



RIO TINTO

RAIL REVIVAL

AUSTRALIA CURRENTLY HAS THE WORLD'S LONGEST, HEAVIEST TRAINS AND WE ARE SHIFTING 1.4 BILLION TONNES OF FREIGHT BY RAIL EACH YEAR – MORE THAN EVER BEFORE. BUT MANY BELIEVE THERE'S A LOT MORE THAT RAIL COULD DO.

STORY KEN EASTWOOD

A Rio Tinto train pulls tens of thousands of tonnes of iron ore through the Pilbara.



GREAT SOUTHERN RAIL

The *Indian Pacific* provides one of the world's greatest train journeys as it trundles through a desert landscape in bloom. OPPOSITE: Steaming through the rain, J-class locomotive 515 pulls a tourist train along the historic rail route from Castlemaine to Maldon.

A STEEL REVOLUTION is taking place. Heralded by a distant clickety-clack and the grinding of metal on metal, Australia's railways are awakening to a new era. New railways are being built, and old tracks are being modernised and consolidated to make them suitable for today's needs.

If roads are the choked arteries of our country, with blockages at vital organs, the railways are the clear-running veins, conveying the pulse of the country and now so much of its lifeblood. At the moment, more freight is being carried by rail in Australia than ever before – half the country's freight haulage by weight. More than 80 percent of that is iron ore and coal, with sugar, bauxite and other bulk freight making up most of the rest.

"We have got the sixth largest rail network in the world," says the CEO of the Australasian Railway Association (ARA), Bryan Nye. "People say, 'Oh yes, but it's such a big country'. Well, the UK moves 1.5 billion people by train every year. Australia moves more than 850 million. But the UK moves 150 million tonnes of freight, and Australia moves 1.4 billion tonnes. By world standards we have the best heavy haul system."

In November last year, the ARA put out an extensive report, *Trainline 2*, detailing the vast scope of Australian railways. It states that we have around 33,000 kilometres of line and more than 2200 locomotives pulling 32,000 wagons. The industry employs some 100,000 people, including on the extensive urban passenger networks. We have the longest (2.7km) and heaviest trains in the world, and the longest stretch of straight track (478 km). And we have at least two

world icons in train travel – *The Ghan* (Adelaide to Darwin) and the *Indian Pacific* (Perth to Sydney).

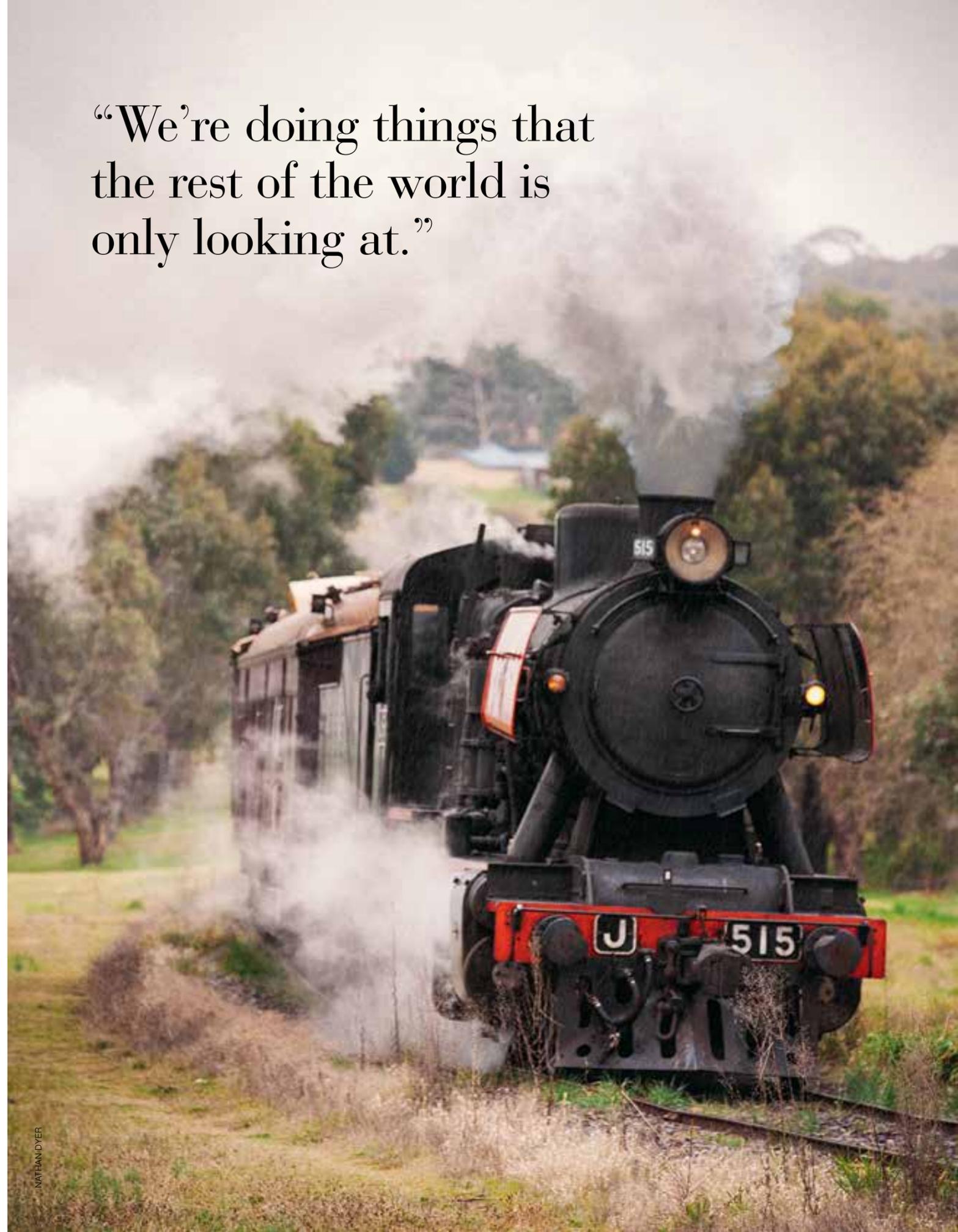
We have historic railways that have faithfully carried agricultural produce for generations. In sugar-cane growing areas of Queensland and northern New South Wales, 4000km of small-gauge railways (mostly 60 centimetres wide) carry more than 25 million tonnes of cane to the mills each year – 90% of the crop – keeping an estimated 20,000 trucks off the roads.

The report states that the need for rail will increase, with freight movements predicted to almost triple by 2050. "Getting the transport supply chain right is so important for the success of the agricultural sector and ensuring our farmers can get their products to market efficiently and reliably," Bryan says. It's for this reason that the ARA and other groups are pushing for new rail initiatives in Australia, from the proposed inland route from Melbourne to Brisbane via Parkes, as well as the updating and consolidating of rail infrastructure across the land. "Sixty percent of freight from Sydney and Melbourne going west to Perth goes by rail," he says. "But Melbourne to Sydney only 10% does, and that's what needs to change."

In the exciting mineral boom in the Pilbara, the innovations being undertaken in rail are "world leading", Bryan says. For example, Rio Tinto is currently undertaking a trial of driverless trains, controlled from a centre in Perth, 1000km away. "We're running trains now with axle loads of 42 or 44 tonnes," Bryan says. "We're doing things that the rest of the world is only looking at."

Every hour, another monstrous steel serpent snakes across the rich pindan soils of the Pilbara. These trains, up to 240 carriages

"We're doing things that the rest of the world is only looking at."

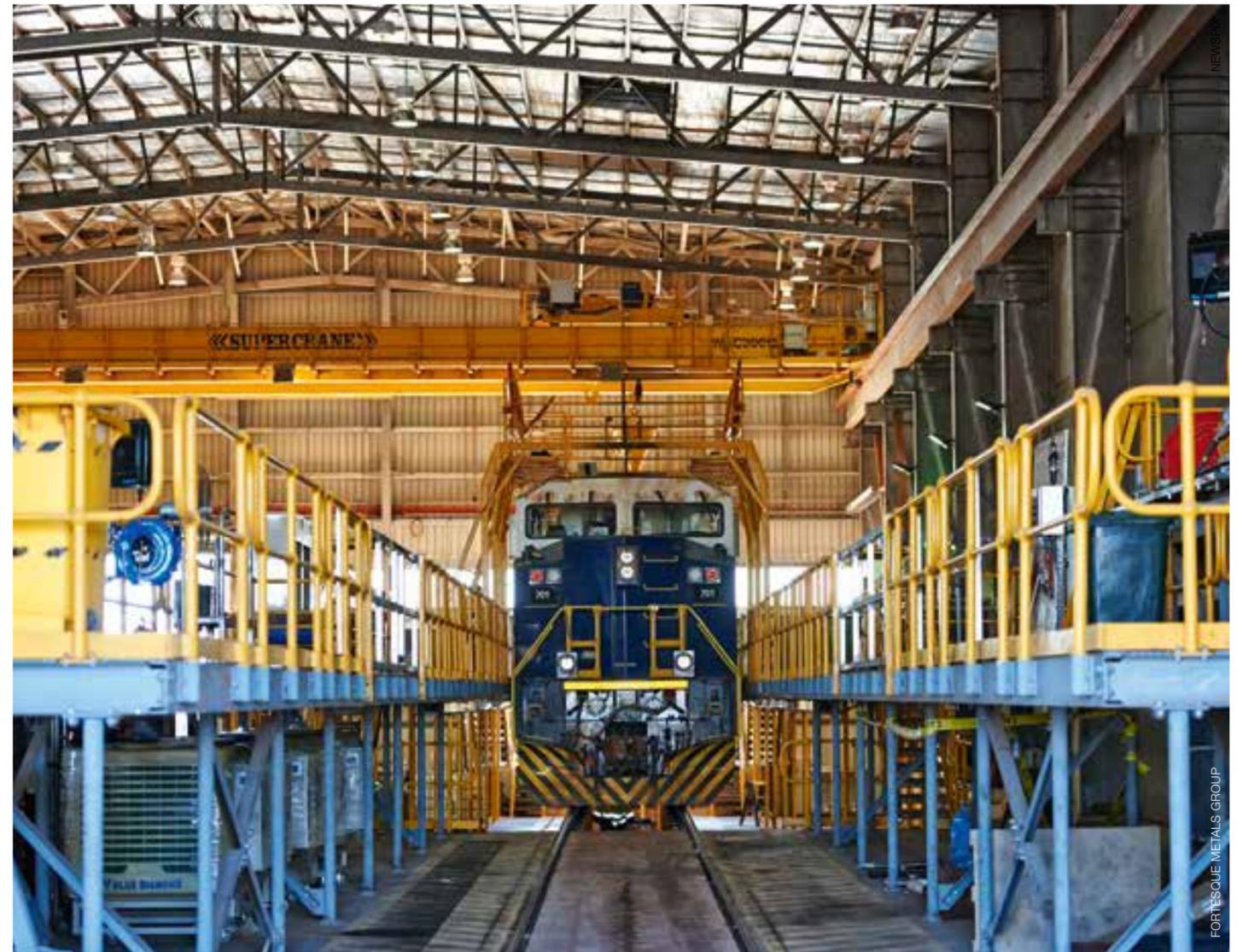


NATHAN DYER



TIM FISCHER

CLOCKWISE: World railways expert Tim Fischer holds up 10 fingers for the 10th anniversary of the Adelaide to Darwin link, in 2014; a locomotive sits in the ore car maintenance facility at Port Hedland, part of the vast Fortescue train infrastructure established in the Pilbara over the past decade; rail workers establish the first Pilbara train lines almost 50 years ago.



FORTESCUE METALS GROUP

long and carrying 32,000 tonnes of ore, go from mines to ports at Port Hedland and Dampier.

The size of the operations in the so-called 'engine room of the nation' are difficult to imagine. The bulk movement of freight in this area totals more than half of Australia's entire rail freight load. Rio Tinto's network, alone – the largest privately owned and operated rail system in Australia – has 10,500 wagons, 173 locomotives and each year moves more than 250 million tonnes of ore from 15 mines to four independent port terminals.

The latest addition to the Pilbara network is currently being built from Gina Rinehart's Roy Hill mine to a new port at Port Hedland. It'll add an additional 344km of track, increasing the total length of rail out here to more than 2500 km.

When Fortescue began mining in the Pilbara 10 years ago – building the first new rail development in 40 years – it requested to use some of BHP's existing line to save building a parallel railway for 100km through the East Turner River Valley. BHP refused and so Fortescue laid its new line almost parallel to the other. Laying 3km of track a day, Fortescue used 38,000 tonnes of steel and 420,000 concrete sleepers for 620km of new track, and now runs up to fifteen 2.7km-long trains a day.

When the Roy Hill project is completed later this year, there will be a third line through the valley, and it is believed it will then be the busiest railway corridor in the world.

On an initial health check, it appears as though Australian rail is growing, pumping and healthy. Freight movement on rail has increased by 57% over the past five years.

But that isn't the case uniformly across the country. In June last year, more than 500km of line linking the Western Australian Wheatbelt to ports was closed. In the eastern states, Graincorp is closing grain-storage facilities on smaller railway lines, which will mean the death of at least some minor lines. "We're not closing lines down, we're closing sites down, so sites are further apart and they're bigger," says Neil Johns, Graincorp's Group General Manager storage and logistics. "The economics of rail are not as strong as it used to be, but rail is cheaper than road when it's fully used." The Federal Government's Bureau of Infrastructure, Transport and Regional Economics estimates that the cost of moving one tonne of freight by rail is 3.5 cents a kilometre, and road is more than double that.

By closing some 72 grain sidings, and focusing on the 180 sites that currently receive 90% of all grain, Graincorp's Project Regeneration hopes to make it cheaper for most farmers to get their product to port. "We think we can get rail rates down by \$5 a tonne," Neil says. The plan involves developing longer sidings, so that trains do not have to be split and shunted when they are being loaded, and then to use new infrastructure to make loading faster and to ensure the trains carry more grain. "We're still using wagons from the 1980s, but the new wagons are lighter," Neil says. "Because they're lighter, you can carry more, but they're also higher and shorter, so you can carry more per length."

Former Deputy Prime Minister of Australia, railway advocate, and well-travelled train buff Tim Fischer says that compared to the rest of the world Australia's railway system would get a



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CLOCKWISE FROM ABOVE: Former chef on the Sunlander, Ron Warburton prepares a meal. The Sunlander, which travelled from Brisbane to Cairns in 48 hours, was retired on New Year's Eve 2014, replaced by the faster Spirit of Queensland service that has no dining car; white-linen dining service and sleeping carriages on The Ghan.

mixed report card. "For example, in the Top End, *The Ghan*, and the *Indian Pacific* across the Nullarbor certainly match some of the best in the world, such as the *Blue Train* in South Africa and the *Golden Eagle* Trans-Siberian railway, and there's no doubt the Pilbara railway is world's best practice," Tim says. "But in terms of rural freight, our performance is patchy at best."

Tim says ageing infrastructure and a lack of vision and commitment in terms of new rail projects has resulted in rail systems that are inefficient, slow or incapable of carrying the heavier loads needed to make rail competitive with road transport. "Too often we have built railway to limited budget rather than adequate standards," he says.

Neil agrees. "A lot of our track is still restricted by 19-tonne axle loads," he says. "We need to get it up to 21 or 22 tonnes."

Railways have several disadvantages when competing with road transport for the movement of agricultural products. Unless they are purpose-built (such as the sugar-cane railways), they usually can't provide door-to-door service, so some truck transportation is needed, meaning double handling at least. They also require large volumes to be efficient, and the seasonal and unpredictable nature of most harvests makes it almost impossible for most farmers to commit to a regular service.

"Some of the city companies that run rail services don't really understand the needs of rural communities and farmers," says Andrew Ray, business development manager of Crawford's Freightlines. "If you want a train, they'll get one for you, but

they'll make you sign up for a minimum of three years."

Based near Singleton, NSW, Crawford's combines road transport and rail to find the best transport solutions for farms and businesses from Moree to Tamworth and beyond. The company was established when carrot growers Peter and Diane Crawford were looking for a way to get their harvest to market efficiently. "Road and rail compete very heavily in New South Wales," Andrew says. "We blend those two together to get the most viable option for the client. We really do need to think smarter as a nation. In very rough figures, 14% of container transport through Botany is by rail. But road freight is really having a dramatic impact on road infrastructure in regional areas. I drive around a lot of rural roads, and they're getting pretty lumpy and bumpy."

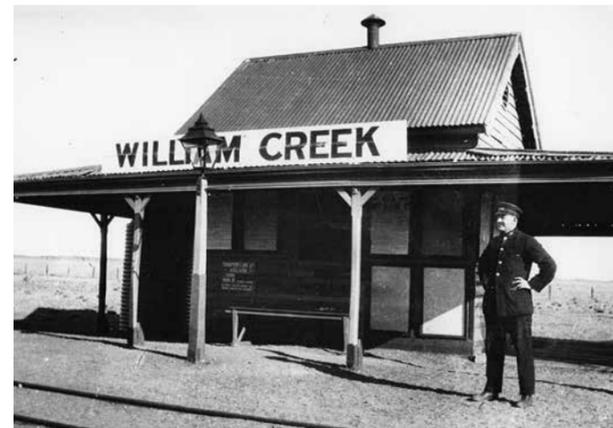
One of Crawford's major clients is Tomago Aluminium, in the Hunter, which transports 560,000 tonnes of ingots to Sydney by rail. "If it wasn't on the rail there'd be a whole lot more trucks on the road trying to get through Sydney, and no one wants that," Andrew says.

In some cases, using rail can save clients \$200 a container in freight costs, but some city-based freight companies just pocket that extra money rather than passing the savings on to the producer, Andrew says. "They are taking that rape and pillage approach instead of helping those rural businesses prosper," he says. "We cut the price \$200 a box and that then allows them to survive longer term. You'd rather see your client base in a good, sustainable position, than going bankrupt."

According to some railway historians, the use of rail for



PHOTOS: NATIONAL RAILWAY MUSEUM



CORIMAC HANIPAHAN



BARRY LEWIS COLLECTION, NATIONAL RAILWAY MUSEUM

agricultural products – particularly grain – began to decline dramatically from the 1970s when some state governments began handing lines over to the Federal Government. “South Australia and Tasmania were the first to be taken over by the Commonwealth Government, in 1975, and they started to close down regional lines almost immediately,” says Bob Sampson, executive officer of the National Railway Museum in Adelaide. “Privatisation as we know it today – that’s really only happened since 2000.”

The situation now is exceedingly complex, with locomotives, rolling stock and some regional lines owned by different companies, but state governments generally holding onto metropolitan services. Queensland freight and country passenger services are still run by the government. Major players in the rest of the country include SCT Logistics, Genesee and Wyoming Australia, Pacific National and Great Southern Railway, but there are plenty of other operators.

“One of the problems is a lot of those railway companies are only in it for the profit, and if there’s a branch line that doesn’t generate a profit, they won’t be interested in hauling freight on it,” says rail historian David Burke, author of *30 days of Australian Railways*. For example, a small line used only once a year during the grain harvest will rust and fall into disrepair, and will then be closed. David says this doesn’t have to be the way. “In America, they’re finding a different solution to the branch line system – branch lines are run by small, private companies who are interested in keeping the lines open all year-round. They go out and get traffic to keep the lines open. They went through a downturn in railways, and they’re now booming. Railway has become the major transporter of freight there.” Of course, the USA also has a population more than 13 times the size of Australia’s, providing more economic opportunities for small rail lines. In New South Wales, the Harden to Blaney line, via Cowra, is currently up for tender.

Compared to road infrastructure, railways in Australia have suffered from a lack of input from successive governments, David says. “We haven’t had governments that are really railway-inspired governments,” he says. “The current government is spending \$28 billion on roads and at the same time the amount of money contributed to railways is \$2 billion. There’s a huge imbalance.”

One of the prohibitive factors for new rail projects is the sheer cost. Jim Crane, senior executive officer Industry and Communications for the Australian Sugar Milling Council, says when a new mill was built on the Atherton Tablelands, Qld, in 1997 “they didn’t think for a minute of putting in a rail network”. The cost was estimated to be at least \$300,000 a kilometre. “And I reckon that’s pretty conservative – that costing was three or four years ago, and the thing that really bumps that up is bridges, and there’s plenty of them needed in north Queensland.”

Surprisingly, even though 90% of the cane harvest is transported to mills by rail (average distances of 13–35km from cane farms to mills, with a maximum of 119km) only about one-third of the finished product – about 1.5 million tonnes of processed sugar – is transported to port by rail. “All agriculture, by its nature, is seasonal and the railways simply don’t find that economic,” Jim says.

“Australians can be very proud that we have 22 different railway gauges – more than any other country in the world,” says Tim Fischer, tongue firmly in cheek. Australia’s ridiculous system of different track widths, meaning trains often can’t run across state borders, and sometimes even on lines within the same state, has plagued railway operators for more than a century. “At least all of our mainland capital cities are now connected by a standard gauge,” Tim says. This occurred only relatively recently though, with the Melbourne–Adelaide link becoming standard gauge in 1995 and Darwin joining the network in 2004.

The gauge problem started back in 1855. The colonies of New South Wales, South Australia and Victoria had decided to build



PHOTOS: KEN EASTWOOD

At the Junee Railway Workshop, established in 1943, final-year machinery apprentice Taylor Horan works under a locomotive. LEFT: Dom Shepherd spray paints a container wagon beside the 100-foot (30m) turntable at Junee.



railways to the Irish railway dimensions of five foot three inches (1.6m), now called broad gauge. But just before New South Wales built its first railways through the Sydney Railway Company, the Irish-born chief engineer resigned and was replaced by a Scot, James Wallace. He insisted that the colony build its network to the English system, a four foot eight-and-a-half inch (1.435m) width, now called standard gauge. From there, problems escalated, with Queensland and Western Australia building most of their railways to a narrower width again of three foot six inches (1.067m) and South Australia choosing both narrow and broad gauge for its higgledy-piggledy network spreading out from Adelaide and the ports.

“South Australia’s rail history is very different to the other states,” Bob Sampson says. “We have three peninsulas, and the state’s railway system was actually developed from seven coastal ports – seven different locations ... It meant that gauges were always going to be a problem immediately in SA.”

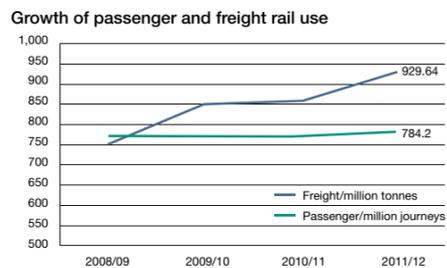
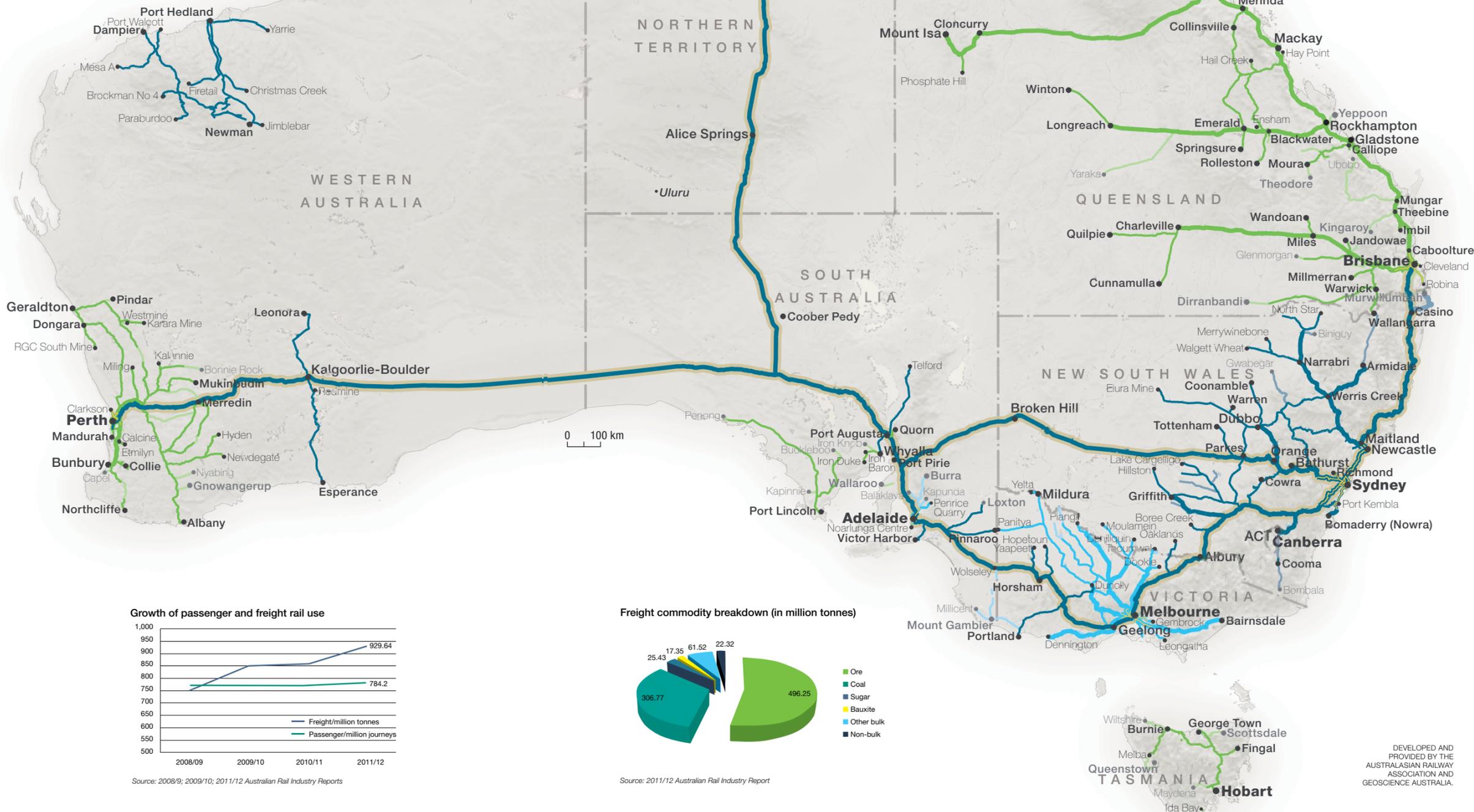
When the railways started to link up, break-of-gauge stations were developed, where all the passengers would have to get off and change trains. While this may have been inconvenient for passengers, it made the transport of freight a major headache.

Despite those issues, rail went through a golden age, with a plethora of new lines being built to service forestry, mining and agricultural areas. They spread into the hinterland like silvery spider webs, and infrastructure was developed to service the booming industry. The largest train turntable in the Southern Hemisphere was built at Junee, ▶

RAILWAYS OF AUSTRALIA

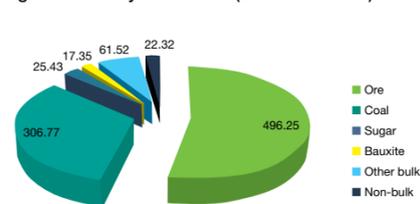
Type of Railway	Broad gauge (1600mm)	Standard gauge (1435mm)	Narrow gauge (1067mm)
Passenger and freight lines:			
Regional			
Urban and peri-urban			
Freight-dedicated			
Interstate network			
Suspended services (as at December 2013)			

*Extensive peri-urban services carry substantial commuter traffic



Source: 2008/9; 2009/10; 2011/12 Australian Rail Industry Reports

Freight commodity breakdown (in million tonnes)



Source: 2011/12 Australian Rail Industry Report

in central New South Wales, between 1942 and 1947, in a facility called The Roundhouse. With 42 repair bays, the facility is still used to service trains – including million-dollar overhauls of diesel locomotives – and is the second largest private employer in Junee.

“It’s an item of state significance on the heritage register and deservedly so,” says co-owner Andrew Clinton. “In its heyday, it had 350 people working three shifts. That’s why that building over there has 18 showers and 12 toilets. The site was designed and built as a steam-engine repair facility. For steam engines, for every hour you ran it, you had to spend an hour working on it ... Modern diesels need two days of maintenance for 120 days of running. So the service requirements have dropped off dramatically.

“When the government shut it down in 1992, there were 62 staff and plans to demolish the site. A group of residents said ‘No, we want to keep it.’”

The repair bays allow service personnel to get right under the locomotives and service details such as the wheels, and the chute that drops sand onto the track to increase the friction between the wheel and the steel.

While locomotives and rolling stock are dismantled, maintained and repaired in most of the facility, about one-third of The Roundhouse is now a popular railway museum, one of several throughout the country. It has everything from first-class carriages used in the 1950s through to one of the only surviving steam-driven railway cranes used in World War II.

In Port Adelaide, the National Railway Museum gets about 45,000 visitors a year, Bob says. “One of the museum’s icons is that we have four carriages off the *Tea and Sugar Train* from the Nullarbor,” he says. “We have the butcher’s van, the provision store van ... and the old pay van, where all the workers along the line would see the paymaster for their pay.”

Bob says that the emerging steam-punk movement, which blends science fiction, fantasy and steam-powered machinery, has seen a revival of interest in rail. The museum hosted a steam-punk expo last year. “And they were over the moon. We’re hoping to make that an annual event now.”

Whether it’s the romance of steam, the sounds and smells of trains, the relaxing nature of train travel or a harking back to the simplicity of life in a bygone era, few people seem to be able to resist the joys of train travel. From the internationally renowned *Ghan* and *Indian Pacific*, through to model trains in parks around Australia, the whistle of a train entices kids and adults, alike, to jump on and enjoy the ride.

One of the most remote rail journeys in the country is the *Gulflander*, an odd little line between Normanton and Croydon in the Queensland Gulf Country. Built in 1891, it doesn’t connect with any other line and travels through flood-prone, tropical savannah. But according to officer in charge Ken Fairbairn, it carries more than 5000 people a year on both a scheduled service and special tourist and charter services.

“There’s a weekly scheduled service, including mail delivery to remote cattle stations, and we run that delivery service whether or not there’s any passengers,”



CHRIS McCALLUM



CORMAC HANFAHAN



CORMAC HANFAHAN

CLOCKWISE: The Gulflander railmotor goes from Normanton to Croydon, Qld; driver Will Kemp at the controls of the Savannahlander; Shannon Mantague and Elena Edgar-Nemec enjoy the views from the open windows of the Savannahlander.

he says. It goes from Normanton to Croydon on Wednesday each week, and back to Normanton on Thursday, stopping in the bush in the middle of nowhere for morning tea. “But in the dry season we run a billy tea and damper service on Saturday morning. We stop at a freshwater lagoon and supply billy tea and damper under the shade of a coolibah tree. Classic stuff. We get people from all over the world.”

Ken says the *Gulflander* was an “accident of history”. It was originally intended to go from the port of Normanton to the copper-mining area of Cloncurry. “But as that was being approved, the Croydon goldfields started taking off. Thousands of people were coming in to Croydon, so the government of the day said, ‘Build it to Croydon as well,’ and the line was never built to Cloncurry. The gold ran out 30 years later, or the peak did, and there was no reason to build the line further.”

The *Gulflander* is the only government-run railmotor service in Queensland. The railmotors have been described as like buses on rail. One is a 102-horsepower Gardner diesel, built in 1950, and the other is petrol-powered and 20 years older. “It was one of the first railways in Queensland to dispense with steam locomotion, in 1929,” Ken says. “Since then it’s been railmotor only. It’s sort of ironic it was one of the first to modernise.”

“You’ve got to double clutch them, or just not use the clutch at all,” Ken says. “And when they need maintenance, you can’t go to Repco – you have to get parts made from the original drawings.”

At Quorn, SA, a broad cross-section of the community has got on board the Pichi Richi Railway, one of the most iconic outback railways. Built in the 1870s as part of the original Port Augusta to Alice Springs route, the narrow-gauge track was initially used to supply materials to pastoralists, and bring sandalwood and

wool back to Port Augusta. The line closed in 1956.

Geoff Annear, a founding member and past president of the Pichi Richi Railway Preservation Society became involved with the push to reopen the railway as a tourist enterprise in 1973. He was a teacher in Kadina and a fellow teacher invited him along to a meeting.

“At that stage it was a railway line from Quorn to Port Augusta that wouldn’t have been used for nearly 20 years,” he says. “From the state it was in, they could have taken the line up most probably and that would have been it, because once you pull up a railway you don’t put it back in again.”

The completely volunteer group – now with over 400 members and one paid marketing contractor – decided to put the effort in to replace thousands of sleepers, then bought steam engines from Western Australia and carriages from South Australian Railways to open for business in 1974. “We only ran on significant holiday weekends and school holidays – about 40 services a year,” Geoff says. Now, with a commitment of about 32,000 volunteer hours each year, the railway runs 85 scheduled services for about 9000 passengers a year, and then on top of that hires out trains and the track. It was used in Russell Crowe’s recently released film, *The Water Diviner*.

“It’s kind of infectious,” Geoff says. “It’s a relaxing way to travel and it’s enjoyable because you can interact with people. And in terms of maintaining trains and rebuilding trains, there are a whole lot of people who like doing those things and like learning new skills. I love the kind of people you meet and the kinds of people you interact with such as doctors and people who worked in the railways.”

David Heah, 23, one of the youngest members of the society, and probably the youngest steam train driver in the country, ►



became involved in Pichi Richi when he was 16. “I started off with table-top electric railways, then got involved with mini railways and steam, and then a mate said, ‘Why don’t you come up and play with the real thing?’” he says. Walking into the locomotive workshop at Quorn, he became almost breathless. “It was akin to a cathedral of steam,” he says. “There’s something raw about steam, and what we’re trying to preserve at Quorn is a lot about steam. It also has some of the last tangible links to the opening up of the wild interior of Australia.”

David has just finished a petroleum and mechanical engineering degree, and says his active involvement in driving and maintaining the Pichi Richi has surprised some of the people interviewing him for jobs. “They’re a bit surprised to see someone finishing an engineering degree who actually has dirt under their fingernails,” David says. “One of my personal big interests is the steam aspect, but there’s also the historical aspect, and just getting your hands dirty ... In this very modern age, particularly for someone young like myself, you can go away for the weekend and get your hands on a 100-year-old steam engine – that’s special.”

David did his training as a steam locomotive fireman, then “crossed to the other side of the cab” and learned how to drive the train, receiving his driver’s ticket aged 21. “On occasions I have to pinch myself,” he says. “I remember as a four-year-old coming up to the Pichi Richi Railway and seeing this untamed beast of a locomotive, and now I’m in the driver’s seat 20 years later. You’re in charge of a 100-tonne locomotive that can do a lot of damage in the wrong hands, but it’s very rewarding to be heading over the hills with 100–200 happy passengers behind you. And it’s very humbling to think we’re making the same



CLOCKWISE FROM ABOVE: Ned Radford on the train he bought from Perth Zoo and converted to run on the historic track at Kojonup, WA; Kelly Rees, the third generation of her family involved in the transport industry, shunts carriages at the Ettamogah Rail Hub in southern NSW; a 76-tonne Omega reach-stacker puts a 30-tonne container onto a carriage at the Ettamogah Rail Hub.



journey, sometimes with the same locomotive and rolling stock that they used in 1925.”

He describes the joy many find in steam locomotives. “They’re the closest thing to a living being that man has ever created,” David says. “They start off the day cold and lifeless, and then as they warm up, you get the sounds of the boiler expanding, the first hiss of steam, and you bring them to life.”

In Kojonup, WA, Ned Radford became part of another vision to bring alive a railway that had fallen into disuse. The line to the Wheatbelt town had been built in 1908, and carried wool, grain, sheep and passengers. Gradually used less and less, it closed completely in 1982 when “eight inches [203.2 millimetres] of rain washed away sections of the line”.

But after 30 years of disuse, Ned and others in the community worked hard to open a 4km loop, with a turntable at each end. Encouraging tourists to stop in the town, they charge just \$5 a ride, using a cute little faux steam train bought from the Perth Zoo that was modified to fit the narrow gauge track. An additional 7km of track has since been refurbished.

Ned says the track is rated for 140 tonne, considered very light by today’s standards. “I believe it’s the last in WA. All the rest is heavy-duty stuff,” Ned says. “We are unique in the countryside. Absolutely unique. There’s nothing else like this in WA.”

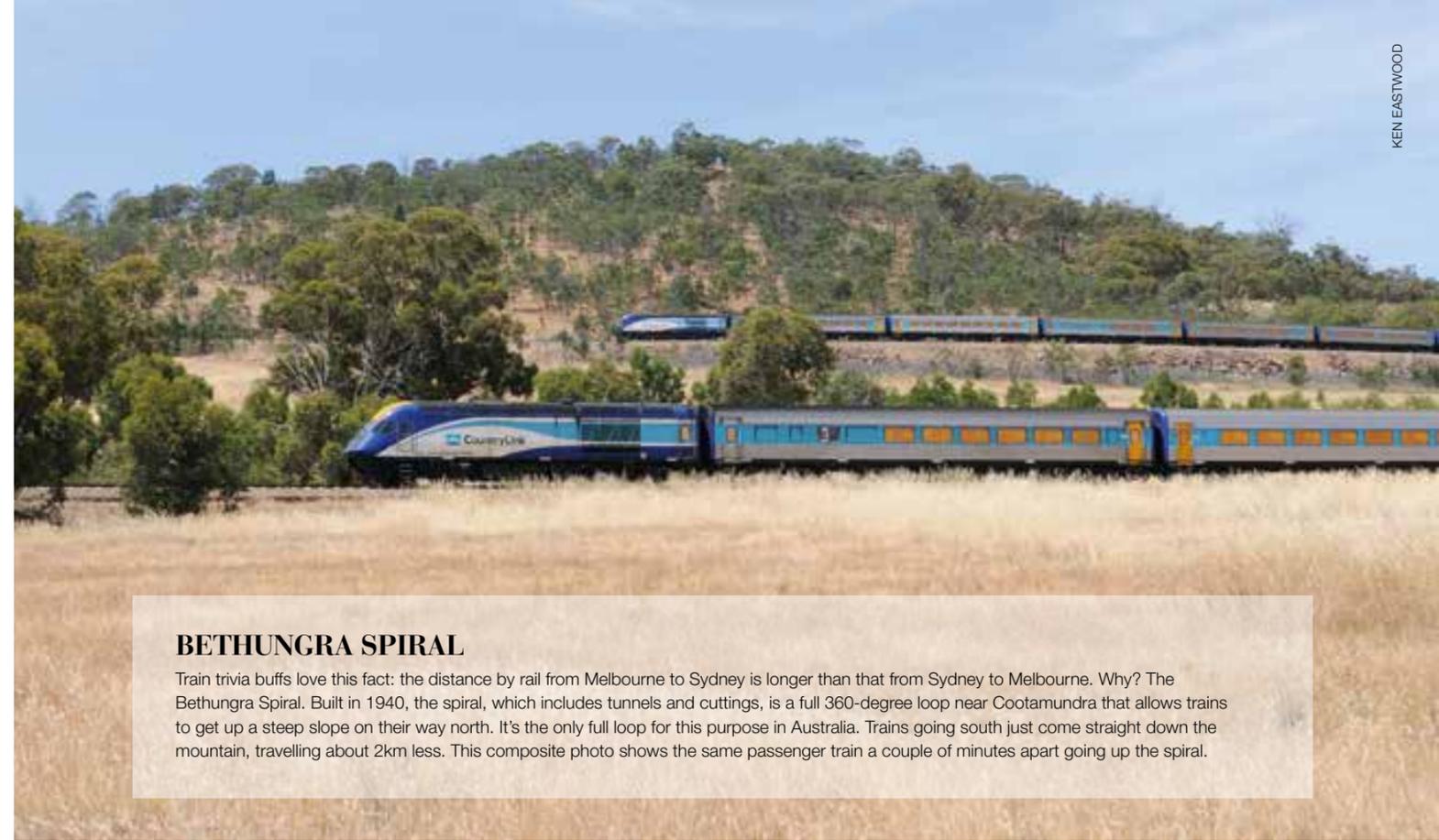
Like others in Kojonup, Ned poured much of his own money and time into the project. Altogether, some 2500 steel sleepers were paid for by individuals, costing \$110 each. “Community-wise, there’s been a tonne of help – carting the sleepers, carting railway lines, etcetera,” he says. “It’s going to be here for a long, long time.”



Eric Hill, president Noel Wooden, John Lennon and dog Lucy with some of the detailed miniature locomotives at the Willans Hill Miniature Railway in Wagga Wagga, NSW. OPPOSITE: James Bolton, strategic manager for the City of Wagga Wagga at the greenfields site of the new \$65 million rail hub.



CANEGFLOWERS



BETHUNGRA SPIRAL

Train trivia buffs love this fact: the distance by rail from Melbourne to Sydney is longer than that from Sydney to Melbourne. Why? The Bethungra Spiral. Built in 1940, the spiral, which includes tunnels and cuttings, is a full 360-degree loop near Cootamundra that allows trains to get up a steep slope on their way north. It's the only full loop for this purpose in Australia. Trains going south just come straight down the mountain, travelling about 2km less. This composite photo shows the same passenger train a couple of minutes apart going up the spiral.

CLOCKWISE: A loaded sugar cane train at Babinda, Qld; a composite photo shows the same CountryLink train on the Bethungra Spiral, NSW; one of the youngest steam-train drivers in Australia, David Heah, with Maikha Ly at the Pichi Richi Railway; a coal train in the Hunter Valley, NSW.

The most common tourist trains in Australia are even smaller. Scaled, detailed ride-on locomotives and carriages are maintained by enthusiasts right across the country. One of the biggest operations is in the heart of Wagga Wagga, NSW, where some 2.6km of five-inch wide and 7.25 inch wide track winds through the Botanic Gardens, through cuttings and a tunnel, and over bridges. The Willans Hill Miniature Railway was started in the 1980s and is maintained by a group of about 70 members who hark from Jerilderie, Harden, Cootamundra and Albury. They open it up twice a month for \$2 a ride and on other occasions to raise money or service schools or other community groups. "It's not uncommon to see a whole train and not a child on it," former president John Lennon says.

"My wife calls it an obsession," says long-term member Eric Hill, who has personally built a few of the incredibly detailed locomotives. "I've got too many – I've got diesel and steam engines, and I'm building about four at home. It's just a hobby, but I've been doing it for about 40 years."

About a hundred clicks south of Wagga Wagga, at Ettamogah, an unassuming rail yard piled high with shipping containers has become a flashing signal for what needs to happen for the future of rail. The Ettamogah Hub was created when Col Rees got sick of the ridiculous transport situation for many rural businesses around Albury-Wodonga. "If you wanted to send freight to Brisbane, you had to truck it to Melbourne, put it on a train and watch it come past the window 12 hours later," he says. "Trains have been going right past the door and not stopping."

When he sold his previous business in 2005, Col grabbed land beside a section of railway siding that had been unused for 16 years

and built the Ettamogah Hub. It has become a vital link between the railway line and customers within about a 100km radius, and is known around Australia as a benchmark for the way freight should be connected to railways. At the hub, a handful of ever-smiling employees ("You can't do much better than this – we're playing with toys all day," says operator Bryden Power, moving another 40-tonne container) pack 300–400m of railway cars with containers and shunt them to the end of the siding ready to be picked up by five Melbourne-bound services a week, or a couple of services to Brisbane. They also unload incoming freight and hold it for customers. "It's mainly manufacturing type goods – pet food, paper, plastics, seeders," Col says. The operation is renowned as fast, efficient and cost-effective. "You've got to be able to do a grand prix stop," Col says. "When a train pulls up here, if they're here any longer than 40 minutes, we'd be asking questions."

Acknowledging that roads have the advantage of door-to-door service, Col says that rail needs to be both more reliable and cheaper. "We've got to be at least no dearer, if not better." He says the efficiencies, and the 'green credentials' of rail make it a great option. "A steel wheel on a steel track is 3–4 times more fuel efficient than a rubber tyre on a road." Greenhouse-gas emissions for rail freight are estimated to be 15 grams per tonne per kilometre, as opposed to 52 grams per tonne per kilometre on the road.

Like many, Col is keen to see the fast-tracking of the so-called inland rail route that will connect Melbourne to Brisbane via Ettamogah and then Parkes. Parkes would become an even more important rail hub at the junction of the main east-west and north-south routes across Australia. Other major freight hubs would be in places such as Toowoomba, Qld, and Shepparton, Vic. ▶



MEHAN DRECHSLER



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It has been estimated that the inland route by rail will save 8–12 hours off the current 32-hour trip between the two ports when it is completed around 2026. Both major political parties have expressed their support for the route, it's already one-quarter finished and \$300 million has been granted by the Federal Government for detailed corridor planning, environmental assessments, community consultation and some land acquisition.

"This has got to be a generation that leaves a legacy like this for the next generation, like the Snowy Hydro Scheme," Col says. "They're not constructing a railway, they're building a generator for a whole new way of doing things in rural Australia."

CEO of the National Farmers' Federation Simon Talbot agrees the inland route is necessary. "There's been well-intentioned statements from both sides of politics, but that really needs to be fast-tracked," he says. If the route went through the Riverina and past Avalon Airport and then onto Geelong, it would have the potential to also move chilled red meats, dairy and horticultural produce, he says. "So you're really opening up around 60% of Australia's net agricultural production through that corridor."

It isn't the only futuristic project being discussed in Australia in terms of rail, although it is the most progressed. Others dream of a link across the north, particularly from Mount Isa, Qld across to Tennant Creek in the Northern Territory, to link up with the Darwin line and then maybe the Kimberley. A very fast train network is also often talked about, particularly within the context of Sydney and Melbourne growing to an estimated eight million people each by 2050, and the need for more people to be living in regional centres.

The new RiFL Hub (Riverina Intermodal Freight and Logistics) just north of Wagga Wagga, halfway between

Sydney and Melbourne, is a new \$65 million facility. It will add a 5.8km length of new side track to allow several long trains to be loaded and unloaded completely off the main line, with speed and efficiency. "This caters for full-length trains and will support a modal shift from road to rail," says James Bolton, strategic manager for the City of Wagga Wagga. "You can come in at speed."

The RiFL Hub would be lined with light and heavy industrial businesses and facilities able to quickly load and unload the trains, making it a major focal point for freight movement in southern New South Wales. The Federal Government has committed \$14.5 million to the project and a private operator, Traxion, came on board mid last year.

"It's going really well – I couldn't be happier with where it's at," James says. "The reason council's in it is for the economic benefit to the region. The beneficiary is the farmer who will save, or the business person who will save. And then once you've got that efficient terminal, you'll attract more businesses."

Standing on the site in what is currently a paddock with a few sheep grazing, James says he's excited to see rail in the area become even more important than it already is. "The growth of importing is so big and there's going to be that many containers on the road, it has to happen."

Tim Fischer believes the continued revival in rail in Australia will be part of a global phenomenon. "There's going to be a massive collapse and realignment of the stock markets of the world," he says. "There's going to be a further world downturn and this time around it will be useful infrastructure that will be built. I think the 21st century is going to see a lot of renaissance of rail worldwide."

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