernando Road, from which point the line is planned to turn northwest towards a terminus at Sylmar-San Fernando metro station, although how light rail will share this 4 km long portion of the right of way with an existing rail line has not been determined. Not all San Fernando Valley residents are enthusiastic about a future light rail line, with on-line responses suggesting that some locals see the line as an easy means for drug dealers and homeless people to gain access to their neighbourhood. The new line is not expected to open until at least 2028.

CANADA

More than 10 years after the service was discontinued, the Ontario government is planning to reintroduce passenger trains between Toronto and the northern city of Timmins. The revived 'Northlander' service will be provided by new rail cars to be manufactured by Siemens Mobility and will operate between four and seven days per week between the two centres, depending on the time of year. The rail cars will meet the latest emission standards in order to reduce their environmental impact. The reinstated service (which last operated in 2012) will service 16 stations, including Cochrane, where connections will be made with the Polar Bear Express service to Moosonee. Timmins enjoys a climate of very low to moderate temperatures, with average winter temperatures falling to as low as -23 degrees while summer temperatures during the warmest month (July) average 24 degrees. The proposed train service is expected to provide a more reliable ground transportation option than the existing bus services, especially during the winter months.

UK

The new year began with more speculation that the HS2 project, originally designed to link London with Manchester and Leeds by high-speed rail, may be further reduced in scope by making Old Oak Common the southern terminus rather than the original plan to build the line through to Euston. An article in *The Sun* newspaper suggested the Old Oak Common – Euston section of the line, which would only be around 8 km in length, could be delayed or scrapped, although the government quickly rejected the idea and confirmed that the full route through to Euston would be constructed. HS2 has been a long-running political saga, with numerous variations to the original design already having been made to reduce its cost, including a decision to not link the line with the existing high-speed London (St Pancras) – Paris line. The project is years behind schedule and has been subject to a number of reviews, including a 2019 study that backed the notion of using Old Oak Common as a 'temporary' terminus, perhaps for as many as seven years. HS2 has also struggled to gain popularity with the voting public, especially in light of spiralling costs.

UKRAINE

Ukraine's national railway system has commenced a program to remove Russian names and other 'imperial' references from its network. The wide-ranging program, which aims to remove all references to Russia from the rail system, includes changing station names and removing Soviet artworks. A new point for measuring distances was established at Kyiv's main station in February, replacing the previous 'point zero', which was in Moscow (under the previous measurement, Kyiv was 856 km from the Russian capital). Russian language tickets will be replaced with new versions using English. One thing that won't change is the rail gauge, with Ukraine's network built to Russia's 1520 mm gauge track.

KAZAKHSTAN

The owner and operator of a tram line in the city of Temirtau has closed the system down, arguing the tram cars were too old and required extensive upgrades or replacement, which was beyond the financial capacity of the city. The 11 km line was run by a steel manufacturing company, ArcelorMittal, who is the city's major employer. The tram line linked the steel plant with residential areas and the city centre. The company has provided a free bus service for steel workers in place of the trams. In the days following the closure of the system, which occurred in late January, some of the overhead wiring was stolen, leading the company to remove the remaining overhead and place it in secure storage. A return to operation for the line appears doubtful, although a study to determine the design and cost of replacement infrastructure is underway.

MONGOLIA

A new railway line has been opened in the country's southeast and its completion is predicted to provide a boost to exports and the overall economy. The Zuunbayan – Khangi railway runs for 227 km and will link with a new line under construction in China, thereby halving the distance freight will have to travel along the corridor. Export freight tonnage, mostly made of minerals such as iron ore, is expected to increase by 30% initially but will eventually double by 2025. Mongolia's landlocked status means it is entirely reliant on land corridors for its trade routes but, prior to the construction of this new line, only three out of 42 border crossings were connected by railways.

SOUTH AFRICA

Freight operator Transnet has issued a tender for the urgent repair of 160 locomotives. The locos were obtained under a contract that involved the delivery of units from four different manufacturers, including Chinese builder CRRC. Legal action between the SA government and CRRC had been underway for some time in a dispute that centred on the way the original contract had been awarded. Transnet said CRRC had displayed an 'unwillingness to engage' and they had resorted to an open tender process in order to speed up the repairs necessary to make the locomotives operational.

Passenger operator PRASA has partially reinstated the Eerste River – Bellville rail service in the Western Cape district, nearly three years after the train was suspended at the beginning of the Covid-19 pandemic. The service was one of many that was halted with the onset of the pandemic and the government has made reinstating rail services a 'top priority', although much of the urban network has suffered from extensive vandalism and theft of equipment during the years it was shut down. Although some trains have been reinstated in recent months, the government's own spokesman described rail transport as being in a 'poor state'.

NIGERIA

The first stage of a metro system for the capital, Lagos, has been opened by the president – ironically, the same person who, 40 years ago, cancelled a metro project after overthrowing the then government in a military coup. The first stage of the 'Blue Line' will form part of a network that will eventually number six lines in total. The Red Line is expected to be commissioned before the end of next month. The metro network is being built by Chinese firm, Civil Construction Engineering Construction Corporation, and the opening of the Blue Line was attended by the Chinese ambassador to Nigeria, who said that the two countries will continue to strengthen military and business ties. The Lagos Metro is one of many infrastructure projects in Africa that has been built with Chinese money and expertise.

ETHIOPIA

A Chinese-built light rail line in the capital, Addis Ababa, is facing collapse due to lack of maintenance and insufficient operable trains to provide a service. The line opened in 2015 after being built with funds provided by China's Export-Import Bank, a major source of funding for similar projects in Africa and elsewhere through which China provides the money and expertise to build major infrastructure in foreign countries. Only about 20% of the line's trains are in working condition and last year services were reduced to an 'alternate day' timetable. Local critics argue that the unwillingness of China to transfer knowledge and skills from its own engineers to locals means that the country remains overly reliant on the Chinese builder to maintain the system. Like many African cities, Addis Ababa lacks sufficient public transport to deal with local travel needs. The light rail line was intended to address road traffic congestion by providing an alternative for commuters, although questions about the value of the original feasibility study are now being raised.

BANGLADESH

A new metro has opened in the capital city, Dhaka. The 20 km line, the first of a number that is planned to be built, was financed with Japanese funding. There are 16 stations along the line, which connects several districts on the northern side of the city. A future extension will see the line continued in a southerly direction to serve the financial district while five additional lines and 100 stations will comprise the network when it is fully built and opened, which is expected to occur by 2030. The Prime Minister, who attended the opening of the line in late December, promised that 'women only' carriages will be available. The driver of the first train was a woman, Miriam Afiza, and was quoted in a BBC story as saying that driving the train 'was a dream come true'. Dhaka, a city with over 20 million residents, is plagued by massive congestion on its streets, which contributes to increased costs and unproductive travel times as well as posing a serious safety threat to road users. The metro has been promoted as a means of addressing the congestion problems, although it may be years before such a benefit is realised.



JAPAN

A 7000 series train operated by the Keio Railway Company approaches Shimo Takaido, in western Tokyo, on 13 January 2023. These eight-car trains date from the 1980s and are now the oldest trains in the Keio fleet. The line is built to 1372 mm gauge, as are some other rail lines in Tokyo, as well as the city's two tram lines. The Keio network is based on terminals at Shinjuku and Shibuya, both of which are major stations within the Tokyo metropolitan area (Shinjuku is sometimes described as the world's busiest railway station, catering for up to 3 million passengers on a weekday). Shimo Takaido is the northern terminus of the Setagaya tram line, a 5 km route that winds through residential and small commercial neighbourhoods on its own right of way before reaching its southern terminal at Sangenjaya. Tokyo's rail transport is provided by an interesting mix of operators, although they all share a common ticketing system and similar operating practices. A surprisingly common feature across all the above ground networks is the presence of level crossings (as seen in this photo); hundreds of such crossings can be found throughout the city. Ken Date



Enfield to Port Waratah

Part two

Text and images by David Shield

In our March issue, David Shield described driving SSR 3476N, the SSR Green train, from Enfield Yard in Sydney, to Gosford, on the NSW Central Coast. We pick up the story as the train heads north from Gosford, towards its ultimate destination, Port Waratah.

The journey out of Sydney is notable for two large river crossings, long, steep grades up and down the intervening, towering sandstone tors, then clinging to the shores of Mullet Creek and Brisbane Water to arrive at Gosford. This is the 'Big Water' route. Now, north of Gosford, the railway encounters completely differing geography. Our way encounters scrubby bush located between low rise hills with their accompanying multitude of small streams overseen by the North – South highland range known as The Watagan Range. These streams drain all the highland to the west and feed this water into the various lakes on the eastern side of the railway which make up the Tuggerah Lakes System.

For us, this means on our journey north of Gosford we continually encounter water courses running east – west, requiring us to run down shortish grades, pass over one or more bridges in a gully, then climb up the other side. Some of these dips are short and shallow, others long and steep.

But, for the moment we are climbing away from water level at Gosford to the Ourimbah Valley. We pass the former farming areas of Narara, Niagara Park and Lisarow in succession as we search for the top of the grade at the pedestrian bridge just north of Lisarow Station. And it is here, at this very spot that some magic happens.

During the climb away from Gosford I have progressively built speed up to my target of 73 km/h at the pedestrian bridge. Now deliberately, I slowly shut off, back to one notch. Then I turn around and fish in my bag for my sandwiches. Oh, and a drink too. It is time for some sustenance. I start on my repast as the great train runs itself, under momentum condition for a long, long way. Long enough for me to eat and drink my fill.

Through the dark night we cruise along through the floor of the valley, the train travelling relentlessly along according to the dictates of the land. Jake and I continually monitor all gauges and track but touch nothing but the Vigilance Button, together with our food and drink. Still cruising at 75 km/h we cross over Ourimbah Creek where our train speed increases slightly as we dip down to Tuggerah Station.

Short of the station we spot the line of signals facing us and note they all display Full Proceed. Between Tuggerah and Wyong there used to be Up and Down Loops. In this modern world they proved be too short to accommodate freight trains and were thus removed. Soon I confirm WG 1 Wyong's Accept Signal still shows green, so I take a moment to pay homage to 3822.

I spot the exposed cement tops of the old de-ashing pits that once stood in the Down Refuge, now filled in with rubble. This is the exact spot which denotes the location of the huge, elevated water supply tank stand near the end of the Down Refuge. This is the location where 3822 hauling Number 19 Paper Train ran through the Catch Points and turned over on its side, here at 03.15 on Wednesday 17 September 1970, never to run again. After a moment of reflection, I break my reverie, then its back on the throttle, but only to 3 notch to help the train over the knob at Wyong platform. It is 22.17 as I wave to the NCO through the open door. Then it is reduce power again as the train weight pushes us down the dip, and light throttle up to the highway bridge.

I have experienced less than total satisfaction with my efforts over this section in the past, but now I know exactly how to manage my train between Wyong and Warnervale. Although this section is initially flat, train speed seems to increase easily and only requires low throttle settings.

So, only cautiously and slowly I increase my throttle to 3 Notch, then carefully I take 4 Notch as we encounter the slightly rising terrain. This will slowly increase my speed to around the low 70's along this flat section of track. Then I can safely pass over the Level Crossing and accelerate up the longish 1 in 66 grade.

Passing the 108 Kilometre post I notch off entirely. This is game on time. I allow the train to increase speed under momentum, pass the substation and then pick my spot to apply the Auto Train Brake with a Minimum application. Next, I wait. Then wait some more. I see the final bend approaching Wallarah Creek, but still I wait. Now over the bridge at 78 km/h I 'let them go'. My speed is still increasing. We momentarily touch 80 km/h as we commence the short climb to the 111 Kilometre post. Still shut off, the train uses kinetic energy to conquer the knob then starts on the next downgrade to pass the two bridges over Spring Creek. I pick my moment to ramp up the power carefully to climb the long grade to Wyee.

Over the top of the grade, I have my train travelling nicely and note all the Wyee Down signals show Full Proceed. I adjust my throttle to pass Wyee Station at 53 km/h. I call out to Jake 'Two all the way' as we slide down the grade in a momentum run again, firstly crossing Swampy Creek, quickly followed by the adjacent Wyee Creek. This time my speed increases to high seventies in the dip, with our train pushing hard. We briefly touch our maximum speed of 80 km/h, but we are on the uphill now and quickly I see train speed slow. But I am at the ready with my throttle. One more time.

And this is how I run my train, down the dips then across the small creeks then power up out of the dips all the way to Broadmeadow, but there are two major highlights left for me to experience; the Hawkmount and Fassifern grades.

After passing Morisset Station we negotiate the Morisset Bends and run across the broad expanse of Dora Creek. Our next assignment is to surmount the ruling grade of Hawkmount. I set off out of Dora Creek with the intention of just maintaining my current track speed. Certainly, the long 1 in 44 grade isn't far away now, but I am in no hurry. I have found in the past it is easy to 'over cook' this approach. So I wait until I spot the Tonnage Signal before I 'spark up' the train. Following the signal is a significant dip before we arrive at the foot of the grade. So my aim is to use the dip to assist me accelerate my train from 77 km/h right up to our maximum of 80 km/h. I want to be 'right on the money'.

Our locos 'kick in', building the required speed and then establish themselves on the grade. But soon it is like slow motion as our speed quickly decreases. We know Digga is back on the job as we feel his contribution exert that extra push.. And that is that, there is no more power available. So we watch and wait. Soon I notice we reach a stable speed of 22 km/h. So I open my window to listen to the mighty GM's attack the grade. It is in memory of past times that I reflect on steam operations up this renowned grade. I have witnessed many, many steam locos climb this grade in my early life. Taken telling photos, marvelled at the conquest, paid homage to the crews, made tape recordings and just fixated on the show of slowing steam locos toiling flat out - many of them just moving, down to walking pace. Yes, this is a truly special place, where spectacular, but mostly unseen battles between steam and geography, occurred over and over many times a day.

But our more modern, though still personal, battle is going OK. Soon E5 Signal, which marks the top of the grade is in sight and all is well.

I call Digga off a bit early and shut off power at 45 km/h, just before the Haul Road Over-bridge. This allows the train to run its own course down the first part of the downgrade. The beam of our high intensity headlight continually sweeps to the left and then right as we curve down through the sandstone cuttings and pass through the truly dark forest of mature eucalyptus trees which shelter the strikingly tall, but secluded stands of flowering Gymea Lilys.

The many curves hold back our rate of acceleration for quite some time. But as we pass the Brick Signal Hut the downgrade has overcome these resisting forces causing our train speed to increase. Soon it is time to act. A minimum brake application steadies our train and I hold the brakes on lightly until our train speed slows to 55 km/h. Well before Awaba platform I knock the Auto's off and monitor the rate of air flow in the Brake Pipe to note when my brakes have equalised. The BRM's are the only locos I have encountered where this flow is measured in millimetres cubed.



Above left (page 32): As noted in Part one of our story, on the evening of Wednesday 10 June 2020 3476N, the Emerald Grain Train, was powered by BRM001, 4904 and G513 up front, with 4532 and 602 banking in the rear. On Friday 4 February 2022, Goodwin/Alco unit 4532 made a solo visit to Port Waratah yard hauling an empty railset train. The silos and conveyors of the Newcastle Agricultural Terminal (NAT) can be seen in the background.
Right: On Saturday 9 September 1972, 5439 and 6018 have slowed to a crawl hauling 643 Goods up the 1 in 44 grade of Hawkmount. 643 was nominally a Saturday load that ran from Cooks River to Broadmeadow Yard.



On Thursday afternoon 19 December 1968, 3820 and 3813 climb Fassifern Bank with 419 Down goods train. This was a trial load for both locomotives, following boiler and mechanical repairs at Cardiff Workshops, where 3813 had been built 22 years earlier. These were the last 38 class overhauls undertaken. Retired in December 1970, 3820 was the last 38 class loco in regular service.

Next we pass the brilliantly lit platforms to run under the Cessnock Road Bridge, down the grade and across the three adjacent creeks in a momentum run. Next the 'Fassi' Down Accept Signal attracts my eye and glows full green. I open my throttle slowly, slowly, one notch at a time to arrive at the top of the grade in good shape. Then the big train runs itself down towards Fassifern Station.

Once, a long time ago I managed to ride double Garratts from Gosford to Fassifern. I recall this scene very well. It was the in the small hours of Saturday 9 November 1968. It was still dark. I was on the leading engine 6010, leading 6022 on 617 Goods. I was heading to Fassifern to take photos of the steam action climbing the steep 1 in 40 grade out of the station.

Coming down this same grade towards the station the driver told me to open the loco door and climb down the steps. Thoughtfully, he had his Fireman pass my bag down to me. Then he told me exactly when to jump. In my naive, teenage brain this was not my anticipated form of arrival. Still, my helpful driver had slowed his train considerably, though he offered me no room for error. Because as I tumbled among the blackberries, idly wondering where the snakes were, I heard an almighty noise as the driver's powered up their Garratts in unison. Both locos, regulators open fully now created a crescendo of noise, which literally tore the night apart. This mighty sound was accompanied and complemented by rapidly accelerating driving wheels and flashing side rods right beside by my prone body. Elemental and very scary.

But now, as more of my fully loaded wagons follow us over the top of this very grade, I begin to offer help by advancing my throttle. It is 22.57 as we rocket down the grade approaching 75 km/h, sweeping 'Fassi' Platform.

Unlike the days of old, we quickly power up the grade with gusto. For in the days of steam the downhill run, then the grade to the top of 'Fassi' Bank was a real trial. In my youthful days I have stood in awe as freight train after freight train slogged their way to the top. Lowly Standard Goods engines, Double Garratts and all sorts of double-headed combinations of steam power literally just crawled into the big cutting and over the top of this challenging grade. With thrashing side rods, exuberant exhausts of steam and smoke the locos commanded attention from all bystanders as they thundered by, fighting for every inch of territory, until they slowly, slowly hauled their loads over the top.

Rather a lesser sight, but perhaps just as noisily, we power into the tall cutting at the top of 'Fassi' Bank. Now over the top I notch off fully just as my first loco approaches the First Permissive Signal, indicating the end of Fassifern Interlocking. My intention is to roll through Booragul, and Teralba Platforms only notching up once over Cockle Creek.

I use power to climb the bank away from Cockle Creek Station and notch off fully just after passing SJ 123 Home Signal. My maximum speed here is 65 km/h, and there is a weigh bridge. So we do 'the right thing' then power up the long grade through Cardiff station to Tickhole Tunnel in full notches. Digga is doing his last bit of pushing and we notice the effect of his extra 3,600 horsepower.

I shut off just before the top of the grade and we still slide into Tickhole Tunnel at 38 km/h. This allows me to run under momentum to Kotara Station where we encounter our first Double Colour Light Signal for some time. By doing this, my train speed increases in a manageable fashion and I can apply the Auto Train Brake in the knowledge that all my wagons are out of the tunnel and now all on the down grade.

I take it steady from here as the condition of the Adamstown Level Crossing dictates which signal aspect we will encounter. Luckily tonight we have a Network Control Officer (NCO) at Broadmeadow who is alert and shuts the gates in good time. So we spot B101 Accept Signal at Preliminary Caution and I take care to regulate our speed to suit. On a flat section of track now over Northcott Drive I have my train settled at 38 km/h, so I 'knock them off' once more. But not for long. At 40 km/h approaching St Pius X School my brakes are back on.

Searching for our signal hidden behind the Adamstown Station awning, Jake sees a bottom Amber and calls it, soon he calls two Amber Aspects, and we know we are set for the Down Relief Road around Broadmeadow Yard. So it's 25 km/h through the points and the same all the way until our last wagon is clear of the Lambton Road Bridge at Broadmeadow Station. Soon we hear the ICE radio hand over to the ARTC Network, then we crane our necks to spot Signal IJ 9 at Islington Junction. We are nearly there.

Soon enough IJ 9 shows a proceed, but the close by, next signal only shows a 'Top Yellow' indication for a low speed Turn Out, expect next signal to be a Stop. But we have been this way before and confidently expect our next signal guarding the entry to Port Waratah Yard to show a Route combined with a Subsidiary Aspect. We go along cautiously at Yard speed and pass this signal into Siding 2. Then travel under Maitland Road Bridge and onwards around the PWCS Coal Stack then pass PW43 Ground Signal, waiting Digga's call to stop. Here Digga detaches his locos and I pass PW 50 on 1 Grain and take a Verbal Proceed Instruction from the ARTC Yard Co-ordinator. My instruction is to stop short of the first set of points, well short of our destination at the Newcastle Agri Terminal (NAT) Shed. I detach the BRM from the lead position and Jake shunts me up past the points. Soon I see Digga and his locos approaching on 2 Grain, so I call him on using my radio and then Jake sets him back, through the points to attach to our other locos. Then Jake shunts me on the BRM back onto the locos to, to have all our locos on the lead of our train.

Now that we have all the locos on the lead, I advise the Yard Co-ordinator and in return he gives me Verbal Authority to proceed to the NAT Shed to refuel all locos. We arrive at the NAT Shed at exactly midnight. I walk down to the first wagon and lift the pin on the auto couplers, next I drain all the Brake Pipe air and wave the locos ahead for refuelling. I continue down the wagons to the tenth wagon. Here I turn around and apply all ten handbrakes as I walk back to the NAT Shed. Digga walks back to the carpark while all the locos are fuelled.

I have further verbal authority to run our locos ahead on 1 Grain as far as needed to refuel all locos. This takes a fair time. Then we propel our locos back onto the wagons, shut them all down and stable them.



At Port Waratah, the local Cockatiels are always pleased to see a loaded grain train arrive, and on Wednesday 20 April 2022 the welcoming committee was on hand when Clyde/EMD unit C509 led a loaded train into the yard.



Now back with a car, Digga helps us with this final task. We cross check all our stabling procedures to confirm all tasks are completed. Then Digga takes us to the carpark. Where we say our goodbye and confirm our sign off time. I offer to send the sign off text to SSR Report Line then prepare to drive home.

It's 02.00. So I turn on my music, pump up the sound and listen to some more classic hits from the 60's, 70's and early 80's. The first song is a real ripper 'Open Up' by Leftfield. But my mind is torn. This isn't the time for high intensity aural input. It's my time for reflection. So I turn down my music and think on my shift. It is a big thing to drive such a train, especially with Bankers. I reflect on my effort concentrating on the trip down the River Bank. It's always the same. When doing the task, I respond to the exacting needs of the moment.

Driving a train is a very practical set of tasks. But now the job is done, I wonder out loud. Gee that was a mighty big train and those were mighty big grades. Thinking and musing, forever thinking musing on the drive home.

But soon it is time to turn on Leftfield again and get on with some more high intensity, head banging music. Now we are really talking. As Molly used to say, 'Do yourself a favour'.



Above: On Saturday 3 February 2018, 3448 grain train led by BRM001, 4911 4910 and BRM002, is tipping its grain beneath the NAT conveyors at Port Waratah. The conveyors in view take the tipped grain from the NAT shed to their silo storage.
Right: In bright afternoon light, BRM001 is seen parked on Grain Arrival Road near the NAT Tip Shed at Carrington, with the Hunter River in the background. A bit of time was available while the grain was run off the belts at the NAT Shed, so BRM001 was waiting in the sunshine to resume the tip.

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A visit to the Moura Line January 2023

Text and images by Steve Munro



I dare say most rail enthusiasts are aware of or may have visited and photographed the Moura Line in central Queensland. I have enjoyed photographing it on several occasions since as far back as 2000.

Utilising diesel power, the system doesn't have the intrusive infrastructure associated with electrified lines, making it very "photography friendly". Additionally, it has the benefit of running through some picturesque countryside to the west of the port town of Gladstone, including a range section between Mount Rainbow and Dumgree crossing loops.

The line occupies a special place in Queensland's railway history. Opened in 1968, it was the first "heavy haul" line in Queensland and was designated as an "S" (Special) class line by virtue of its track standards compared with the rest of the network. Its construction marked the watershed between the "old" QR where not many years before the maximum train load was 650 tonnes and a "new" era of trainloads measured in the thousands, not hundreds, of tonnes. It is now part of Aurizon Network's extensive Central Queensland coal system.

The Moura Line is a 1067mm (3 feet 6 inches) single track line connecting the Moura (Dawson) and Baralaba mines, approximately 189 km west of Gladstone to the R G Tanna terminal (and, until 2016, the Barney Point terminal) in Gladstone. Other mines at Boundary Hill and Callide feed into the main Moura Line and on the main line between Moura and Gladstone there are eight crossing loops. Stowe Loop, near Calliope is the first loop west of Gladstone and notable in that its tracks are on different levels. Balloon loops are located at the Boundary Hill, Callide Coalfields, Moura and Baralaba mines. The predominantly 60 kg/m rail on concrete sleepers supports an axle load rating of 26.5 tonnes at 80 km/h and sees trains of over 4,000 tonnes traversing the system, using 4100 and 4000 class motive power. In the 2021/22 financial year the Moura system moved 12.3 million tonnes of coal.

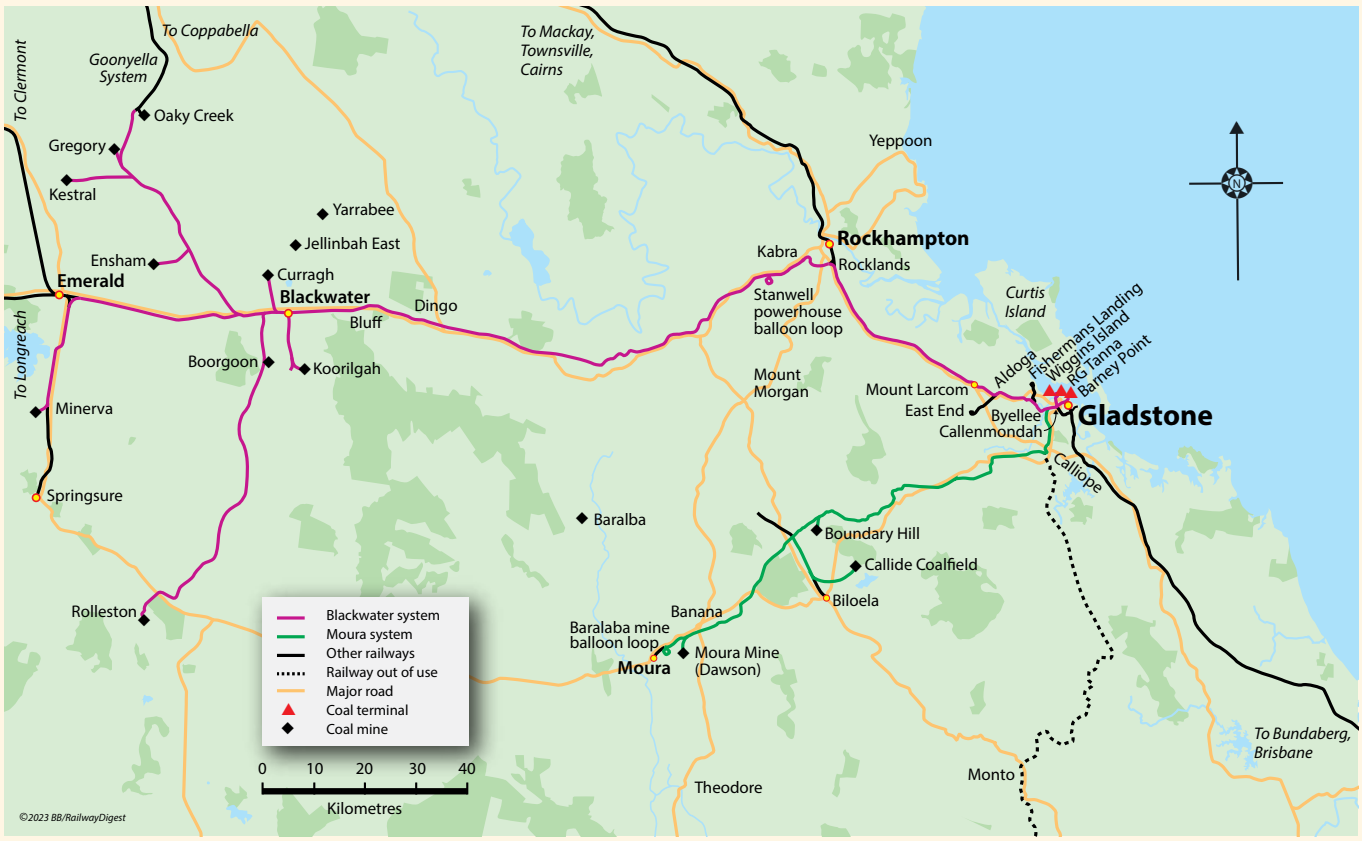
I have been photographing the Moura line periodically since my first visit there in around 2000, coinciding with the introduction of the first of the then new EDI/EMD 4000 class locomotives. I had witnessed the construction of the locomotive cabs at Somerton, Victoria and knew that some of the locomotives were to begin their working lives on the Moura line so I decided to photograph their working in Queensland. Coincidently, the very first photo I took of the new locomotives was of the class leader 4000 working an empty coal train over Deep Creek, west of Calliope.

In those days most trains on the Moura system utilised interesting multiple locomotive lash ups of 2100 class, 2170 class, and 2400 class units, but it became apparent that the 4000 class locomotives would soon become the mainstay of motive power. There was also a Tuesday "Biloela Goods", but that's long gone and the southern end of the line into Biloela has been removed, with only the Callide mine section still being utilised. Callemondah depot at Gladstone quickly acquired a collection of 4000s so photographs of Moura coal trains hauled by modern looking units soon outnumbered the shots with the more interesting earlier locomotive combinations.

On my subsequent photographic trips to the Moura Line, I combined my photography with other events occurring in Qld in June. This year however, I had reason to be in Southern Qld in early January and decided I would shoot the line again while I was in the state. The higher summer temperatures and almost nonstop rain and biting insects made this trip a lot less pleasurable than those in the winter months. In fact, for the entire week there wasn't a rain-free day which made accessing known photo/camping spots not possible due to boggy road conditions. But as the line is visible from much of the Dawson Highway and road overbridges, pleasing shots can easily be obtained.

Even with the difficulties nature provided and the variety of motive power limited to 4000 and 4100 class locomotives, a good collection of shots was bagged over the week. It's certainly a lovely sight watching 4000 plus tonne coal trains, on the narrow gauge, working through some of Queensland's interesting landscapes. It's definitely worth the time and effort, but better done over the cooler winter months!

Left (page 38): On Saturday 14 January, Aurizon EDI/EMD locomotives 4027 and 4048, assisted mid-train by 4045 and 4003, work a lengthy loaded train eastward along the corridor that dissects the "Allawah Station" near Banana. Loaded trains make slow but steady progress through the undulating landscape, so it is easy to get ahead of trains for multiple shots.
Below: The Moura and Blackwater systems in central Queensland both converge on the Port of Gladstone.





Above: A combination of Aurizon and QR liveries is commonplace on the Moura System, as seen here on Sunday 15 January. With the aid of mid-train units 4165 and 4036, Aurizon loco 4167 and QR liveried 4007 ease their loaded train around the balloon loop at the Moura (Dawson) mine before departure for the Port Of Gladstone. Other balloon loops are utilised at Boundary Hill, Callide and Baralaba mines.
Below: A long lens such as the 300mm used here, can enhance a relatively boring background and emphasise the length of a long train through image "compression". A Moura-bound empty coal train, led by 4031 and 4025, (with 4033 and 4014 mid-train) skirts the town of Banana, as it heads toward the Leichhardt Highway road overbridge on Sunday 15 January.





Above: Unusually, when compared to previous visits, most of the system's crossing loops had empty trains stabled in them. An example of this is seen here on Monday 16 January where a "loaded" led by 4163 and 4018 approaches locomotive 4015 stabled in the adjacent loop line on an "empty". Half a train length away, mid-train units 4004 and 4048, will pass this spot sharing the load enroute to the Port of Gladstone.

Below: Persistent rain and overcast skies during January made photographing the Moura Line challenging. Normally blue skies were reduced to dull grey, but the flat lighting did make shooting in any direction possible. On Monday 16 January, in gloomy conditions, locomotives 4136 and 4018 (with 4004 and 4038 mid-train) ease an "empty" off the main line and onto the entry to the Moura Mine balloon loop. Once the loaded train departs, there will be ample opportunities to comfortably get ahead of it for photos along the system.





Above: Loaded trains on the Moura System travel at a speed that allows easily obtained multiple images. This loaded train, led by 4167 and 4007 (with mid-train assistance from 4165 and 4036) was earlier photographed departing the Moura Mine, then comfortably captured again passing under the Leichhardt Highway at Banana, Sunday 15 January.
Below: Mid-train helpers, as seen here with locos 4045 and 4003, are the norm on most Moura line trains. This image of a westbound empty train was captured from the road overbridge on the Leichhardt Highway at Banana. The road bridges on the Moura System provide easily accessed vantage points for photography.



Above: Of the crossing loops on the Moura Line, Stowe Loop is probably the most interesting, albeit difficult to access, other than near the western end at the Bruce Highway road bridge. With its "grade separation", one leg of the loop separates from the other to take a "scenic route" through hilly bush country before realigning on the lower eastern end. Here, on Wednesday 18 January, locomotives 4167, and 4007, bring a loaded train into the western end of Stowe Loop, having passed under the Bruce Highway near Calliope. Mid-train units 4165 and 4036 are still on the upgrade pull between Calliope and the Highway out of site in the rear. Once the entire train is past the crest at the Bruce Highway, it's downhill to the Port of Gladstone.



Right: Making use of all the daylight hours is achievable by camping close to the action, although camping out is not everyone's choice. My setup provides a lot of independence, with cooking facilities, and a comfortable bed, all set up, and packed up in very little time. The muddy ground evident in this scene west of Calliope, is indicative of January 2023's wet conditions. Motel accommodation is available at Gladstone, Calliope, Biloela, Banana and Moura.

Perhaps Sunday is not such a Day of Rest

David Campbell



Southern Shorthaul Railroad was rather busy across the Victorian broad-gauge network on Sunday 12 February. Recent locomotive acquisitions have allowed its Victorian operations to be significantly increased, particularly with locos P11, 14, 16, 17 and 18 (surplus ex-V/Line), and B76 and 80 (ex-Rail First Asset Management) joining the fleet.

The little P class locos (around just 1000hp) have proven invaluable, operating plant trains in the Metro area, with many of those tracks unsuitable for larger and heavier locos. They are also seen supporting the grain trains, with two of the P (or their T class cousins) used to replace an unavailable larger loco (B or S class), or as extra power on the more heavily graded tracks. P11 is confined to SSR's Bendigo North Workshops as the shunt loco, while the remainder are frequently seen on main line workings. P14 and P16 have been re-painted into SSR's corporate yellow/black livery, and P18 is currently being re-painted, while P17 remains in V/line red/yellow "cheeseburger" colours. The P class locos were originally the well regarded "flat top" T class locos, dating back to the mid-1950's, and rebuilt into their current configuration in the early 1980's.

The two B class (at 1500hp) have given SSR greater certainty with the operation of their trains. B76 and B80 are still in the former CFCLA colours of silver/blue/yellow, with "SSR" decals added. These recently acquired locos (when combined with more wagons) have allowed SSR to provide additional grain services.

SSR had for some time been running up to 31 wagons on their grain services, primarily serving the Kensington flour mill, although opportunities to export through Appleton Dock formed a handy traffic flow. Fleet numbers initially restricted SSR's operations to just the one grain train; typically, the Kensington mill received around 20 wagons, allowing SSR to opportunistically load up to another 10 wagons, often from smaller sites. Another ten grain hoppers were re-gauged to Victoria's broad gauge (1600mm) recently, and their grain train was then altered to operate as two distinct trains (known as the "black" and "white" rakes), each comprising up to 21 wagons, usually with one rake servicing the Kensington mill, while the other rake operates into Appleton Dock. The newly arrived wagons are class BGKF, the former NSWGR coal wagons used on the later Leigh Creek coal trains and re-built for grain service by SSR in Lithgow.

SSR's two grain trains have been operating to Manangatang, Sea Lake, Nullawil, Wycheproof, Charlton, Woorinen, Piangil, Mitiamo, Elmore, Deniliquin, and Tocumwal, dealing with what has been a good grain harvest. The use of these shorter rakes allows SSR to bid for smaller contracts to transport grain, and has resulted in them regularly serving smaller sites such as Elmore and Mitiamo which in recent times had dealt with fewer trains. Pacific National had standardised their grains trains into rakes of forty wagons, which clearly provides good business for them, leaving SSR the opportunity to bid for and frequently obtain that smaller volume work.

Perhaps not unexpectedly, the older locos have had some reliability issues, with S302 withdrawn late last year due to electrical issues, and B75 recently only operating intermittently. Most trains are ideally hauled by their remaining B class (76 and 80) and S class (312 and 317), with any further loco requirements being covered by their P class, as above, or T class locos (363, 381, 385 and 386).

The former Victorian Railways Bendigo North Workshops, located adjacent to the junction between the Echuca and Swan Hill lines, is now used by SSR and is invariably busy these days. SSR (and their associated business, Bendigo Rail Workshops) performs various heavy repairs and refurbishments to V/line's *Sprinter* and *VLocity* trains, as well as N class locos. Pacific National locos also may be seen here, usually BL, G and XR classes. Visible from passing Echuca line trains are various locos in store or repair, including S302 (stored with electrical issues) and B65, in Auscision paint scheme, and believed to be undergoing re-conditioning works; its return to service would be very useful for SSR's operations. P11 is the usual workshop shunt loco. Former suburban Comeng electric trains

Left (page 44): SSR remained busy during the week commencing Sunday 13 February. B80 is seen here at Elmore a couple of days later, on Tuesday 14 February, loading its rake prior to returning to Kensington that night. Barely visible, B76 and P14 were assisting. 8075 Down Echuca service has just arrived on the main line, with several passengers leaving this busy service. The "SSR" transfers recently applied to the B class units in place of "CFCLA" are visible. Bill Arkell

Below: Always a magnificent sight when running back-to-back, S317 and S312 are seen near Talbot heading towards Manangatang on Sunday afternoon, 12 February. This particular rake is referred to as the "white" rake, as suggested by the colour of the covers on the grain wagons. This train later discharged at Appleton Dock. Bill Arkell



may also be seen here being scrapped, as well as a collection of disused vehicles.

Four separate trains were being operated by SSR on Sunday 12 February, each with quite some interest for railway enthusiasts. B76 and 80 (celebrating their 70th birthday this year) were heading a rake of 17 wagons back to Kensington, having loaded at Charlton during the morning before departing for Melbourne around 11:30am.

S312 and S317 discharged their loaded train at Appleton Dock during Sunday morning, before departing Melbourne around 2:30pm, heading off on the long haul to Manangatang with another 21 wagons. This particular train ran via Bacchus Marsh, giving the many enthusiasts "in the know" the rare sight of a Down goods train climbing the famous Ingliston Bank (between Bacchus Marsh and Ballan) in daylight, re-kindling memories of the days before gauge standardisation when this was the main route to Adelaide.

P14 and P17 had spent their weekend running a plant train in push-pull mode around the Richmond – South Yarra area in the inner Melbourne suburban area. These long and heavy trains usually operate during Absolute Occupations, handling tasks such as rail delivery and pick up, ballast discharge, and collection of spoil. Up to nine locos may be used on these trains, with track restrictions usually necessitating use of smaller units. Heritage locomotives are often seen supplementing these trains, with other main-line operators unable to source sufficient of these lighter locos to compete with SSR to service this work. Other locos used on this train included SSR's T381, and heritage locos T395 and S313, the latter enjoying an opportunity to have some recent works checked.

Rounding off a busy day, P16 and T386 were operating the EV120 track evaluation vehicle in push-pull mode on the Bendigo corridor, inspecting the passenger lines to Swan Hill and Echuca. This movement ran from Melbourne to Swan Hill on Saturday 11 February, spending the night there before running back to Bendigo and then on to Echuca on the Sunday, finally returning to Melbourne on Monday 13 February.



Above: Nearing its destination, the B class led train is seen later in the afternoon of Sunday 12 February crossing the Moorabool viaduct near Batesford, on the steady descent from Warrenheip to Geelong. Scott Gould

Below: P16 and T386 are seen stabled in Swan Hill early on Sunday 12 February. These locos operated in push-pull mode, powering the EV120 Track Evaluation Vehicle on its routine inspection of the Swan Hill and Echuca lines, departing early that afternoon. David Campbell





The two S's could be heard long before they swung into view below the trig point on the gruelling 1 in 48 climb to Bank Box loop after being put away at Rowsley loop, near Bacchus Marsh, for an hour. Scott Gould





The Australian Urban Passenger Train - An unrecognised success?

Peter Clark

With orders placed for the next generation of Brisbane suburban trains, the last of the first generation "EMU" sets will be withdrawn as the new trains arrive. It is worth looking into the origin of the design of these trains, which influenced developments in other states as well.

The Whitlam Federal Government, which was in power from late 1972 until late 1975, became involved in several areas of activity that had previously been left to the states. One of these, for which that administration is remembered, was to directly fund the connection of developing outer suburban areas to sewer mains. This was a problem in the then Prime Minister's own electorate based on the south-western Sydney suburb of Cabramatta.

Less well known was an initiative to produce a suburban passenger train to improve the travelling conditions of the same outer suburban commuters. This proposal was under way in 1975, but was of course stopped when the conservative Fraser Government took over in November 1975.

Some artefacts from the period remained. There were two mock-ups produced. One, put together at Islington Workshops was a representation of possible seating arrangements. This was constructed in two halves, each mounted on a road trailer. It represented the proposed standard and broad-gauge version, which more or less matched the dimensions of the then current Victorian Railways Hitachi trains. Strangely, the mock up consisted of two different options for door layout, the front half representing a three side-door car (as used in Melbourne) but the rear half represented a four side door car. This mock up was displayed in state capitals, and surveys were taken from visitors as to their preferences for the different types of seating fitted to the mock up. I myself inspected the mock-up in Sydney's Hyde Park. If I recall correctly,



Above: Queensland Rail EMU set No. 25 leads a six-car train out of Bowen Hills station bound for Ferny Grove in November 1979. In the original condition, only a few modifications from the AUPT body design can be seen, the most significant being the addition of opening hopper windows at the top of the side windows, as a precaution against failure of the air conditioning. While all EMU type trains had these, none of the later trains were so fitted. Peter Clark

Right: Perth two-car set 15 is seen at Perth Station in March 1994 about to depart on a service to Armadale. The distinctive flattened curve of the roof has been retained from the original AUPT design, but in this case from the larger standard gauge body design, since Perth clearances allowed the wider car. The roof air conditioning units are taller than those in Queensland, and the distinctive inside framed bogies with outside disc brakes represent a preference by the operator. Peter Clark



The distinctive view of the Brisbane skyline immediately identifies the location at Roma St Station as EMU set 01 trails a Redcliffe service towards Brisbane Central in August 2002. A number of modifications have been made to set 01, additional protection against level crossing accidents and the replacement of the curved glass by flat panels being the most obvious. The changes to the colour scheme are quite striking. Peter Clark

the front half included seating more or less to interurban standards, while the rear half had vinyl covered two plus three seating, similar to that in Adelaide "Red Hen" cars.

Another mock up was prepared for surveying the preferences of drivers and guards for differing cab layouts. If I recall correctly, there were some disputes between drivers and guards (who were then represented by different unions) around this time. While the passenger mock-up had a simplified front end with two large windows, that for the crews had three smaller windows, which represented the thinking that went into the actual design. However, the mock up consisted of angled flat panels with flat glazing rather than the intended curved design. I believe the cab mock-up, which consisted of two cabs back-to-back with access in the centre, had a central driving position in one end and a left side position in the other. Again, I was lucky enough to see this cab mock-up on display, on an NSWPTC flat car in a platform at Sydney Terminal station. There were a number of interested train crew inspecting this mock up at the time. I did see this cab mock-up, once more, on a road truck in Canberra, presumably on its way for scrapping.

The empty shell of the passenger seating mock up was presented to the ACT division of the ARHS and was stored in Canberra Yard adjacent to the then Freight Centre. This was only an empty shell, but was damaged by vandalism and later broken up. To most people, this appeared to be the end of the proposal. An on-line search for Australian Urban Passenger Train provides no useful results.

However, in 1980 while I was working for the Department of Transport, someone found some old drawings, which had avoided being discarded in the previous five years. This was a set of drawings with annotations in red for proposed alterations of no great significance.

I had recently travelled to Brisbane and inspected the recently introduced suburban electric trains, it was immediately clear that these trains, now known as the EMU type, matched in most respects the AUPT drawings. In fact, it is understood that the then Bjelke-Petersen State Government asked the Fraser Federal Government for the larger contribution to the cost of the trains that the Whitlam Government had promised as an incentive to use the standard design. Not surprisingly this request was turned down. The last of the EMU trains are to be replaced by new trains to be built in Maryborough by Downer, in the same factory where the EMUs were built back in the late 1970s.

We can now consider the proposed AUPT cars as shown in the drawings. It is immediately clear that a serious effort to standardise the design across the three gauges and the associated varying clearances in the range of cities for which the trains were proposed. The trains all have virtually the same side elevation, only the carbody width being increased by 260 mm on the broad- and standard-gauge versions of the body. In fact, it was a little more complicated than just the trains proposed for Perth were to use the wider body on narrow gauge, thanks to the greater clearances in Western Australia. At the time, in 1975, there were no imminent proposals for electrification in either Perth or Adelaide, and it was proposed that AUPT vehicles were to be built for use in these two cities as unpowered coupled pairs of cab cars, to be hauled by locomotives. Whether this plan influenced later proposals for push pull trains in Adelaide using cabless locomotives, which eventually morphed into the distinctive high powered 2000 class railcars is not known to the author.

In Perth, the long-held desire to remove the rail tracks West of Perth station to link the area of the city known as Northbridge (being north of the distinctive Horseshoe Bridge at the West end of Perth station) resulted in the early closure of the Fremantle line and replacement by buses. This drew attention to the popularity of suburban trains in Perth, and the reopening of the line was quickly followed by electrification. Thus, the two car sets actually obtained arrived suitable for 25kV AC electrification. These were basically wider versions of the Brisbane cars, updated with continuous dark glazing over the windows and a more modern and simpler cab design. A modified version of that cab design then appeared on later Brisbane trains, although the basic layout was not altered.

Interestingly, a change between the Brisbane EMU cars and the Perth AEA/AEB cars was the position of the forward side door. On the Perth cars, the door was moved one window space closer to the centre of the car, giving a larger end compartment and a smaller centre saloon.



Set 78, leading a Ferny Grove service into Roma Street in August 2002 has only had the window modifications and a simpler yellow painted end, showing more of the original AUPT design features. Peter Clark

This option is indicated on the drawings of the AUPT driving cars. So, considering only the Brisbane EMU trains and the Perth AEA/AEB sets, both versions of the AUPT design shown in the 1975 drawings were actually built, although none were used on Broad or Standard gauge.

While the Queensland EMU cars are easily recognised as being derived from the AUPT diagrams described as being "QR only", they are actually larger than the AUPT design, most particularly in height, where this is quite a bit higher than shown on the AUPT diagrams. For example, the pantograph was mounted on the roof, not in a well, and roof mounted air conditioning units raised the overall body height. The carbody at the ends at the widest part of the curve was cut back on the AUPT diagram, but the EMU cars as built had no such modifications. It is possible that as the electrification program progressed, it was realised that some of these restrictions either didn't apply or perhaps they could be removed at relatively low cost. However, I have a vague suspicion that the QR may have provided more restricted clearance information to the Federal Government simply to make things more difficult, as clearly was the case with the Australian Standard Garratt decades earlier.

While it is clear that the trains derived from the AUPT designs were received well in Brisbane and Perth, one wonders how such trains would have been received in Melbourne and more particularly in Sydney. In Melbourne, passengers would hardly notice the difference between the AUPT and the current Hitachi trains. Of course the air conditioning would have been noticed and would presumably have been appreciated on cold winter days and hot summer days. The two plus two seating might not have been accepted as easily, though as in the Siemens trains from the early privatisation era, the additional seats provided by the lack of a centre door would have compensated for the two plus two seating.

In Sydney, the AUPT cars would have stood out from the existing trains. While the early double deck interurban cars were similar in length and width, these ran in dedicated services and were not "mixed in" with the shorter, wider cars marshalled in eight-car sets. The air conditioning would have been popular on hot summer days, Whether the better environment would have made up for the fewer seats and fewer doors at an entirely different spacing than regular commuters would have expected isn't clear.

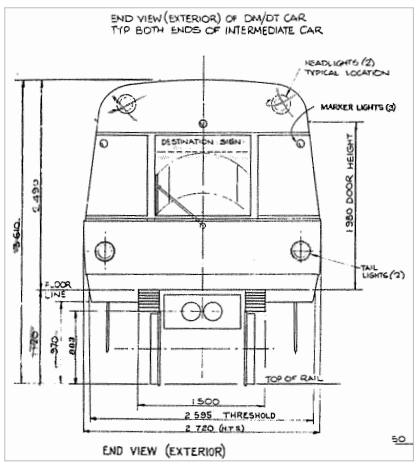
While as mentioned earlier, Adelaide was listed as a possible recipient of the AUPT cars as non-powered vehicles, when Adelaide did finally electrify, the design provided by Bombardier was basically an enlarged version of the AUPT design as far as layout and features were concerned, not surprising considering Bombardier was the successor to ASEA who built the first Queensland EMU sets and the initial Perth cars.

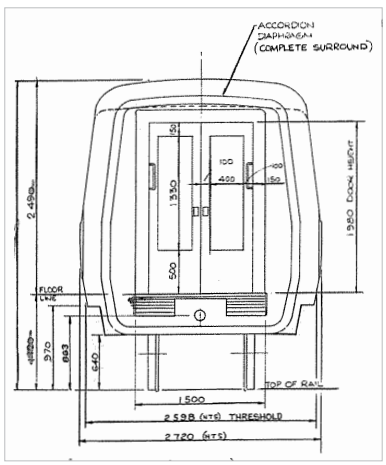
AUPT Standard Gauge Cars

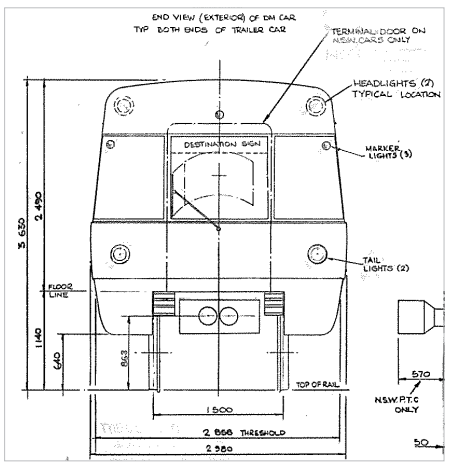
	Driving	Intermediate
Length	23.05m	23.05m
Width	2.98m	2.98m
Height	3.63m	3.63m
Bogie Centres	16.15 m	16.15 m
Bogie Wheelbase	2.2m	2.2m
Wheel Diameter	840mm	840mm

AUPT Narrow Gauge Cars

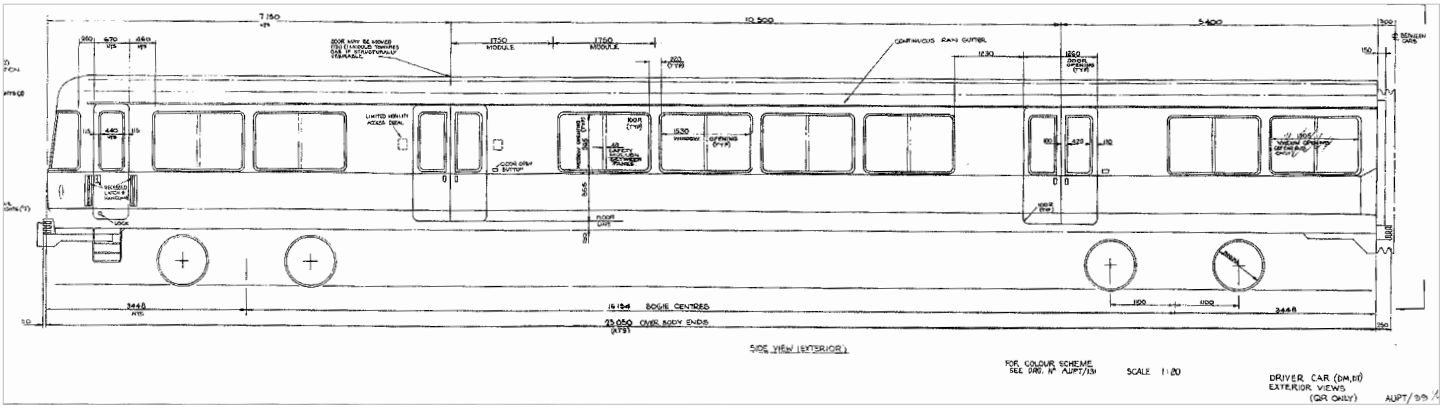
	Driving	Intermediate
Length	23.05m	23.05m
Width	2.72m	2.72m
Height	3.61m	3.93m
Bogie Centres	16.15 m	16.15 m
Bogie Wheelbase	2.2m	2.2m
Wheel Diameter	840mm	840mm

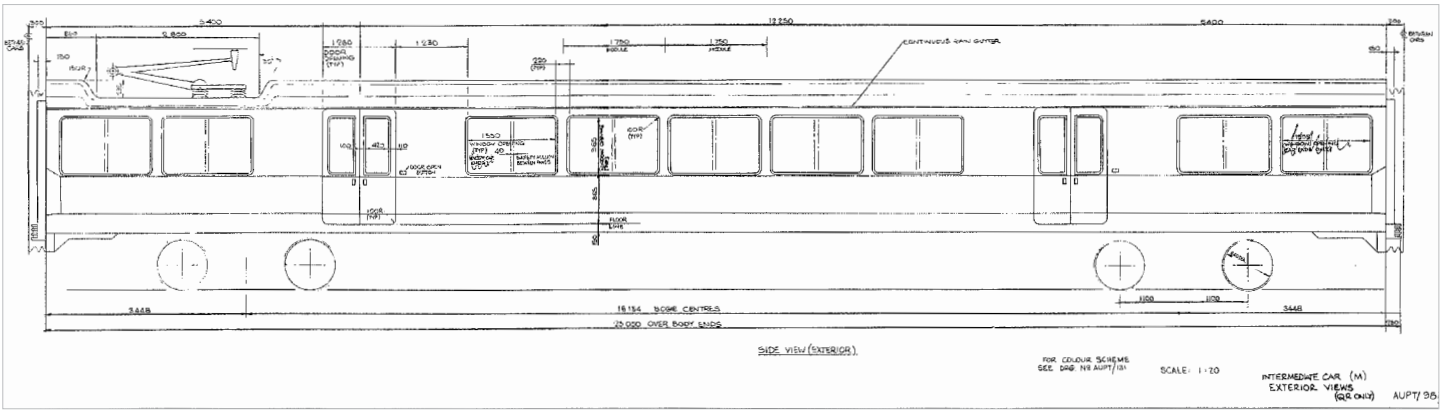


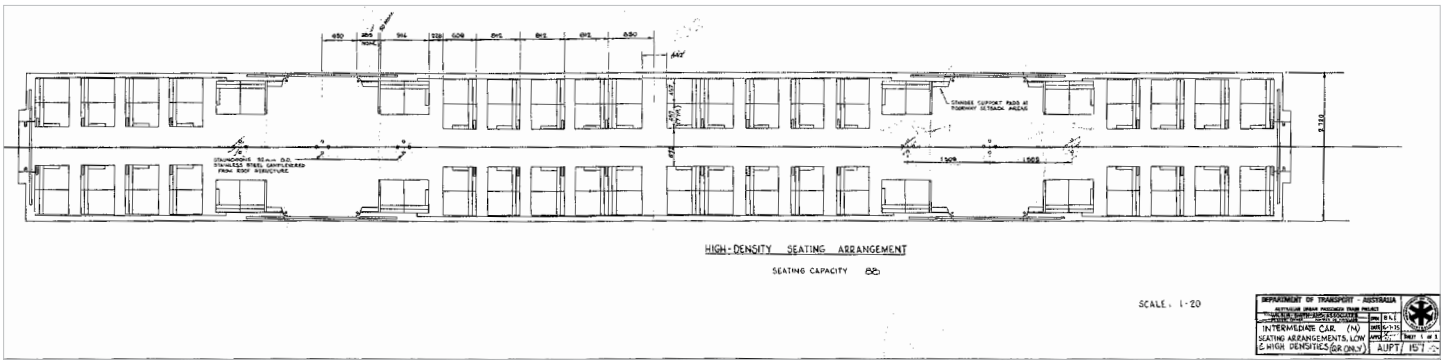




Left to right: The cab end view and inner end view of the narrow-gauge cars, and the cab end view of the standard gauge cars.

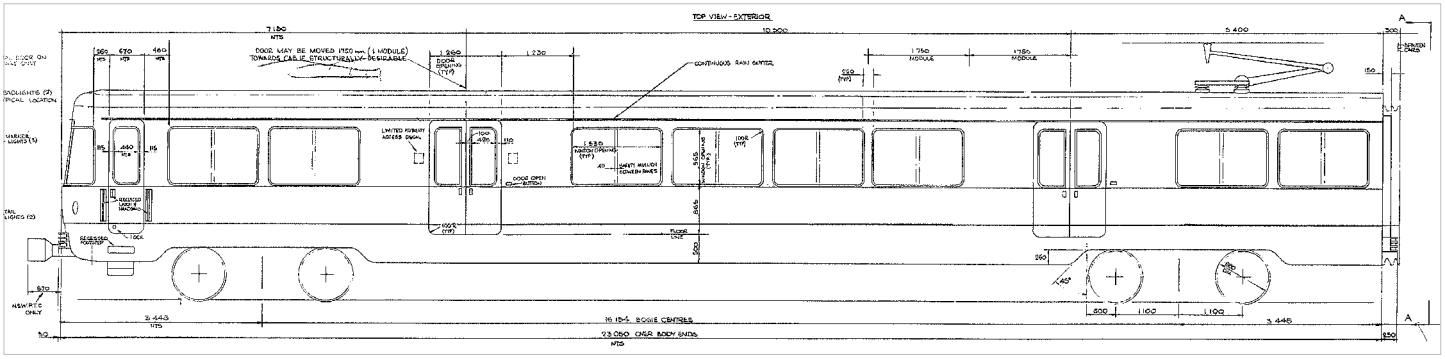


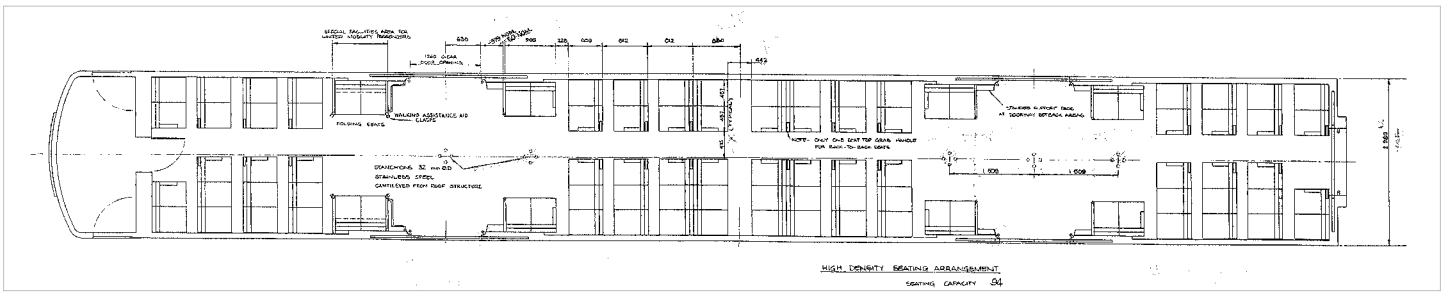




Above: The AUPT drawings were closely followed for the QR EMU design. Note that QR adopted the option indicated in the driving car drawing of moving the forward door one window module closer to the front.

Below: For the Perth AEA/AEB cars the standard gauge body design was adopted, retaining the forward doorway in the original location. The 2+3 across seating, intended for Melbourne, was not adopted. The new flat nose design and the continuous black window glazing of the Perth cars made those trains appear much more modern than those in Queensland, although the continuous dark glazing did appear in later Queensland trains.





Rolling Stock contracts and deliveries

Gauge mm	Qty	Class	Description	Builder - Location	Nov-22	Dec-22	Jan-23	Total
LOCOMOTIVES								
Aurizon								
1435	10	ACD/6040	C44ACi 3275 kw Co-Co d/e locomotive # 6046-6055	UGL Rail Broadmeadow NSW	-	-	2	10
1435	3		GT46-ACe Gen II 3200 kw Co-Co d/e locomotive # GWB 104 - 106	Progress Rail Muncie USA			3	3
BHP Iron Ore								
1435	2		FLXdrive 7.5 MWh Battery-electric locomotive #	Wabtec USA	-	-	-	-
1435	2		BE14.5BB Bo-Bo-Bo-Bo 14.5MWh Battery-electric locomotive #	Progress Rail Sete Lagoas Brazil	-	-	-	-
CBH WA								
1435	7		GT46-ACe Gen II 3200 kw Co-Co d/e locomotive #	Progress Rail Muncie USA	-	-	-	-
Fortescue Metals Group								
1435	2		BE14.5BB Bo-Bo-Bo-Bo 14.5MWh Battery-electric locomotive #	Progress Rail Sete Lagoas Brazil	-	-	-	-
1435	28		GE AC44C6M 3275 kW USA #101-128	Rebuilt Wabtec Fort Worth Texas USA	-	-	-	12
1435	1		Rebuild SD90MAC-H 4474kw #904 ex BNSF4854 convert for fuel trials	FFI Perth	-	-	-	-
1435	2		Rebuild CM40-8M Co-Co 2980kw #801-802 ex 4301,4302 convert for fuel trials	FFI Perth	-	-	-	-
Pacific National								
1435	50		C44ESACi 3355 kw Co-Co d/e locomotive #	UGL Rail Broadmeadow NSW	-	-	-	-
Qube								
1435	8		C44ESACi 3355 kw Co-Co d/e locomotive #	UGL Rail Broadmeadow NSW	-	-	-	-
1435	12		GT46-Ace Gen II 3360 kw Co-Co d/e locomotive #	Progress Rail Muncie USA	-	-	-	-
Queensland Rail								
1067	5	2900	GTL38C-3 1490 kw Rebuilt from 2150,2400,2470 #2901-2905	Progress Rail Qld	-	1	-	1
Rail First Asset Management								
1435	4	4420	C44ACi 3275 kw Co-Co d/e locomotive #4420-4423	UGL Rail Broadmeadow NSW		complete		4
Rio Tinto								
1435	4		FLXdrive 7.5 MWh Battery-electric locomotive #	Wabtec USA	-	-	-	-
Roy Hill								
1435	4		ES44ACi 3200kw Co-Co d/e locomotives # 1028-1031	Wabtec USA	-	-	-	-
1435	1		FLXdrive 7.5 MWh Battery-electric locomotive #	Wabtec USA	-	-	-	-
Southern Shorthaul Railroad								
1435	2		GT46-ACe Gen II 3200 kw Co-Co d/e locomotive #	Progress Rail Muncie USA	-	-	-	-
West Coast Wilderness Railway								
1067	1		Restore Abt Steam Locomotive #2	Engineering Co. Somerset Tas	-	-	-	-
INTERCITY PASSENGER CARS								
Journey Beyond Rail Expeditions								
1435	8	HGM	Install 3 Mercedes Benz Diesel-Alternators HGM Power Vans 900,2-4,296-8,317	Rail First Asset Management Islington SA	-	-	-	6
Transport for NSW (NSW TrainLink)								
1435	1	XAM	Rebuild XF Economy Sitting car as XAM Sleeping car	UGL Unipart	-	-	-	-
1435	1	XBR	Rebuild XF Economy Sitting car as XBR First buffet car	UGL Unipart	-	-	-	-
1435	10		Six Car Dual Mode MU trains	CAF Spain	-	-	-	-
1435	9		Three Car Dual Mode MU trains	CAF Spain	-	-	-	-
Public Transport Authority WA								
1067	2	ADR	DMU Driving Power Car # 101-102	Alstom Trans India-Perth WA	-	-	-	-
1067	2	ADW	DMU Trailer Car # 301-302	Alstom Trans India-Perth WA	-	-	-	-
1067	2	ADS	DMU Driving Power Car # 201-202	Alstom Trans India-Perth WA	-	-	-	-
Vintage Rail Journeys								
1435	12		Former Southern Auroa Sleeping cars NAM 2342, 2374, LAN 2348	Overhaul and restored for service	3	-	-	12
V/Line								
1600	12	DM(D)	VLocityDMU Driving Power (Disabled Access) (a/c) #2107-2118	Alstom Transport Dandenong Vic	-	-	-	-
1600	12	TM	VLocity DMU Intermediate Power (a/c) #2307-2318	Alstom Transport Dandenong Vic	-	-	-	-
1600	12	DM	VLocity DMU Driving Power (a/c) #2207-2218	Alstom Transport Dandenong Vic	-	-	-	-
INTERURBAN PASSENGER CARS								
Transport for NSW (NSW TrainLink)								
1435	10		Three Car Dual Mode MU trains	CAF Espana	-	-	-	-
Transport for NSW-TrainLink (Rail Connect - Hyundai Rotem, Mitsubishi, UGL)								
1435	111	DDA	Mariyung DD Interurban EMU Driving Tlr Cars #9301-9756. 9401-9455	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	111	DD	Mariyung DD Interurban EMU Driving Tlr Cars #9701-9356. 9801-9855	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	111	DN	Mariyung DD Interurban EMU Inter Motor Cars #8501-8556, 8601-8655	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	111	DND	Mariyung DD Interurban EMU Motor (PWD) # 8301-8356, 8401-8455	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	55	DNL	Mariyung DD Interurban EMU Inter Motor Cars (toilet) #8801-8855	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	55	DT	Mariyung DD Interurban EMU Trailer Cars #9601-9655	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	14	DDA	Mariyung DD Interurban EMU Driving Tlr Cars #9357-9370	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	14	DD	Mariyung DD Interurban EMU Driving Tlr Cars #9757-9770	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	14	DN	Mariyung DD Interurban EMU Inter Motor Cars #8557-8570	Hyundai Rotem ROK - UGL Rail	-	-	-	-
1435	14	DND	Mariyung DD Interurban EMU Motor Cars (PWD toilet) # 8357-8370	Hyundai Rotem ROK - UGL Rail	-	-	-	-
West Coast Wilderness Railway								
1067	1	DP	Restore former TGR Railcar DP 17	West Coast Wilderness Rwy WS	-	-	-	-
V/Line								
1600	8	DM(D)	VLocityDMU Driving Power (Disabled Access) (a/c) #1199, 2100-2106	Alstom Transport Dandenong Vic	-	1	-	5
1600	8	TM	VLocity DMU Intermediate Power (a/c) #1399, 2300-2306	Alstom Transport Dandenong Vic	-	1	-	5
1600	8	DM	VLocity DMU Driving Power (a/c) #1299, 2200-2206	Alstom Transport Dandenong Vic	-	1	-	5

Gauge mm	Qty	Class	Description	Builder - Location	Nov-22	Dec-22	Jan-23	Total
SUBURBAN PASSENGER CARS								
Canberra Metro								
1435	5		Urbos 3 Trams #15-19	CAF Spain	-	-	-	-
GoldlinQ Gold Coast Rapid Transit								
1435	5		Flexity 2 Trams #19-23	Alstom Transport	-	-	-	-
KDR Adelaide Metro								
1600	24	4000	EMU Driving motor #4023A-4034A, 4023B-4034B	Alstom Transport Dandenong Vic	2	2	2	12
1600	12	4000	EMU Trailer #4023T-4034T	Alstom Transport Dandenong Vic	1	1	1	6
PTV (KDR Yarra Trams)								
1435	100	G	Flexity 2 Trams # 7001-7100	Alstom Transport Dandenong Vic	-	-	-	-
PTV (Metro Trains Melbourne)								
1600	50	M	EMU X'trapolis 2.0 Driving Motor car	Alstom Transport Ballarat Vic	-	-	-	-
1600	50	T	EMU X'trapolis 2.0 Trailer cars	Alstom Transport Ballarat Vic	-	-	-	-
1600	50	M	EMU X'trapolis 2.0 Intermediate Motor car	Alstom Transport Ballarat Vic	-	-	-	-
PTV (Evolution Rail)								
1600	130	TC	HCMT EMU Driving Trailer 9001-9065, 9901-9965	CRRC Changchun RSW-Downer	8	6	-	100
1600	65	DMP1	HCMT EMU Motor 9201-9265	CRRC Changchun RSW-Downer	4	3	-	50
1600	130	MP	HCMT EMU Motor 9101-9165, 9801-9865	CRRC Changchun RSW-Downer	8	6	-	100
1600	65	DMP2	HCMT EMU Motor 9701-9765	CRRC Changchun RSW-Downer	4	3	-	50
1600	65	DT	HCMT EMU Trailer 9301-9365	CRRC Changchun RSW-Downer	4	3	-	50
1600	10	TC	HCMT EMU Driving Trailer 9066-9070, 9966-9970	CRRC Changchun RSW-Downer	-	-	-	-
1600	5	DMP1	HCMT EMU Motor 9266-9270	CRRC Changchun RSW-Downer	-	-	-	-
1600	10	MP	HCMT EMU Motor 9166-9170, 9866-9870	CRRC Changchun RSW-Downer	-	-	-	-
1600	5	DMP2	HCMT EMU Motor 9766-9770	CRRC Changchun RSW-Downer	-	-	-	-
1600	5	DT	HCMT EMU Trailer 9366-9370	CRRC Changchun RSW-Downer	-	-	-	-
Public Transport Authority WA								
1067	41	CEA	EMU Driving motor cars (a/c) # 1127-1167	Alstom Trans India-Perth WA	-	-	-	-
1067	41	CEC	EMU Trailer car (a/c) # 2127-2167	Alstom Trans India-Perth WA	-	-	-	-
1067	41	CEE	EMU Motor car (a/c) # 3127-3167	Alstom Trans India-Perth WA	-	-	-	-
1067	41	CEF	EMU Motor cars (a/c) # 4127-4167	Alstom Trans India-Perth WA	-	-	-	-
1067	41	CED	EMU Trailer car (a/c) # 5127-5167	Alstom Trans India-Perth WA	-	-	-	-
1067	41	CEB	EMU Driving motor cars (a/c) # 6127-6167	Alstom Trans India-Perth WA	-	-	-	-
Queensland Rail								
1067	65	DMA	EMU Olympic Driving Motor Car #	Downer Torbanlea Maryborough Qld	-	-	-	-
1067	65	DMB	EMU Olympic Driving Motor Car #	Downer Torbanlea Maryborough Qld	-	-	-	-
1067	65	MA	EMU Olympic Intermediate Motor Car #	Downer Torbanlea Maryborough Qld	-	-	-	-
1067	65	MB	EMU Olympic Intermediate Motor Car with toilet #	Downer Torbanlea Maryborough Qld	-	-	-	-
1067	65	TA	EMU Olympic Trailer Car (Pantograph) #	Downer Torbanlea Maryborough Qld	-	-	-	-
1067	65	TB	EMU Olympic Trailer Car (Pantograph) #	Downer Torbanlea Maryborough Qld	-	-	-	-
Transport for NSW (Sydney Metro)								
1435	46	DTC	Terminal tls for driverless Metropolis EMU #2301~4501, 2302~4502	Alstom Sri City Andhra Pradesh, India		No Advice		
1435	46	MPC	Inter panto motor Cars Metropolis EMU 2303~4503, 2304~4504	Alstom Sri City Andhra Pradesh, India		No Advice		
1435	46	MC	Inter motor Cars Metropolis EMU #2305~4505, 2306~4506	Alstom Sri City Andhra Pradesh, India		No Advice		
Transport for NSW (Sydney Light Rail)								
1435	4		Urbos 3 Trams #2125-2128	CAF Spain	-	-	-	-
Transport for NSW (Parramatta Light Rail)								
1435	13		Urbos 3 Trams #2161-2173	CAF Spain	-	-	-	-
Transport for NSW (Sydney Metro-Western Sydney Airport)								
1435	24		Terminal tls for driverless Metropolis EMU #	Alstom Sri City Andhra Pradesh, India	-	-	-	-
1435	12		Inter panto motor Cars Metropolis EMU #	Alstom Sri City Andhra Pradesh, India	-	-	-	-
FREIGHT WAGONS								
ARC Infrastructure								
1435			Austonomous 2TEU Container Wagons		-	-	-	-
Aurizon								
1435	66	AGAH	Install Roof and grain hatches on former QHAH Coal Hopper wagons	Varley Engineering NSW	18	12	12	42
BHP Iron Ore								
1435	176		Ore Wagons	CRRC PRC		No advice		94?
1435	140		Ore Wagons from kits supplied from QRRS Assembled by UGL	QRRS PRC/UGL WA		No advice		
KiwiRail								
1068	131		18.55 metre 3 TEU Container Wagon	UGL/PT Inka Indonesia		No advice		
1068	131		16.25 metre 2.5 TEU Container Wagon	UGL/PT Inka Indonesia		No advice		
1068	2		12.2 metre 2 TEU Container Wagon	UGL/PT Inka Indonesia		No advice		
Magnetic Rail								
1435		CDVY	Crew Van rebuilt ex former ANRail AVDP	Rail First Asset Management Islington SA		No advice		

Gauge mm	Qty	Class	Description	Builder - Location	Nov-22	Dec-22	Jan-23	Total
Pacific National								
1435	1	RZDY	Rebuild former VIP car BMC 2 to Crew Car RZEY 5	Rail First Asset Management Islington SA	-	-	-	-
1435	2	RZEY	Rebuild former ANRail DMU cars to Crew Car RZDY 100, 255	Rail First Asset Management Islington SA	-	-	-	-
1435	3		Rebuild former ANRail AJ Sitting cars to Crew Car	Rail First Asset Management Islington SA	-	-	-	-
1435	110	RRUY	Two-unit Well Container Wagons	UGL/Baotou Beifang Changyu PRC		No advice		
Rail First Asset Management								
1067		CQGY	2TEU Container Wagons	Rail First Asset Management Islington SA		No advice		
1435	35	CQPY	2TEU Container Wagons #1901-1935	Rail First Asset Management Islington SA	-	-	-	-
Rio Tinto Pilbara Iron								
1435	100		Two-unit Ore Wagons	WA	-	-	-	-
Roy Hill								
1435	500		Two-unit Ore Wagons	CRRC PRC		No advice		
Specialized Container Transport								
1435	PWXY		Well Container wagon	CRRC PRC		No advice		
TRACK MAINTENANCE EQUIPMENT								
Aurizon Infrastructure Services Group								
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 Unit FRM 902	Plasser Australia NSW		No advice		
1067	1	MMY	Ballast Cleaner Hopper Wagon (MFS 40)	Plasser Australia NSW		No advice		
John Holland								
1435	10		Rail Guidance System for 10 Trucks	HMA Techniplan Qld		No advice		
Laing O'Rouke/Select Plant Hire								
Dual	1		B 35 C Points and Crosovers Tamper	MATISA	-	-	-	-
PTV (KDR Yarra Trams)								
1435	2		ACM 105SP Hi-rail Overhead Wiring vehicle	Aust Crane & Machine Vic		No advice		
Swietelsky Rail Australia								
1435	1		09-3X Tamper	Plasser Austrialia		No advice		
1435	1		SSP 303 Ballast Regulator	Plasser Linz Austria		No advice		
1435	1		H1000 Rail Trolley	Varley Group, Carrington, NSW		No advice		
Transport for NSW (Sydney Trains)								
1435	4	-	Hirail Overhead Wiring vehicles	France		No advice		
1435	2	NDZF	Track Carrier Wagon # 40051-40052	Rail First Islington WS SA		No advice		
								E & O E



Locomotive ACD 6055 was the last delivered in an order for ten from UGL Rail at Broadmeadow. It has an Aboriginal motif of artwork with a map of Australia. On Sunday 5 March it is seen at High Street (near Maitland) leading 6028 and 6029 hauling an empty coal train. Graham Attenborough





Above: 2901 and 2902 leave Redbank Workshops on Sunday 12 March for 2902's maiden mainline test run. Anthony Evans
Left: During February, Rail First took delivery of the last of the second batch of CQPY wagons, built at Islington Workshops. There are very few new wagons built in Australia these days. CQPY 1931 is seen at Goulburn on Friday 10 March. Peter Clark
Below: On Monday 6 March ten recently converted AGAH Aurizon Grain wagons sat in Carrington yard, close to Varley Engineering where they were converted from QHAH coal hopper wagons. These are coupled pairs, fitted with Electronically Controlled Pneumatic brakes, the first grain wagons in Australia to be so equipped. The two cars in the foreground are AGAH 51650 C and AGAH 51651 L. The new roofs and hatches are clearly visible in this view. Peter Clark





The official relaunch of locomotive 3001

On Thursday 2 March, locomotive 3001 was 'officially' returned to service with a special relaunch ceremony attended by Transport Heritage NSW members and invited guests at the NSW Rail Museum, Thirlmere.

The 120-year-old locomotive was officially relaunched by the Member for Wollondilly, Nathaniel Smith MP, before the locomotive hauled its inaugural passenger service from Thirlmere to Buxton and return.

The return of 3001, after a 27-year hiatus, will provide much needed additional fleet capacity for growing heritage train operations at the NSW Rail Museum, particularly with the completion of the Loop Line Upgrade Project to Colo Vale in 2024.



3001 was built by Beyer, Peacock & Co, Manchester in 1903 as S 636, the first of an initial order for 35 4-6-4T locomotives designed for Sydney suburban passenger duties, the third of locomotive engineer William Thow's 'standard designs'. This very successful design was repeated with further deliveries from Beyer Peacock and the NSWGR Eveleigh Workshops, with the class growing to 145 members. S 636 became 3001 of the (C)30 class at the NSWGR 1924 renumbering.

The electrification of the Sydney suburban system, beginning in 1926, left the NSWGR with a surplus of locomotives too valuable to scrap. Starting with 3088, outshopped in August 1928, 77 class members were converted from 4-6-4T to 4-6-0 tender configuration for mixed traffic duties on country branch lines. The converted locomotives were known as the (C)30T class to differentiate them from the remaining 68 (C)30 class tank locomotives, the 'T' in this case denoting tender locomotive. They replaced various ageing former 'main-line' 4-4-0 and 2-6-0 locomotives allocated to country depots. The 30Ts were just as successful in the bush as they had been in the suburbs, and some survived in service as late as 1972.

3001 was the second-last of the class to be converted, being outshopped in its new guise in June 1933. 27 of the 30Ts were later fitted with superheated boilers and piston valves, improving their economy by around 10%, and 3001 received this treatment in March 1948.

3001 was withdrawn from regular service in 1967, having spent its last years as a regular performer on the 'Mudgee Mail', running four days a week between Mudgee and Gwabegar.

Fortunately, it was not scrapped, but allocated to the then NSW Rail Transport Museum as an exhibit. Around 1983 it was restored to working order and for the next thirteen years served the Museum hauling main line excursions and services on the loop line, until a need for some serious repairs saw it resume its previous role as an 'exhibit'.

Now, having undergone an extensive three-year restoration, 3001 is once again a valued member of the operating fleet.



Top: Transport Heritage New South Wales chief executive officer Andrew Moritz addresses the crowd as the star of the show simmers away behind him. Bruce Belbin **Above: Assisted by Andrew, Member for Wollondilly Nathaniel Smith MP cuts the ceremonial ribbon to declare 3001 back in service.** Bruce Belbin **Inset: Commemorative boxed "Locomotive 3001" cupcakes were available at the catering tent.** Bruce Belbin

Major upgrade for SteamRanger heritage railway

The South Australian Government has announced that it will provide $8.9 million for much needed remediation works to South Australia's SteamRanger heritage railway.

The State Heritage listed tourism attraction provides 70,000 passenger journeys each year, running from Mount Barker to Victor Harbor on the south coast of the Fleurieu Peninsula, and includes the popular Cockle Train.

However, recent engineering reports on the nine SteamRanger bridges recommended works to the Currency Creek, Watson Gap and Hindmarsh River bridges, as well as the Tookayerta Creek and Finniss River bridges.

The $8.45 million for additional repairs to the five bridges was approved as part of the Government's 2022-23 Mid-Year Budget Review in November 2022. The works will be completed over the next two years and will be managed by the Department for Infrastructure and Transport.

The South Australian Department for Environment and Water has also provided $450,000 for urgent short-term remediation works on the Currency Creek and Watson Gap bridges, which is due to be completed by June.

The railway sits on Crown land and is operated under licence by The Australian Railway Historical Society South Australia Incorporated (ARHSSA, trading as SteamRanger). SteamRanger is run by a dedicated team of volunteers that maintain the trains and passenger services. It has contributed $18.5 million of economic activity to the regional economy over a five year period.

SA Deputy Premier and Minister for Climate, Environment and Water Susan Close said on Sunday 5 February that the Government is pleased to support SteamRanger.

Peter Charlson, President of the Australian Railway Historical Society (SA) explained that all revenue from SteamRanger goes directly into the maintenance of rolling stock and track. "The aging bridge infrastructure on our track, with some dating back to the late 19th century has become a major challenge for us, and we are glad and very grateful to receive this support from the government.

"Our mission is to preserve the history of railways in South Australia and deliver an exciting experience to our passengers as they traverse the amazing countryside of our track, from the southern tip of the Mount Lofty Ranges, to the beautiful coast of the Fleurieu Peninsula".

Violet Town Southern Aurora memorial wins national award

A memorial garden that incorporates unique street art and honours those affected by one of Australia's worst rail accidents has been named as the best monument or memorial experience in Australia.

The Southern Aurora Memorial, a project managed by the Violet Town Action Group, has received the Gold Award for the Best Monument or Memorial at the 2022 Australian Street Art Awards announced online from Queensland's Sunshine Coast on Friday 10 February.

The moving memorial, which includes a mural by Tim Bowtell and other creative contributions by Lachlan Cumming and Chris Mann, nudged out the Wandoan Soldier Settlers Precinct and its artworks in the Western Downs Queensland, and Bronze winner 'Neighbour', a mural by Jesse Bell in Katherine which recognises Ayaiga, the first Indigenous Australian to be awarded the prestigious British Empire's King Albert Medal.

The Australian Street Art Awards, a tourism award for public art programs, encourages Australians to explore the world-class street and public art that is freely accessible all year round and found in every corner of the country.

The southbound *Southern Aurora* passenger train collided with a northbound freight about one kilometre south of Violet Town station (located approximately 169 kilometres from Southern Cross station on the Victorian North East line) on 7 February 1969, resulting in nine deaths and 117 injuries.

The Australian Street Art Committee judges said;

"Violet Town shows respect with its well-regarded *Southern Aurora Memorial*. Using art and design to tell the stories associated with that incident, and to deal with tragedy and promote positive human attributes such as bravery, the memorial attracts people from all over Australia to commemorate, remember, learn, reflect and heal.

"With rigorous judging by tourism leaders from across Australia, plus second-tier auditing and due diligence, the *Southern Aurora* Memorial's win has the credence of the art tourism sector".

In commenting on *Southern Aurora Memorial Violet Town's* win, the judges congratulated everyone involved in keeping the memory and history of the *Southern Aurora* train rescue alive through the development of these Memorial Gardens.

"How the people of Violet Town banded together without delay and the bravery, kindness and humanity the community exhibited in saving so many lives is a story that every Australian should know and these Memorial Gardens play an important role in that education," the judges said.

A video featuring the Southern Aurora Memorial can be viewed on the Australian Street Art Awards' Facebook page at: https://www.facebook.com/australianstreetartawards/videos/3416915445216854

Below (left and right): Two of the murals featured as part of the award-winning Southern Aurora Memorial. Bruce Cumming







Above: On Sunday 26 February at 10am, Puffing Billy locos 12A and 8A left Belgrave with a servce to Lakeside. At Menzies Creek, 12A was detached and headed back to Belgrave. The driver of 8A is seen doing a final check before departure for Lakeside. Mike Martin
Below: QR's recently restored Baldwin 2-8-2 221A has been leased to Southern Downs Steam Railway at Warwick, while Walkers C17 4-8-0 971 is undergoing repairs. 221A is seen climbing the hill at Deuchar during driver familiarisation runs between Warwick and Clifton on Saturday 11 March. Lenn Bayliss



The Lower Hunter Freight Corridor

The recent announcement by the NSW Government that it intends to proceed with the development of the Lower Hunter Freight Corridor (*RD* February 2023 p.21), highlights the weaknesses of having both the federal and state governments enacting authority over transport infrastructure.

As it stands, the bureaucrats in Macquarie Street believe that they can resolve traffic problems at two level crossings in Newcastle by building an entirely new railway from Fassifern to Hexham. Yet, they seem almost completely oblivious to the development of Inland Rail, which will eliminate Melbourne-Brisbane traffic from the Main Northern Line, thereby reducing the demand for the LHFC. Notwithstanding, the proposed development of a container port in Newcastle and the imminent demise of coal traffic between the Western coalfields (except Ulan) and Newcastle, means that the LHFC will not be required.

The background to multiple jurisdictions enacting reforms over railway infrastructure emerged after World War Two, when became evident that the states needed to cooperate with the Commonwealth to improve the efficiency of the nation's railways. Following the failure of the Whitlam Government's vision for a uniform national railway system, the states agreed to work with the Federal Government to establishment of the National Rail Corporation. The difference between the original vision for 'Australian National' and NRC, is that not all states chose to participate, and those that did were issued with a portion of shares in the new organisation, thereby maintaining some autonomy over their rail networks. Following the sale of National Rail and other state-based rail freight businesses, various track access agencies, such as the ARTC were formed. These organisations operate under the framework of the horizontally segregated model. This is different to the vertically integrated model (Such as the old NSWGR or State Rail), because it permits any accredited operator access to the network to complete with other operators on an equal basis. This enables states to maintain autonomy over their respective systems, whilst satisfying pro-competition laws.

However, the horizontally-segregated model has many weaknesses that are beginning to be realised. Firstly, it fails to acknowledge the bombardment of competition that operators receive from road and sea transport, let alone having to fight each other for market share. Secondly, it doesn't encourage track straightening, because the track access agents don't necessarily reap the benefits of straighter track, hence the cost of track maintenance may be viewed as a liability. Subsequently, operators are punished by exorbitant track access fees leading to a cut-throat industry with paper thin profit margins (*RD* March 2023 p.4). Consequently, motive power is being retained beyond their normal life expectancy, such as the 81 Class, which are now older than the 44 Class when they were withdrawn. This leads to further breakdowns resulting in the erosion of the reputation of rail transport. Furthermore, it has resulted in the formation of a network that is more complicated and over-governed than the old state-based systems.

I would suggest that a vertically-integrated national railway based on the old ANR is the best model for Australia, because it would enable the Commonwealth to exercise autonomy over the entire network (except perhaps urban systems). Railways are conducive to moving long-distance intermodal freight and are likely to become increasingly reliant on interstate freight in the future, as a result of the forecasted demise in coal production.

Stephen Miller
Rutherford, NSW

Illawarra Vision

After reading the item "Secret High-Speed rail plan backs Newcastle, Sydney, Wollongong link" on pages 14 and 15 in the February edition of *Railway Digest* I decided that I should write to *Railway Digest* with some of EcoTransit's "Illawarra Vision" ideas regarding how rail services between Nowra, Wollongong and Sydney could be dramatically speeded up.

The following upgrades can be phased in over a period of time and the benefits will increase as each stage is completed:

Phase 1:

1. Obtain and introduce double deck electric TILT trains capable of a maximum speed of 200 km/h
2. Duplicate the line from Unanderra to Bomaderry and electrify from Kiama to Bomaderry
3. Add a third track, bi-directionally signalled between Hurstville and Waterfall
4. Extend the line from Bomaderry across the Shoalhaven River into Nowra

The above would reduce the journey times from Bomaderry to Central to two hours four minutes; Wollongong to Central: one hour nine minutes; and Bomaderry to Bondi Junction to two hours fifteen minutes; Wollongong to Bondi Junction: one hour twenty two minutes.

Phase 2:

1. Build the Thirroul to Waterfall tunnel (approximately 11km long). This will eliminate one of the sections with the tightest curves and the single-track Coal Cliff tunnel
2. Add low level platforms at Thirroul, Waterfall and all intermediate stations on the existing line to allow Tram-Trains to provide local service and connect with north and south bound trains at both ends. If trackwork or any incident prevented trains operation on the new line, they could still operate on the existing line along with the tram-trains.
3. Complete the Maldon-Dombarton line to take most freight trains off the Illawarra Line (including a triangular junction at Unanderra to allow freight trains to travel south, in addition, to Port Kembla.

Completion of phase 2 would further reduce journey times and bring the Wollongong to Central times down to less than one hour.

Phase 3:

1. Construction of a light rail line to be used by tram-trains from Shellharbour Junction station to Port Kembla where they would then use the existing rail line into Wollongong. This would massively improve public transport through this corridor than the current buses and more frequency on the Port Kembla to Wollongong section.
2. Extend the light rail along the mall to the beach and then along roads (replacing bus services) to reach Thirroul. After the junction with the new tunnel line the tram-trains would continue to Waterfall along the existing rail line.

Bob Schroeder
via email

Inland Rail

The letter by Barry Peffer on page 58 of the February 2023 *Railway Digest* makes common sense. Taking the Inland Rail from Toowoomba to Gladstone and avoiding complaints from Brisbane residents in suburban areas.

Extending the Inland Rail to Gladstone could be the start of a standard gauge national freight network for all of Australia.

It is time to leave state-based railway systems in the colonial era and take a national approach to the rail network.

Robert E Duncombe
Reesville, Qld

Indian Pacific running in January

As most would be aware, the NSW Main West over the Blue Mountains was closed for some weeks due to a serious derailment, compounded by floods in the far west of the state. My wife and I were booked to travel from Sydney to Adelaide on the Indian Pacific, departing Wednesday 11 January. As the line remained closed, we were anticipating cancellation, or possibly an experience such as reported by Bill Phippen in the *RD* December issue – not a happy prospect.

However, a few days prior to travel, Journey Beyond/Great Southern Rail (JB) advised that,

rather than the service being cancelled, it would run via Victoria. As the total distance was greater than the route via Broken Hill, there would not be time to bring the train into Sydney. Instead, the train would terminate at Goulburn on the Main South. Sydney-bound "guests" would be conveyed by coach from Goulburn to Sydney, while departing "guests" would similarly be transported to Goulburn by coach.

This arrangement worked very well. After check-in at Central station, JB had booked out the Eternity restaurant, where everything, including alcoholic drinks, was very generously laid on free of charge for passengers. A very smooth and rapid journey to Goulburn then ensued.

Although it was not unprecedented for the *Indian Pacific* to run through Goulburn, it was certainly unusual. The length of the train was such that it made three stops in Goulburn to board different parts of the train.

The journey was, as has always been my experience on the *Indian Pacific*, comfortable, enjoyable and well-catered; and we arrived in Adelaide just a tad ahead of schedule. Apparently, though, JB staff who work on the *Indian Pacific* and the *Ghan* do not normally work on the *Overland*, and hence they were as unfamiliar with the route as most of the passengers. At breakfast, one young woman was unable even to tell me whether we were still in Victoria or had passed into South Australia!

There was an irony for my wife and me in particular. We had never travelled on the *Overland*, and were keen to do so while funding from Victoria is still in place. Our trip was thus to be *Indian Pacific* to Adelaide (via Broken Hill), Adelaide to Melbourne on the *Overland*, then the XPT from Melbourne to Sydney – obviously with a few days in each of Adelaide and Melbourne. With the altered arrangements, we had the dubious bonus of actually doing the *Overland* route twice, once in each direction!

Alan Harper OAM
Eastwood, NSW

Canberra Liberals promise to dump light rail to Woden

I was interested to see in the February 2023 *Railway Digest* (page 13) that the Liberals have promised to cancel the light rail from Canberra to Woden if they win the next election.

True to form, it shows how the Liberals hate rail, whether it be main line or light rail, just as they showed in 1979 when the WA Liberal government closed the Perth-Fremantle rail line. They were also opposed to the Perth-Joondalup line being built.

Had the WA Liberals remained in government, Perth may not have had a metro rail service at all. As it was, they did succeed in privatising Perth's bus services in 1995.

Frank Cherry
Southlake, WA

A case for rail transport

Peter Sansom in 'A case for rail transport' (Readers Write March *RD*) rightly says "the inland rail project is nothing to boast about". With the current thinking about the project, it will never be something to boast about.

A colleague recently attended a meeting in Albury where ARTC talked about the work they would be carrying out between Albury and Illabo in southern NSW, a distance of 174 kilometres. When the colleague mentioned improvements to the line he was taken aside after the meeting by a senior ARTC representative and told that what they were undertaking was vertical and lateral enhancements, not improvements. By vertical he understood to mean raising a few pedestrian and road bridges to permit double stacking. What lateral means… who knows! And whilst the track is reasonably straight, not one centimetre of improvements such as track realignment or duplication was part of their contract.

Says a lot.

Barry Peffer
Nicholls, ACT

The *Indian Pacific* – The Full Journey

It would be interesting to know if any *RD* readers viewed the SBS Viceland program *The Indian Pacific – The Full Journey* (Perth-Sydney) on Thursday 2 March and have expressed their opinion in the magazine, as I have.

The program ran from 12.00 – 3.00pm and I marvelled at the thought that such a journey could be covered in detail in such a time frame. It smacked of a similar type of program I tried to watch yonks ago, Slow TV, on SBS.

As briefly as I can; apart from the soundtrack featuring nothing but the noise of the (literal) track sounds, almost inaudible prattle of the drivers as they spoke to their colleagues on-line, and the mindless chatter of passengers in the dining car and their cabins, there were no other vocals. Some indoor shots were out of focus. Cameras were installed in the driver's cabin, on the starboard side of the leading locomotive (facing forward and aft), in front of the leading locomotive, at any number of side windows and out the rear of the trailing car. As well, there were endless overhead shots from helicopters, following the progress of the train, again, with no dialogue or music, and periodic texts on screen, giving snippets of railway history and locations along the route.

My first thoughts were, three hours of this? Why? It's obviously not an ad for the train, its amenities, the food or the countryside. The words 'unprofessional wankery' spring to mind.

Thanks to my dear old grand-dad and my father, I've been a devoted railway nut all my life, collecting a small library of railway/train books from around the world, but I fail (miserably) in deciphering the point or common sense, let alone the reason for such a program to be shown on public television…in daylight?

To finish off, the program ended (with no closing credits) with shots of the train hurtling across table-top landscapes, nowhere near Sydney. Are there another three hours to follow, at a future date on Viceland? I shudder to think.

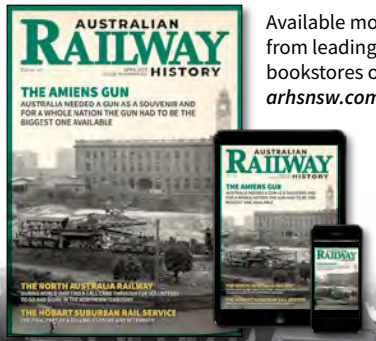
As someone we all know once said, "Please explain".

Noel Robertson
Nambucca Heads, NSW

AUSTRALIAN RAILWAY HISTORY

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The North Australia Railway
The Hobart Suburban Rail Service – Part 2



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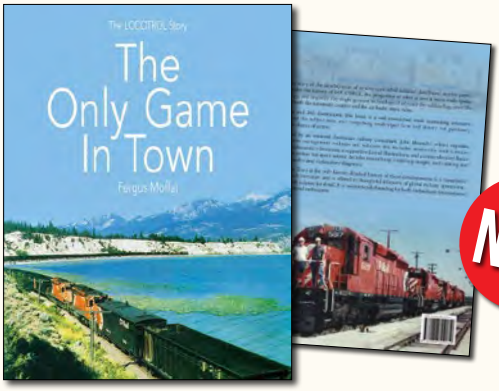
ARHS BOOKSHOP NEWS

AUTUMN UPDATE

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Thornleigh's little railway with a big story

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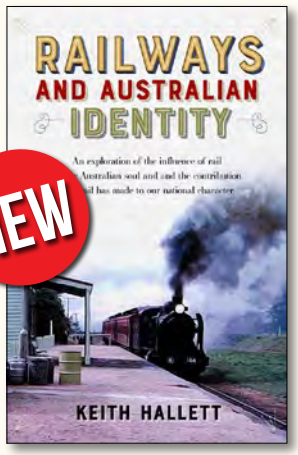


THE ONLY GAME IN TOWN

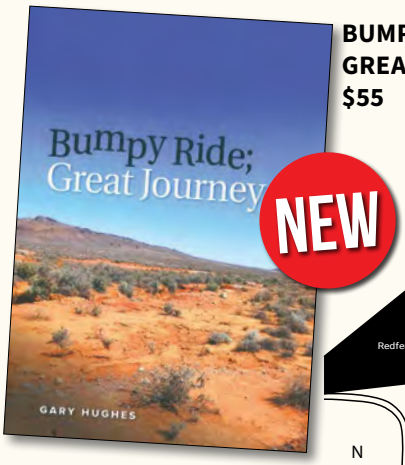
This is the story of the development of remote-controlled railroad distributed motive power. Distributing locomotive power throughout the length of a long, heavy train and controlling those dispersed locomotives remotely, shares the motive force throughout the train rather than concentrating it all conventionally at the head-end. This book is for both rail professionals and historians interested to understand the origins and technical development of LOCOTROL, as the author incorporates a valuable personal connection to these developments. **$69.95**

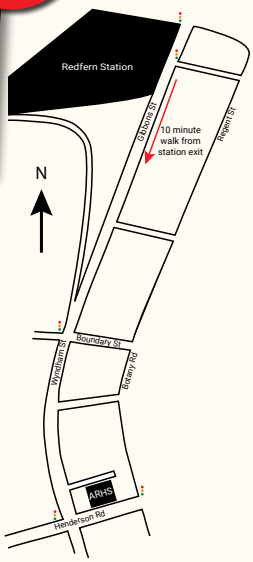
RAILWAYS AND AUSTRALIAN IDENTITY

Railway lines are typically shown on maps as permanent, however many lines are now abandoned. But the experiences of rail trips to distant places by train are, to many, fondly remembered events. While this book acknowledges the essential economic effects of the rail network, it also celebrates the human responses and the contribution that rail has made to our national character. **$24.95**



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There is time in Bathurst to visit the excellent Bathurst Railway Museum, a short walk from the station, and entry is included. We are offering a catered lunch of drinks and sandwiches, but this is optional should you wish to dine at one of the other excellent establishments in Bathurst.

A special 44 Class diesel-hauled heritage train, provided by Lachlan Valley Railway, will depart Bathurst at 2.00pm. Travel will be in non-airconditioned cars that provided country train services for so many years on the NSWGR system.

At Lithgow, we change trains to join the regular 3.48pm double-deck V-Set service, with our special 4-car set attached, to Sydney Central. Timetabled arrival is at 6.41pm.

Our train will set down at its regular stops on the journey from Lithgow. Use your Opal Card for this sector of your trip.

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Tour cost includes morning and afternoon tea and entry to the Bathurst Railway Museum. Catered lunch is optional.

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