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# TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM  
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MAY 2008

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*Brisbane 548 departs on a morning journey towards  
Sutherland on the Sydney Tramway Museum's Back to  
Brisbane day on 13 April. Storm clouds are already  
gathering in the south which will dampen the day's  
afternoon activities.*

Martin Pinches

Front cover

*Sydney R1 1971 runs along Shell Street, St Kilda, South Australia, on its return to the Australian Electric  
Transport Museum on 25 April 2008.*

Peter Neve



# CARIOCA CAPERS

By Ian A. Dunn

(Note: The information in the historical resumé here is extracted from the text of *The Tramways of Brazil*, by Allen Morrison, Bonde Press, New York, 1989)

Rio de Janeiro, Brazil's second city and former capital, is known worldwide for its colourful Carnival and the laid-back lifestyle of its inhabitants, known as Cariocas. As recently as 1963, the area still had seven separate tram systems operating a wide variety of equipment on three gauges. Today just one line remains: the world-famous, 1100mm gauge Santa Teresa tram, known in the city as Os Bondes de Santa Teresa, and a major tourist attraction in its own right.

A brochure about Brazil issued at the Universal Exhibition at Philadelphia in 1876 lists 33 tramway systems in 14 cities, including 13 tramways in the city of Rio de Janeiro. The history of the development of tramways in Rio is most complex. Everything happened here first: the first animal-powered tramway, the first steam tramway, the first electric tramway ... Rio was the centre of railway and tramway experiments for Brazil and had more tramway companies, trams, types of trams, tram gauges and kilometres of tram track than any other city. Most of Brazil's early tram systems were financed, installed

and operated by foreigners, principally from England, Germany and the United States.

The Empresa de Carris de Ferro de Santa Theresa established the first routes of the Santa Teresa tramway system that still operates in Rio de Janeiro today. The company had a franchise to build a tram route up Santa Teresa hill, but the 820mm gauge line that opened on 25 May 1875, and which passed to the Carris Urbanos company in 1879, ran only in the flat downtown area of the city to the foot of the hill. To serve the Santa Teresa community on top of the hill, the company built an inclined plane railway and a separate hilltop tramway, which opened on 13 March 1877. The inclined railway was 513m long and had a tunnel and three trestles. The top station was on the site of the Santa Teresa tramway's present car barn. The tracks of the hilltop tramway were laid to 914mm (3 ft) gauge and ran from the upper station of the inclined plane to Largo do França and Curvelo. Equipment for both the funicular and the tramway was built by John Stephenson in New York. On 20 December 1890 the Santa Teresa tramway system inaugurated an extension to Silvestre. The name of the company was changed to Empresa do Plano Inclinado de Santa Theresa on 28 March 1885, to the Société Anonyme des Travaux

*Santa Teresa four-wheeler 09 grinds up Rua Joaquim Murtinho from Curvelo station with a full load of passengers on the afternoon of 14 July 2007. All photographs accompanying this article were taken on 14, 15 and 16 July 2007. Ian Dunn*





et des Entreprises au Brésil on 15 December 1888, and to the Companhia Ferro-Carril Carioca on 12 February 1891.

In 1890, when the population of Rio de Janeiro was 520,000, the city's 720 animal-powered trams carried 48 million passengers. There were 250km of track and approximately 6,000 mules on the streets.

The first experiment with electric tramways (known, for complex and rather arcane reasons, as 'bondes' in Brazilian Portuguese) occurred in 1884, when Emperor Pedro II attended a demonstration of 'bondes elétricos com fios subterrâneos' (electric trams with underground wires).

The Carioca company realised that transferring from horsecar to inclined plane to horsecar was a laborious way to reach Santa Teresa, and it hired Canadian James Mitchell and the General Electric Company to rebuild its system in 1895. Materials for the power plant came from the United States.

Reconstruction of the Santa Teresa tramway involved three major innovations. To gain access to the centre of the city, tracks were laid on top of an abandoned 18th century aqueduct, Os Arcos da Lapa (also known as the Aqeduto da Carioca), 45m above the ground, between Santa Teresa and Santo Antônio hill. Secondly, an unusual downtown terminus was built on the second floor of the company's office



building on Largo da Carioca. Lastly, the track gauge of the tram system was changed to an odd 1100 mm ( $43\frac{1}{4}$  in.), which is still used today.

The first electric tram to Santa Teresa, between downtown Largo da Carioca and Largo do França, was inaugurated on 1 September 1896. The route was extended to Lagoinha (near Dois Irmãos) on Christmas Day and to the Silvestre station of the Corcovado rack railway on 25 February 1897. In nine months, the 12km Carioca railway had been completely electrified.

*The central point of the system is the junctions at Largo de Gulmarães. Car 12 loads passengers on the Paula Mattos branch before heading towards the camera and the downhill run to the city. In the foreground, the facing crossover gives access to the outbound Dois Irmãos line, while the inbound track is at a higher level, up the stairs at the left of the picture.*

Ian Dunn

It was the first totally electric tramway system in South America. On 23 June 1897 the first tram operated on the Paula Mattos branch - horsecars had never run there – bringing the route length to fifteen kilometres.

Initially, seven eight-bench electric cars, with Peckham 4-wheel trucks, were ordered from John Stephenson in New York. Later cars came from Dyle and Bacalan of Louvain, Belgium. There was an order for 25 new trams which the Ferro-Carril Carioca placed with the St. Louis Car Company on 4 November 1908, but company records do not indicate that such cars were delivered or ran in Santa Teresa, and they were probably casualties of a financial drain on the company. At this time, Carioca did acquire two Tijuca electric cars, which O Luz had replaced on the Alto da Boa Vista line, and 12 Carris Urbanos horsecars for use as trailers. It rebuilt both to 1100 mm gauge and began building its own trams in 1910. It had 12 passenger motor cars in 1912, and between 1900 and 1960 the Carioca company built 28 cars.





*Car 12 lurches across Os Arcos da Lapa, shortly after departing the Carioca terminal for Paula Mattos. This former aqueduct was built in 1723 and was adapted for tramway use in 1896.*  
Ian Dunn

Rio's largest tramway company, la Companhia de Carris, Luz e Força do Rio de Janeiro, known universally as o Luz (A Light) did not acquire the Carioca tram system, but within a few years it controlled most of its stock. The Carioca tramway remained physically separate from the other systems because of its 1100mm gauge; wider tracks would not fit on the aqueduct. The tramway lines on Santa Teresa

hill remained independent of all other tramway operations in Rio de Janeiro for 87 years.

In the 38-year period between 1892 and 1930, 48 electric tram systems were constructed in 41 Brazilian cities. In 1930, electric trams were running in the federal capital (Rio de Janeiro), in 16 of the 20 state capitals, and in 24 small cities in five southern states.



*A well laden car 12 pauses at the Curvelo station, two thirds of the way up the hill to Largo de Gulmarães.*  
Ian Dunn





*Car 12 climbs the steep grade up Rua Almirante Alexandrinho, outbound on the Dois Irmãos line.*

Ian Dunn

In 1930 foreign tramway ownership in Brazil reached 85%: the Canadians controlled Rio de Janeiro, São Paulo and Santos; the English ran Niterói, Belém, Fortaleza and Manaus; and the Americans supervised almost everything else. The only tram systems still operated by Brazilians were the Jardim Botânico and Carioca networks in Rio de Janeiro. On the eve of World War II, the Brazilian tramway industry reached its peak: approximately 4,200 electric passenger cars were running on 2,250 km of track. The Carioca company had 26 motor cars, 21 trailers, 9 work cars and 15 route km of track.

After the Second World War, most Brazilian tramcars were 30-50 years old and a strong motorbus industry had developed. Unwilling to invest in re-equipment, the foreign owners sold out to national groups and the tramways of Brazil became Brazilian-owned and Brazilian-operated - in some cases for the first time. And they closed rapidly, most replaced immediately by motor buses, although a shortlived trolleybus system operated in the 1960s.

On 1 January 1964 the state of Guanabara (in which Rio de Janeiro was then situated) created the Companhia de Transportes Coletivos, which took over Rio's remaining tram routes. The year 1965 was the 400th anniversary of the founding of the city of Rio de Janeiro and the CTC announced that it would rid the city of trams except for the Santa Teresa and Alto da Boa Vista routes, which it would turn into tourist operations. New silver and blue cars with upholstered seats - the first closed trams in Rio in 100 years and

*Car 12 enters service at Largo de Gulmarães in mid-afternoon on 16 July 2007, allowing a rare view without freeloaders hanging off all available locations! This eight-bench body design dates from 1953, and is built on a Peckham 8B truck, with GE electrical equipment. Cross-bench cars have always been in the great majority in Brazil, and São Paulo even had bogie, articulated cars of the type.*

Ian Dunn



*Car 12 waits for a connection at the Largo de Guimarães junction, inbound from Paula Mattos. The track at far right leads to the depot and workshop.*

Ian Dunn



*Car 12 waits on the balloon loop at Largo das Neves, terminus of the Paula Mattos branch, while tourists take photographs of their conveyance.*

Ian Dunn

precisely what the tourists did not want - went into service on both lines in January 1965. In January 1966 a hurricane knocked out all tram and trolleybus lines in the city. Parts of the Alto da Boa Vista and Santa Teresa lines were rebuilt but were put out of service by another hurricane in January 1967. This time, the Alto da Boa Vista line, the first electric railway in South America, did not re-open. It closed permanently on 21 December 1967, leaving the Santa Teresa lines as Rio's sole surviving tramway.

The Santa Teresa lines were again threatened by building construction which involved the removal of Santo Antônio hill, their terminus in downtown Rio. But the residents of Santa Teresa petitioned the CTC to

keep the trams going and Petrobrás, Brazil's national oil company, which owned the land, preserved a sliver of the hill and built a new terminal for the cars in front of its new office building. On 31 January 1975, Santa Teresa trams moved into a new modern terminal - their sixth - in the gardens of the Petrobrás oil company.

Three visits in the last two years have revealed a confused situation. Undoubtedly, the Santa Teresa bonde is a genuine tourist attraction. Long queues form at the city terminus to await the next tram. The terminus itself is a graceless concrete 1970s abomination, totally out of character with the line's heritage status. It is inhabited by seven or eight employees, who appear to do nothing, apart from the



*Rounding a sharp curve as it descends Rua Almirante Alexandrinho from Dois Irmãos, car 12 retards road traffic.*

Ian Dunn



*Hold on for the curve! Car 12 squeals around a 180 degree curve on Rua Almirante Alexandrinho, coming from Dois Irmãos.*

Ian Dunn

*Outbound Paula Mattos car 12 has just left Largo de Gulmarães junction and is swinging into Rua Pascoal.*

Ian Dunn



ticket seller who doles out just sufficient tickets for one tram load, at the ridiculously cheap price of 60 cents a journey (about \$A0.40).

There are supposedly twelve cars available for the system, but my most recent visit revealed just two (and sometimes only one) working and four under overhaul at the workshops and depot. Perhaps the rest are stored off site. This situation has a serious impact on the viability of the system. With only one vehicle operating, alternately to Paula Mattos and the Dois Irmãos termini, service frequency is about once hourly.

Even with two trams on the go, there is an interval of about thirty minutes between trams. Fortunately, the

bondes are no longer the principal means of transport in the Santa Tersa hills. A frequent service of minibuses at R2.00 per journey covers both routes and provides the real public transport, leaving the trams to the tourists and the local urchins.

In the workshops, all manner of maintenance is performed, including traction motor rewinds and wheel reconstruction and installation of new axles and pinion gears. New woodwork for the tram bodies is also manufactured and installed. Again, there seems to be an abundance of labour and little sense of urgency. The trackwork varies from newly relaid (on the lower portion of the hill between the aqueduct and Curvelo station) to sections which are obviously in dire need of



*Fully laden, car 09 is about to head up the steepest pinch of the Dois Irmãos line, departing the junction at Largo de Gulmarães.*

Ian Dunn

*With Carioca urchins on all available surfaces, car 12 curves through the intersection at Rua Aarão Reis, midway along the Paula Mattos branch. At this point, it swings right across the street, running against the flow of road traffic, and forcing the outbound Route 214 bus to pull aside for its passing.*

Ian Dunn





*Breakdown and line car SOS 105 enters the depot branch from Paula Mattos. This car sits on a different truck from the passenger cars, and is considerably smaller. It has a Belgian air about it, and may be rebuilt from one of the Dyle and Bacalan, Louvain cars.*

Ian Dunn



*Worn wheels are given a new life by building up weld metal around the flange and then turning the wheel to profile in the wheel lathe.*

Ian Dunn

repair. Extensive work was carried out last year, and a sign at the city terminus proclaims that the Rio de Janeiro state government is spending more.

A journey up the hill is a wonderful experience. The eight-bench cars seat 32, some children sit on the knees of adults and another dozen or so passengers can squeeze in, standing behind the driver and in the rear cab. So, loaded with perhaps fifty people, the cars leap into motion, achieving their maximum speed of about 20km/h almost instantaneously! With long bodies on a relatively short, four-wheel truck, forward progress takes on the gait of a duck, somewhat alarming when waddling high above the ground across Os Arcos da Lapa, but manageable. After crossing the aqueduct and entering the Carioca hills, there is a constant parade of local lads leaping on and off, often just for the sheer



*Car 11 has had some major timber relacement as it undergoes restorative work in the depot.*

Ian Dunn



*Overhauled electric motors await fitting into the trucks of out of service cars. Ian Dunn*



*A General Electric controller dating from 1908 provides control for the Carioca cars. Ian Dunn*

fun of it. No fares are collected from locals, but the conductor must swing along the footboards on the outside, Sydney-style, precariously gripping a railing with one hand while dispensing tickets with the other. Curves are taken with a grinding, jerky motion, kind neither to machine nor track. The traction motors are loud and constant in their complaints, but seem adequate to propel the vehicle at the necessary speed uphill. At the Largo de Gulmarães junction, there is considerable passenger activity, before the tram lurches off downhill to Paula Mattos or grinds uphill on alarming grades to Dois Irmãos. In places, the track curves right across the road and trams oppose oncoming traffic, which wisely defers. The Paula Mattos terminus consists of a balloon loop in the Largo das Neves, but the Dois Irmãos terminus is a triangle into a side street, into which the tram backs before rejoining the downhill line. Track and wires extend beyond Dois Irmãos to Silvestre on the Corcovado rack



*Trackwork on the Dois Irmãos line indicates why passage around curves is less than comfortable at times!*

Ian Dunn



*A Peckham Metropolitan 8B truck undergoes rebuilding in the workshops.*  
Ian Dunn



railway, but a theoretical once-a-day service seems to be a casualty of car unavailability.

The Santa Teresa tramway is definitely worth an extended visit by any enthusiast in Rio. The entire system can be walked in a day, using the Route 206 or 214 buses (which depart every ten minutes or so from Praça Melvin Jones on Avenida Nilo Pecanha, near the Avenida Rio Branco exit from Carioca metro station in the city) to reach the summit and then ambling gently down again on foot. The area is safe enough by day, being well populated by tourists, but, like all of Rio, should be eschewed by pedestrians after dusk, when the feral denizens of the city's notorious favelas go out on the prowl. Avoid the area underneath Os Arcos da Lapa, which is considered dangerous even by the locals. The city terminus is located up a busy side street, the Rua Lélío Gama, off the Avenida Republica

do Chile, about 200m from the Carioca metro station and in the shadow of the Petrobrás tower. Much useful information can be obtained from Allen Morrison's website: <http://www.tramz.com>

What does the future hold? While the line seems safe enough, a real effort needs to be made to make it more viable. Since it does not provide public transport, rides should be priced at the tourist market. A R5.00 (\$A3.50) ticket would not be unreasonable and would provide much needed revenue. Some rationalisation of work practices would also be beneficial to the bottom line. Certainly, more trackwork is needed, and seems to be in the pipeline. An increase in serviceable cars is desperately needed to cater for traffic offering. Meanwhile, however, we should enjoy the legacy of 111 years of electric street railways in the Santa Teresa hills of Rio de Janeiro.



*A mule car, numbered 001, at the small museum within the workshop complex. Rio had more than 700 animal powered cars before switching to electric power from 1896. The small size of this vehicle is noticeable.*

Ian Dunn

# THE NSW TRAMWAYS DIFFERENTIAL DUMP TRAMS

By Ian Saxon

An article appeared in *The Staff* magazine in May 1925 about a new tram whose body was imported from the United States. The article was headed 'Two-side Tipping Truck', and described the tram as follows:

*From time to time additions are made to the rolling-stock of the New South Wales railways and tramways which are a departure from existing standards, the object, of course, being easier manipulation or greater economy. The latest to come into this category is a wagon designated by its American makers the 'Differential Dumping Car,' but which will probably be known here as a 'dumper'. It is so different from anything at present in use here – it is, in fact, the first in Australia – that the opportunity is taken to describe it in detail.*

*The wagon consists of a double-end-control truck, on which is mounted a tipping body divided into three divisions, each of capable of carrying 6 cubic yards of material. It is, however, in the operation of the tipping apparatus that the claim for distinction lies. The body does not swing on central hinges but is carried on four pairs of 17-inch diameter wheels placed at the divisions of the bins, by which means the body can be moved 18 inches laterally on either side of the central position before tilting. In this way it is possible to deposit the load that much farther from the rails than would otherwise be the case, meaning that ballast dumped from the wagon is left clear of the rails. In*

*order to keep the body in alignment at all times, the four girders carrying the rollers are riveted with barge coned rivets which fit into holes in the rollers, thereby ensuring that the body does not get askew. As well as these, two pointers are provided, one fixed on the body and the other on the back of the cab, to enable the operator to centre his bin when in the normal horizontal position. Power for traversing and tipping is provided by a 4-h.p. electric motor; the actual drive being by worm-reduction gear and wire cables. Two tipping speeds are provided.*

*The framing, cabs, tipping gears, and bins were imported, but the bogies are designed in the Chief Electrical Engineer's Office, and built in the departmental shops at Randwick.*

*The chief particulars of the wagon are as follows:-*  
Bins (three), each 7 feet 6 inches (wide) x 8 feet.

*Total cubic capacity 18 cubic yards.*

*Angle of tip, 45 degrees.*

*Wheel base (bogie), 6 feet 6 inches.*

*Bogie centres, 21 feet 2 inches.*

*Length over frames, 40 feet 6 inches.*

*Motors (four), 50 h.p., MV Co, type 102.*

*Control equipment, GE Co. type PC 5.*

*Brakes, straight-air and Peacock staffless (hand).*

*Weight (tare), 20 tons 2 cwt.*



*Official photographs were taken of the first Differential dump car, 123u, at Randwick Workshops.*

R. Merchant collection





*The car in the dumping position, with the bins facing the camera.*  
R. Merchant collection

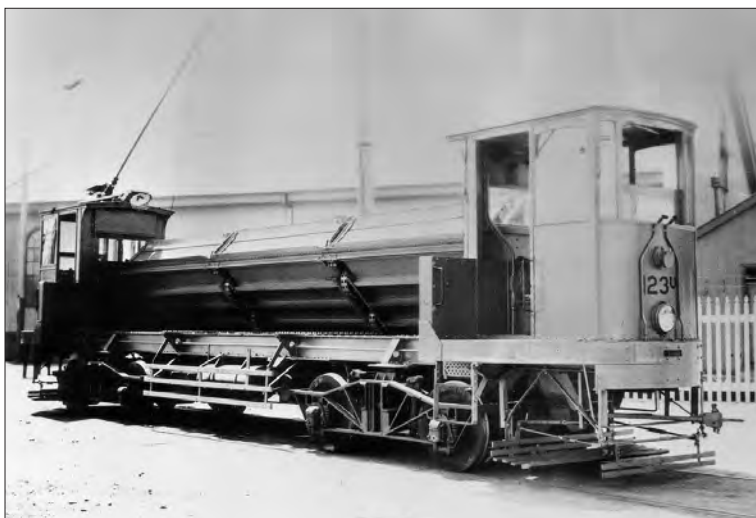
*Two of these tip-wagons have been imported. The first (123u) is already on the road, and will be followed shortly by the other*

The cars were supplied by the Differential Steel Car Company of Findlay, Ohio. They were numbered 123u and 124u and were classified in Sydney as U5 class.

The trucks fitted to these cars appear to be identical to those fitted to Differential dump cars operated by US tramways. The cars came with enclosed cabs and multiple unit equipment and could be operated in multiple with each other, although, as the wiring was completed at Randwick Workshops, this equipment may have been standard as fitted to O class cars and other ballast motors in service on the NSW Tramways.

It is believed the cars became unpopular during the 1930s Depression due to few labourers being required to unload and spread ballast from them at a time of high unemployment. They were out of service by July 1932, possibly also because of a high level of maintenance required on the tipping mechanism and because their use was limited to the carriage of ballast, while other U type ballast cars could carry rails and general freight.

The two cars were cut up at Randwick Workshops on 16 August 1939. Four similar cars are preserved in the USA, one each by the Illinois Railway Museum (restored and operating), Northern Ohio Railway Museum, Pennsylvania Trolley Museum and Seashore Trolley Museum.



*The car in the dumping position with the bins facing away from the camera and showing the rollers.*

R. Merchant collection



*Differential dump car 123u was displayed in Bridge Street yard for inspection by the Commissioners and Head Office officials.* STM archives

### **About *The Staff***

*The Staff* magazine was first published in 1924, taking over from *The Railway and Tramway Magazine* published by the Railway Institute, and included *The Commissioners' Monthly Bulletin* and *Safety First* pamphlet.

The magazine was published by the Railway Commissioners of New South Wales in the interests of their employees. It was the voice of the entire staff of the NSW Railways and Tramways, and was the only journal published under the authority of the

Commissioners. It was produced each month and posted free to the home of every employee in the service. It was also made available to retired employees and the principal public libraries and reading rooms throughout the State. Non-employees were able to subscribe for 7/- per annum and single copies could be purchased at the Railway Institute and at bookstalls.

"Because of the great need for economy", the Railway Commissioners decided to discontinue publication of *The Staff*, with the last issue being published on 30 December 1930.



*The dump cars in 1938, abandoned and partially stripped in the yard at Randwick Workshops.*

Eric Law, STM archives





A front view of dump car 123u in Bridge Street yard.  
STM archives

Right: The cover of *The Staff* shows a view of Sydney Station from the top of the Australian Gaslight Company's building in Pitt Street.  
D. Budd collection



## HERE AND THERE

### AUSTRALIAN AND OVERSEAS NEWS

#### Mulhouse trams for Melbourne

The first of five trams from the French city of Mulhouse arrived at Melbourne's Webb Dock on 14 February, and was taken to Preston Workshops next day. It is a five module tram and was shipped in two sections, one of three modules and the other of two.

The car was transferred to Southbank Depot on 22 April after undergoing minor modifications at Preston. It will enter traffic on route 96, running from East Brunswick to St Kilda.

The other four trams will arrive by ship from France in the coming months. The trams are being leased for four years at a cost of \$8.8 million to the Victorian Government. All five trams are expected to be in service by September.

The first tram, to be numbered 5101 in Melbourne, is No. 2023 of the Mulhouse fleet. It will retain its yellow Mulhouse livery, and will show its Mulhouse

number as well as the name of the operator in that city, Soléa.

No. 2023/5101 is a Citadis 300 series car, built in 2005. It has run some 30,000km in its home city but is in as-new condition. Mulhouse has a fleet of 27 trams but requires only 19 for service pending the expansion of the system to its ultimate size, expected by 2011.

#### Melbourne tram added to heritage register

Melbourne's oldest surviving electric tram, North Melbourne Electric Tramways and Lighting Company car No. 13, has become the first vehicle to be included on the Victorian Heritage Register. The tram will receive the state's highest heritage status.

No. 13 entered service in October 1906, and became V class No. 214 when it and its four sisters were transferred to the Melbourne and Metropolitan



*The first two sections of Mulhouse 2023 are prepared for unloading at the entrance to Preston Workshops on 15 February.*

Ian Green

Tramways Board. They were the only crossbench cars operated by the Board. From 1925 the V class was converted to permanent way locomotives. Subsequently, No. 214 was converted to freight car No. 17 (later 17W). It was restored as a passenger car in 1978 and repainted to its original colours for the centenary of Melbourne's trams in 2006.

NMETL No. 13 is currently on display at the Melbourne Tram Museum in Hawthorn.

### **Sydney's \$152m light rail plan**

On 6 April, the *Sunday Telegraph* reported that a light rail line from Circular Quay to Central Station via The Rocks was under consideration by the State Government. The estimated cost of the line is \$135million.

The State Government is also considering an extension of the existing light rail line from Lilyfield to Summer Hill. The 3.7km Summer Hill extension, which could use existing track, would cost about \$17million. The extension would include the construction of a new terminal at the former Allied Mills flour mill at Summer Hill. Transport Minister John Watkins said the proposal had merit and was being seriously considered.

"The Government has received a proposal to build a light rail line from Summer Hill through to Barangaroo in the CBD," he said. "We have always said that light rail on the outskirts of the CBD may be a good idea and a light rail extension to east Darling Harbour has been featured in our plans for this part of the city for some time. This particular proposal seems to have merit. We'll always look favourably at proposals that are well thought out and improve public transport options for Sydneysiders, so we will consider this one in more detail in the coming months."

Metro Transport Sydney CEO Kevin Warrell said, once approved, the tracks could be built within 18 months and the whole system could be up and running in as little as three years. He said the system would provide the missing transport link between the CBD and the new Barangaroo development at East Darling Harbour. "This will link in the various tourist and leisure districts. It will be really coherent."

The light rail cars would run under the Harbour Bridge and along Hickson Road and Sussex Street on the western side of the CBD. The 4.1km route would provide direct access to the planned East Darling Harbour project, known as Barangaroo. If the line proceeds, it could be completed by 2011.

Mr Watkins said the CBD light rail proposal was vastly superior to Sydney Lord Mayor Clover Moore's 'ill-conceived' idea of running trams, but not traffic, in George Street.

Under the plan, four-lane Sussex Street would be reduced to two lanes to accommodate the tracks. Nine light rail vehicles would provide the service, with cars arriving every four minutes at each of the twelve stops along the line.

"In contrast to previous ill-conceived proposals, this one addresses some of the Government's concerns about closing down lanes of major roads within the CBD," Mr Watkins said. "Running light rail through the centre of the CBD simply does not make sense, but this new proposal may reduce the impact on the flow through the city by avoiding those main north-south routes right in the middle of the city."

The proposal to build the light rail route through the city was submitted to the State Government by Metro Transport. The Barangaroo project planning committee is also considering it.





*Melbourne W2 379 has been located at the Methodist Ladies College Junior School in Barkers Road, Kew, since 1967. An attractive mural covers one side of the car and a balcony has been erected on the opposite side. The car is protected by a corrugated roof.*

Steven Altham

## ST KILDA

### AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) Inc

PO Box 213, Salisbury, South Australia 5108

[www.trammuseumadelaide.com.au](http://www.trammuseumadelaide.com.au)

From Colin Seymour

#### Bib and Bub project

Andy Hall helped Jack Pennack install a refurbished K35JJ controller on the motorman's end of A 14. The air brake and hand brake with its associated mechanism has also been installed. Mike Bosworth has continued rebuilding the side frames at the drop-ends. Most of the new timber side frames have been bolted on and step supports are in place. Before the final side frame can be re-attached, a replacement angle iron side support will be required as the original one shows distortion due to accident damage, and is severely corroded.

#### E type tram 118

Bruce Lock and Mike Crabb have continued to work on the air brakes for E 118. The motorman's brake valves have been refitted to the cabs. The whole system has been pressure tested from the workshop air supply including a brake test of the cylinder. An emergency valve for the conductor will be installed under a cross bench seat (not originally on E cars) to avoid the conductor having to walk the boards to the driver's cab on the open section of the car in the event of an emergency.

Welding of the east end journal boxes is complete. The cast iron wear plates need only a final machine to align the wheels to the frame.

The first consignment of replica wooden seat squabs and backs for the cross-bench seats in the open compartments of E 118, A 14, and A 15 has been delivered from Husnjak's joinery. Jack Pennack has applied coats of varnish, bringing out the light and dark colours of the alternate slats of American Oak and Blackwood. He is also refitting the seats to the cross-bench end of 118.

#### H type tram No. 378 (restaurant tram)

In order to clean out the dust that had accumulated between the window panes of the double glazed saloon windows of the restaurant tram, the inner frames were removed. As the inner panes were removed, many of the frames fell apart. Quick action prevented the glass falling out. Peter Letherby, who fortunately has some experience in repairing railway carriage windows, is carrying out the repairs.

Jack Pennack and Mike Bosworth have installed an inverter which operates off the tram's 24 volt control circuit battery. The inverter maintains the interior lighting when the motor-alternator trips off, such as during notching up and when the tram's trolley wheel passes through a section insulator. High efficiency, low wattage compact fluorescent lights for the saloon are being used to reduce the current drain on both the battery and the inverter.

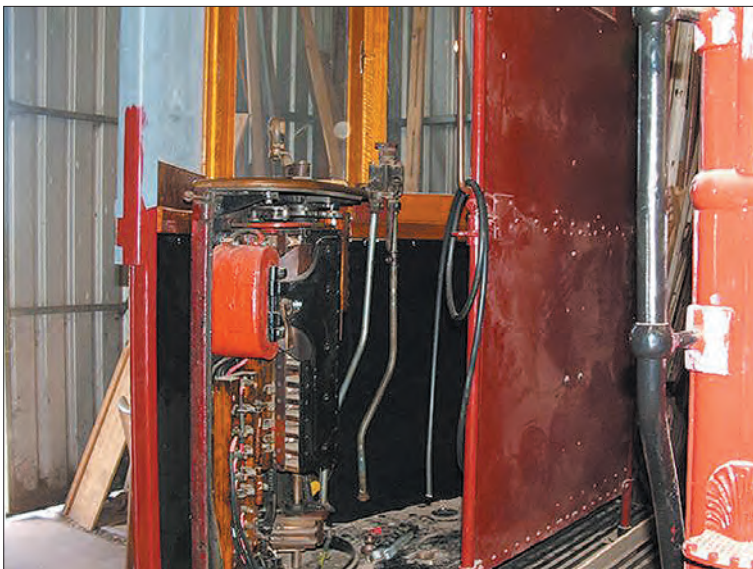
*Car 14 on 25 January, before installation of its K35JJ controller.* Chris Summers



## Museum displays

In South Australia, one of the benefits of being a museum accredited under the History Trust of SA's increasingly stringent accreditation program is that it gives museums access to grants that are not otherwise available. Visitors to the Museum for the 50th anniversary would have noticed improved outdoor presentation and a start being made on the interior as evidenced in the door back panels at the entry to our display sheds. This was funded under a History Trust grant as stage 1 of a larger plan for new and refreshed interpretive displays in the vehicle exhibition sheds.

The Museum has been awarded a further grant of \$17,590 from the History Trust's 2007/08 grants program to complete work in hand at the Northern Depot, a new display in the entrance gallery, and to refresh the horse tram and trolley bus interpretive displays. This should enable the entire project to be completed in time for the Museum to celebrate the centenary of the commencement of the Adelaide electric system in 2009.



*Car 118 with the GE B23 controller obtained from Victoria and installed three years ago, together with a brake valve installed in February 2008.*

Chris Summers



*Ian Seymour, Michael Crabb and Bruce Lock install the points leading from the main line to Roads 4, 5 and 6 in concrete on 22 February.*

Chris Summers



### New website

The Museum has a new website ([www.trammuseumadelaide.com.au](http://www.trammuseumadelaide.com.au)). The new site was developed by the contractor who has also been preparing our new museum displays. The new site aims to serve a wider group than tram enthusiasts. The new web domain name will make it easier for non-enthusiasts to find us when they type words like 'tram museum Adelaide' into their search engine.

The main sections of the site are:

- Things to See & Do
- How to Get Here

- Make a Day of it
- Schools & Groups
- Contact the Museum
- Enthusiasts Corner
- About the Museum Group
- Members Area

The News section of the Enthusiast Corner comes from our *Trolley Wire* notes. The Members Area includes the latest *Trolley Flash* member newsletter plus recent issues.



*Bruce Lock and Michael Crabb work on the points.*

Chris Summers



*Members other than our Friday Gang are involved in various museum projects. On a recent visit, Andy Hall stacked and colour-coded sleepers according to their condition.*

Chris Summers

### Other news

Pole 26 on the lakeside track was replaced by the Friday gang during March 2008. Five members participated.

An order has been placed with Bendigo Tramways to organise the casting of motor suspension bearings for W7 1013. The AETM will then finish machine the bearings to fit the variations on 1013's axles.

## VALLEY HEIGHTS

**STEAM TRAM AND RAILWAY PRESERVATION SOCIETY**  
PO Box 571, Springwood, NSW 2777

From Peter Stock

### Double-deck trailer car

Work is progressing on refurbishing the roof of this car. New floorboards have also been milled off-site using recycled timbers. The boards are being attached to new cross-members that replace those installed when the vehicle was used in the street parades in years gone by. Once completed, the knifeboard seat will be reinstalled on a more secure structure. The staircases are receiving similar attention.

The panelling across the front and rear bulkheads has now been replaced, again with material of a superior strength to that which was originally fitted.

Concurrent with the double-deck project, a pair of bogies is being produced. This has involved cutting and shaping new timber bolsters. In addition to refurbishing various castings and other parts, bolster springs have been manufactured. The vacuum brake

*Roof bearers on the double-deck tramcar project showing new upper floorboards being positioned before securing. Seen on 5 April 2008, additional brackets have also been fitted.*

Peter Stock







*Steam Tram and Railway Preservation Society members Craig Connolly and Stephen Tolhurst while away their time packing concrete sleepers. It was unusual for only two people to be doing this work as members of the Valley Heights Loco Depot Museum are usually involved.*

Peter Stock

pans and fittings are on site; the project will also use castings ordered when we refurbished the bogies damaged in the fire at Parramatta Park.

### New shed

Considerable time and effort is still to be expended on the new rails and concrete sleepers laid within the building. The task of packing the sleepers now is

nearing completion and, once completed, preparations will be made for laying the concrete floor. Packing the rail has required many hours of arduous work by members of both the Steam Tram and Railway Preservation Society and the Valley Heights Locomotive Depot Heritage Museum.

Entry doors for use by personnel have been delivered to the site. Once hung, the doors will allow the new shed to be locked securely.

## HADDON

### MELBOURNE TRAMCAR PRESERVATION ASSOCIATION

PO Box 324, Prahran, Victoria 3181

[www.railpage.org.au/mpta](http://www.railpage.org.au/mpta)

From Kym Smith

### SW5 843

The four external driver's doors are currently off-site with Arthur Ireland who is plugging the holes that were drilled for barrel locks, reinstating the standard MMTB latches, and installing D-moulding on the doors to improve their appearance, prior to repainting them. He also has the two internal cabin doors off-site and is revarnishing and repainting them prior to reinstallation.

Work on 843 has concentrated on the repairs to the chassis and flooring of the No. 2 end cabin where some rotted timber has been replaced. All components were primed and sealed prior to reinstalling the floor.

*Anthony Smith and Frank Schroeders remove the relay valve from SW5 809.*

Jacqui Smith





*The second spare parts storage container is unloaded to the rear of the Tower Wagon Shed.  
Jacqui Smith*

### Spare parts from trams

Further progress has been made on the dismantling of SW5 809 with both cabins now removed and most of the electrical and pneumatic equipment removed from the underside of the tram. Daniel Edwards is continuing to dismantle the interior of the tram and to salvage all reusable beatings and fittings.

Ian Seymour from the Australian Electric Transport Museum at St Kilda visited Haddon recently and collected components removed from W7 1008 for re-use on their W7 1013. The motorman's visors collected

for the Perth Electric Tramway Society were also delivered to them in February by Kym Smith.

### Storage of spare parts

Our major project in the last three months has been the sorting and stowing of spare parts collected either from Newport or from trams that have been dismantled.

A second shipping container has been purchased for storing parts. Both containers have been fitted with shelving and revolving air vents have been added to make the interiors less oppressive on warmer days.



*Daniel Edwards and Anthony Smith stack components in one of the spare parts storage containers.  
Jacqui Smith*



*Frank Schroeders uses the forklift to move underfloor controller contactors removed from SW5 809. Jacqui Smith*



The containers are being filled progressively with sorted components. As part of this process, we are updating our spare parts stock listings and transferring the information to an electronic database which will be included in our Safety Management System documentation. Serviceable and tested components are also being identified and tagged as part of the task.

### Supply of cab front

A request was received from Yarra Trams for assistance in supplying a cabin front to replace an accident-damaged one on W7 1019. In return, Yarra Trams offered to supply some controller components

needed for the overhaul of the underfloor controller on SW5 843. After consulting Mike Ryan to ensure the exchange was consistent with the Spare Parts Protocol being developed by VicTrack, the cabin front was delivered to Southbank Depot during March.

### Accreditation

Our other major project in recent months involved the completion and implementation of our new Safety Management System. Our draft SMS was revised in consultation with interested members, and the final version came into effect on 30 March 2008.



*John Withers, Frank Schroeders, Anthony Smith and Arthur Ireland remove one of the cabin fronts from SW5 809.*

Jacqui Smith

For a tramway that operates only 450 metres of track on an as-required basis, it is interesting to note that 120 various manuals, procedures, standards, and forms were needed to meet the requirements of the Rail Safety Act. In all, the documentation amounted to well over 1,000 pages. While substantial time and effort

was required to complete the documentation correctly, it puts in place processes that better reflect our operating practices. Further, it will enable us to implement processes that, in the longer term, will make working at Haddon safer and easier.

## BALLARAT

### BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

[www.btm.org.au](http://www.btm.org.au)

From Dave Macartney

On 13 February, concrete was laid for storage shelving at the rear of the depot. This was the first concrete pour since the mess room and office were done over 20 years ago. Erection of the shelves soon followed; in the present configuration it provides some 47 square metres of storage space. Needless to say, the space has been largely filled without making more than a token reduction of the amount of stuff to be accommodated.

The last issue of *Trolley Wire* reported the death of Jean Maxwell, said to be the last surviving war time Ballarat conductress. As it happens, two more survivors have emerged, one of whom has been a regular rider on the tram over the years, but never made her tramway history known. One link with war time operations that does seem to have finally ceased is the visits by former US Marines, once based over the road in Victoria Park. Many of these gentlemen made themselves known to depot staff in the early days of museum operation, but the passing years seem to have finally caught up with them.

During February a set of clear plastic weather blinds were fitted to No. 661 to assess their suitability, particularly with a view to charter work. They certainly brighten up the drop centre area on dull days when blinds are required, and it remains to be seen if they are robust enough for tramway service.

The fleet has kept the maintenance staff busy over the summer period. No. 13 has had a sticking saloon door freed up, a very messy job in a restricted space. No. 27 required an axle bearing to be refurbished, while No. 40 was fitted with an L type compressor governor after repeated problems with the beetle back model that was fitted previously to No. 38. On 15 March, No. 33 joined the sick list with electrical problems which are still being diagnosed.

On 2 April cars in the shed were rearranged, with Electric Supply Co No. 12 being moved to the bottom of 3 road and No. 28 taking its place on No. 5 road, this taking place during a dust storm of biblical proportions. A motor needs to be removed from 28 and the field coils attended to, as well as a compressor change. These tasks will have to be carried out on 5 road as further work on No. 14's motors will see 4 road tied up for some time.

The weather for the 2008 Begonia Festival turned out to be hot. Again, the event was limited to the three days of the March long weekend, because of the drought and a resulting shortage of activities. The Ballarat City Council hired our trams and free rides were offered as in previous years. However, a three-day Festival instead of the previous five days saw a corresponding reduction in the Museum's fee. Nevertheless, the operation ran smoothly, with sufficient staff on hand to ensure that everybody got a break or two as the temperature climbed well into the thirties on each day. The W3 and W4 maintained the base service, with various single truckers running shuttles during the busiest times. X1 No. 466 even got into the act for a couple of shifts. The final passenger count was 5,335.

Well known depot identity Daniel Edwards celebrated his 18th birthday on 23 February with a charter in his favourite tram, No. 661, complete with its new weather blinds. After some time out on the road, the party continued in the shed, where Daniel dragged his three long-suffering aunts (Jacqui's sisters) around the shed, describing everything in great detail, some of which was actually correct!

In the early hours of 27 March, a P plate driver with an over-inflated idea of his ability managed to launch himself over the roundabout in Gillies Street, some



100 metres north of the depot. Completely losing control of the car, he managed to avoid clouting the pole carrying the depot's Powercor transformer before burying the car in the back wall of the shed. The change room suffered the brunt of the damage, with the uniform rack collapsing and all the junk piled on

top being scattered. The rear fire escape door was demolished, with some damage being done to the plumbing associated with the fire hose. In all, it could have been worse, particularly if the transformer had been damaged. The shed was quickly secured, and insurance matters are now proceeding.

## WHITEMAN PARK

### PERTH ELECTRIC TRAMWAY SOCIETY (INC)

PO Box 257, Mount Lawley, Western Australia 6929

[www.pets.org.au](http://www.pets.org.au)

From Michael Stukely

#### Tram services

Trams continued to run seven days a week throughout the summer school holiday period, until schools resumed in early February. Services were cancelled on three days in January and one in February due to an extreme or unacceptably high fire hazard in Whiteman Park. During February, trams ran each Thursday in addition to our regular Tuesday and Friday weekday services, as the Bennett Brook Railway (which normally operates on Thursdays in the Park) was carrying out a major infrastructure maintenance program and not operating.

The Park's annual Classic Car Show, organised by the combined car clubs of WA, was held at Mussel Pool on 16 March, with a large crowd in attendance and many taking the opportunity to have a tram ride. We had a highly successful day, with two trams (W2 329 and 393) in service all day. Easter fell on the following weekend, and with ideal weather conditions, two trams (as above) were required on both the Sunday

and Monday. Treasurer, Tony Kelly, has been smiling for weeks as a result. Victorian-based member, Bill Kingsley, made his annual pilgrimage west and again drove trams on all four days. This very generous help by Bill gives our regular crews a welcome break, and is greatly appreciated by us all.

#### Tram restoration

Under-floor duct and cable work on the body of WAGT (Perth) E class No. 66 has been continued by Gareth Watts, Roy Kingsbury and Bill Blain. Two resistor banks had been rebuilt earlier by Kurt Gahler. Ric Francis has arranged sandblasting of the third, which is to be reassembled. The original Westinghouse compressor has been sent out for testing and repair, if this is considered feasible. A new air reservoir must now be fabricated. Frank Edwards and John Davies have continued with preparation and repairs to the saloon floor.

*The refurbished model of Perth G 35, presented to the Society in November (see Trolley Wire, February 2008), photographed on 19 January.*

Lindsay Richardson





*Installing the new checkrail on the Village Junction Curve on 29 March – Lindsay Richardson (left) and Noel Blackmore operate the modified rail drill to drill holes for the bolts securing the rails to the spacer blocks, as Trevor Dennhardt (behind Lindsay) holds the check in position; John Davies and Frank Edwards look on with great interest. Ric Francis*

*Bill Blain fits new switches in the B 15 restoration area of the Lindsay Richardson Car barn on 3 October 2007.*

Lindsay Richardson

Rebuilding of the western end platform, and structure supporting the apron and windscreens, of the body of Perth B class No. 15 (single truck car) by Bryan Adcock and his team has almost been



*David Carling re-configures the work bench for the B 15 program on 3 October 2007.*

Lindsay Richardson

*Adelaide H 371 was towed through the Pit Road to test clearances in July 2007. Only the side-mounted rear-vision mirrors had to be removed.*

Frank Edwards





*PETS was visited by a group of Australian Railway Exploration Association tourists on 23 February to see our Tramway and ride MMTB W7 1017 and Fremantle 29. Lindsay Richardson hosted the group and they enjoyed the visit.*

Ric Francis



*The City of South Perth and South Perth Historical Society visit on 9 April included (from left) Sean McLaughlin, Legal & Governance Officer, City of South Perth; Cliff Frewing, Chief Executive Officer, City of South Perth; Susan Marie, Manager Library & Heritage, City of South Perth; Kerry Davey, City of South Perth Historical Society; James Best, Mayor, City of South Perth; Annelle Perotti, President, City of South Perth Historical Society and Phillip Pandal, City of South Perth Historical Society. Lindsay Richardson escorted the group around our site.*

Ric Francis



completed. Stripping out of the pillars on the south side of the saloon has been completed. The rebuilding of the eastern end platform has started. Representatives from the City of South Perth visited the Museum on 9 April to view progress on the car, which is to be placed on static display with the South Perth Historical Society following its restoration.

### Infrastructure and motor vehicles

Major improvement has been carried out on the Village Junction Curve including the installation of two additional lengths of checkrail, extending northwards from the original short checkrail that covered only the section of the curve over the culvert.

Modifications to the rail drill, designed by Noel Blackmore to enable drilling of both the check and stock rails in situ, made this task a good deal easier. Six steel sleepers were installed to replace rotten

timbers on Village Junction Curve, on the passing loop, and on the west-to-north curve of the Triangle. Trevor Dennhardt and Lindsay Richardson have been assisted on the track by John Azzaro, Noel Blackmore, John Davies, Peter Day, Frank Edwards, Ric Francis, Tony Grose, Shane Parsons, John Shaw, and Michael Stukely.

Two former Perth trolleybus steel traction poles were transported on 10 April to the end of the straight just west of the Triangle ready for installation, to replace rotted timber poles dating from 1985. Termites and fungal wood rot are taking their toll on our poles (as well as sleepers) especially in the wetter areas along the track.

Ric Francis has continued his site clean-up, with a fourth bin of scrap steel filled and carted away, and more to follow.

The purchase of a second-hand Chamberlain tractor was arranged by Pat Ward, primarily for use in pushing non-powered trams and car bodies when they need to be moved. The other tractor owned by the Society, used mainly for track and site works, is unsuited to pushing tram bodies as it has a large, heavy blade mounted permanently at the front.

The ex MTT (Perth) Leyland tow truck has been on long term loan to the WA Omnibus Group (Inc.) for several years. Full ownership is now being transferred to the WAOG, and a donation has been gratefully received in return.

## BYLANDS

### TRAMWAY MUSEUM SOCIETY OF VICTORIA

38 Piccadilly Crescent, Keysborough Victoria 3173

[www.tramwaymuseum.org.au](http://www.tramwaymuseum.org.au)

From *Running Journal*

#### Infrastructure rehabilitation

Work has continued on rehabilitation of the main line with more sleepers replaced between One Tree Hill and the first stock crossing. About 10 sleepers were replaced at the working bee last November, with initial lifting and packing also being undertaken. Chris Andersen, Michael Fedor, and Harry Twining assisted the regular team of track workers being Andy, Graham, and Russell. We still have approximately 50 more sleepers to place in this section of track southwards towards Union Lane.

In mid December, six truckloads of ballast were delivered from the local Kilmore Quarry. The first three loads were placed over the main line at the current northern terminus in preparation for spreading. Over a weekend, one complete pile was distributed by Andy, Graham, Harry and Russell, using shovels and barrows between poles 40 and 41. The other two piles

will be used between poles 38 and 40. A further two truckloads of ballast were placed at various points adjacent to the track, back along the line where future works are planned, the last load being dropped on the Exhibition Shed fan.

A further 50 new red gum sleepers have been ordered from our supplier in Merbein, and these are expected to be delivered shortly. When they are received we will have sufficient to complete the current sleeper replacement program.

#### Museum works

A number of projects or tasks have been undertaken over recent months, many of which were not reported previously. Members who have not been to Bylands for some time will notice some of the changes that have



*Sleeper transport tram No 15W on the main line at Bylands, ready to be restocked with sleepers for trackwork further down the line.*

William Fedor



improved the appearance of the site. First, changes were made to the internal layout of the kiosk area. The relocation of a number of items has opened up the sales area and allows more light in through the windows.

Corey Robertson has continued with external repairs to the house. He has completed the enclosure of the rear veranda and has fitted half-glazed double doors. The doors, which are in keeping with the historic and railway nature of the house, were from the former railway station waiting room at Bungaree, near Ballarat.

Prior to W3 667 moving to Melbourne for use in the filming of the mini-series *The Pacific*, it was necessary to clean and check the car. Corey Robertson and Graham Jordan spent several hours on this task. Because 667 was the fourth car in on No. 5 road it was necessary to move eight other trams (three on No. 5 road and five on No. 2 road) to drive 667 to the loading point at the rear of No 1 shed. This task took Corey and Graham several more hours. During this process, W1 427 was moved from the rear of No. 2 road so that it could be serviced for return to traffic following a long sojourn.

A new lifeguard to replace one damaged some time ago was fitted to W2 643. Investigations as to why the electrical systems of W5 782 refused to co-operate when under power led us to have the motors and controllers electrically tested by Maurie Hall. Although no problems were discovered in these areas, the car still refused to work correctly. An inspection of the line breaker by Bendigo Tramways staff found a small fault in this unit. A replacement part was fitted to solve the problem. Both 643 and 782 are available for traffic once more.

Two compressors have been supplied by the Department of Infrastructure as replacements for failed units in W6 996 and W7 1001. These units came from dismantled cars via Bendigo. The motor hatch covers in SW6 902 were showing their age and wear, so these were changed over with spare units from 963.

Work continues on X2 680 and Q 199 by Doug and Sawako Prosser, ably assisted at times by John Whiting and John Walker. X2 680 is almost complete with all exterior paintwork now finished and the numbers and monograms applied. More work is still required on the roof canvas and, when completed, the roof will be painted. Q 199 is starting to look more like its original configuration of an 'all nighter' in chocolate and cream livery with the initial coat of its exterior colour scheme. Some of the car numbers have been installed to show what it will look like when finished. There are still many hours of work ahead, as all the internal fittings such as seats, some windows and varnished

panels, which have or are being been restored separately, are still to be installed.

A heavy downpour late in December resulted in the volume of water running down Union Lane being too much for the drain at our front gate. A large gouge was formed across our main driveway which was difficult for motor vehicles to cross. This was filled using 16 wheelbarrows of surplus material and old ballast dug out of the main line during rehabilitation works. It was topped off with reclaimed crushed rock which had been washed away further down the road. We got plenty of exercise that day!

Representatives from the Bendigo Tramways visited Bylands during December to discuss several issues and to quote on proposed works, such as welding of track, repairs to trams, fabrication of bracket arms and the manufacture of rail bonds. The day produced some very positive and useful results, and firmed co-operation between the groups.

Work on the Exhibition shed trackwork has been suspended for the time being, because of problems associated with some aspects of track construction. Initial reports from several qualified track engineers indicated some deficiencies mainly in the pointwork construction and layout. We were advised to address the problems before any more work is undertaken. This would save valuable physical and financial resources in the future. A plan is being developed to determine the best way to undertake the necessary remedial work.

While on this topic, a very unfortunate situation occurred not only once but twice, when the water delivery pipe to the fire tank, house, and toilet block was damaged at the point where it passes under trackwork near the Exhibition shed. This resulted in the main tank on the shed draining out, leaving the museum and the caretaker without water. On both occasions it was necessary to buy in water from a local water carrier, using up valuable financial resources. We were lucky to be able to reconnect at least the toilet block to the old bus shed tanks which are kept as a reserve supply for such an emergency.

The Society has a new web site and it is taking on a new look. It is [www.tramway.org.au](http://www.tramway.org.au) and is being developed by William Fedor. It is rapidly developing into something unique and will be up and running shortly.

### **Mini series 'The Pacific'**

Production of this Spielberg/Hanks ten part mini-series has continued to generate considerable economic benefits for both Victoria and the Society. As reported previously, the Society has assisted the producers in the supply of heritage vehicles for use in



*The museum's W2 663 and AEC Mk 111 bus 537 pose in Flinders Street with the facade of Flinders Street Station as a backdrop.*  
Rod Atkins

street scenes. During November 2007, Society tram W3 667 was transferred from Bylands to Newport Workshops where a studio was constructed so that internal scenes could be filmed. Meanwhile, Keith Kings' Studebaker munitions bus No. 165 was used on two separate occasions in external filming in the South Melbourne area.

And bigger things were still to come. It was planned to film a street scene in the city area adjacent to Flinders Street Station early in 2008. This involved closing off Flinders Street between Swanston and Queen Streets to transform it to a 1940s wartime setting. It also required the supply of 1940s characters, vehicles and backgrounds. The date of Saturday, 2 February was selected for this 'once in a lifetime opportunity' to proceed.

Several days prior, 667 was transferred from Newport to Preston Workshops, where it was given a thorough service. This was the first time 667 had been at Preston for over 30 years. On Friday, 1 February it was transferred to Camberwell Depot where it was stored in the shed, looking lost amongst many Z3, A and B series trams. Society member Ron Scholton with Steve Ohlsen, spent a number of hours cleaning and polishing 667 for her big day out in the city.

On the Saturday morning Ron, with Steve as second person, drove 667 from Camberwell Depot to Flinders Street, passing the Tennis Centre and across the Exhibition Street bridge, a first for a W3. Upon arrival at the designated area, 667 was parked next to W2 510 from the heritage fleet, which had been brought from Hawthorn. Meanwhile, our AEC Mk III bus 537 had been driven from Bylands by Rod Atkins and for most

*W2 510 (left) from Melbourne's Heritage fleet, and W3 667 (from Bylands) stand in Flinders Street awaiting their turn to star in front of the cameras. Although both trams represent the 1940s era livery, they lack the application of white on the dashes above the headlights and on the bumpers, added for wartime blackouts.*

Mal Rowe







*While some of the cast and crew of the film shoot have a short break between scenes, W1 427 waits on the main line flanked by W6 963 and grinder No 1.*

John Walker

of the day both our tram and bus held pride of place in Flinders Street. Filming took place well into the night and it was not until after 2:00am that Ron finally returned 667 to Camberwell Depot for a well earned rest. The tram was returned to Preston Workshops by the following Monday, the Mk III being returned to Bylands on the Sunday.

Ron Scholten reported that the W3 was truly a great tram to drive, and the crew who returned it to Preston agreed. It was fitting that Ron was able to drive 667, as he sponsored the acquisition of this vehicle way back in 1976 and continued to support the tram over many years.

### **‘Panic’ attack**

No need to worry or stress out, everything is under control! In late November, the Society was approached by a film production company charged with the task of producing a music video for an up-and-coming

Melbourne-based music group, called ‘The Panics’ for eventual showing on prime time television networks.

The day selected was Monday, 28 January 2008 and at a little after 8:00am Graham Jordan and John Walker were on site with tram W1 427 prepared ready for action. Soon afterwards film and sound recording crews, make-up artist, caterer, production executives, and last of all ‘The Panics’ arrived on site and began the task of setting up. After a quick breakfast/morning tea break the work started in earnest. Filming continued all day, only interrupted by lunch and an evening snack, until the last scene was finished at around 8:30pm. Packing and cleaning up took another hour and the tram was put away around 9 o’clock. Both John and Graham will appear ‘somewhere’ in the video as will our kiosk mannequin, ‘George’ dressed in his MMTB blue uniform. Filming was not limited to tram scenes but included various views of and around the Bylands museum.

*The interior of W1 427 is a hive of activity. The cameraman lines up the shot while the sound recording man checks his levels. Lead singer/guitarist of ‘The Panics’ is seated (centre) while the other two band members are adjacent to the saloon door. The producer can just be seen far right. The rear saloon was used as an equipment and store room for generators, sound and lighting equipment.*

John Walker



# BENDIGO

## BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

[www.bendigotramways.com](http://www.bendigotramways.com)

From Len Millar

### Bendigo's Easter Fair

To cope with the influx of visitors to Bendigo over Easter, we ran a 20-minute service using four cars and only a five minute stopover at the depot. The Torchlight Procession on the evening of Easter Sunday included eight of our cars, ably led by No. 976, formerly known as the Café Tram and now as 'Nine Seven Six'.

When the street parade on the Monday ended, we were swamped with intending passengers. So much so, that we ran several services with two cars. While the parade was wending its way through the central city, we again operated shuttle trams at the outer ends of our route. No. 808 ran from the Gold Mine to Charing Cross, and No. 34 shuttled back and forth from North Bendigo to Bridge Street.

Bendigo Trust board member and long-term volunteer Michael McGowan, assisted by Shirley Turner and Anita Hutchesson, made the necessary arrangements, and volunteers and paid staff pitched in enthusiastically to make it all happen.

### Rolling stock projects

Original Electricity Supply Company electric cars No. 6 and No. 8 are receiving some attention from our workshop staff. Two thirds of the body of No.6 was on display in the retail area in the Central Deborah Gold Mine complex for a number of years. It was an eye-catching exhibit just inside the front door, where it was used as a display facility for various items on sale. Extensive changes to the layout of the building has resulted in No. 6 returning to our workshop where staff are constructing the missing third, including a new end, for the 105 year old tram.

Workshop staff are also continuing to rebuild our other historic ESCo tram, No.8.

Maximum traction car 25 has been lowered from its stands and work has commenced on its exterior and interior. The car's varnished seats have received attention, and it will be back in service soon.



*Bill Jolly at the controls of Sydney J car No. 675 during the engineer's inspection on 4 April.*  
Bendigo Tramways





*A side view of Electric Supply Co No. 8 with Dennis Rodda inspecting completed work.*

Bendigo Tramways

*One of car 25's finished seats.*

Bendigo Tramways



Melbourne and Metropolitan Tramways Board logos and numerals have been applied to the aprons and panels of Y1 610, and it is almost ready for traffic. The low voltage electrical system that supports the turning indicators, marker lights, transponder, and sound system has been completed. Loudspeakers for the

*Electric Supply Company No. 6 at the Central Deborah showing the missing end.*

Bendigo Tramways



sound system have been housed in stylish timber boxes that blend well with the tram's 1930s interior. Car 610 will be the only ex-Melbourne car to be painted in the MMTB's green and cream livery.

There are currently three Sydney trams in Bendigo in various states of repair.

Sydney J class car 675 has operated under its own power for the first time in about 75 years. This significant restoration project for the Sydney Tramway Museum will soon be completed, and we are very proud of the finished project.

Work on Sydney C class No. 33 a unique double-deck car, is proceeding well. The end aprons and other metal work have been completed, as has the varnishing of the window sashes and sliding doors. The complex metal work for the two semi-spiral staircases has been assembled, and the truck has been overhauled and re-assembled. The car's Brill 21E truck has had an interesting life that began in Sydney at the end of the 19th century and ended in Brisbane in 1968. It will soon begin a third life under a double-deck body.

*Sydney car 33 with its stairway fitted.* Bendigo Tramways



The third Sydney car, P 1501, was delivered recently to the Gasworks depot from Byrock, NSW. This tram will also be a long-term restoration project for the Sydney Tramway Museum. On its arrival in Bendigo, the tram was examined by curious members of our workshops staff. Another exciting challenge ahead!

### Helping to get the wheels turning

As noted in news from Bylands, we helped prepare W3 667, owned by the Tramway Museum Society of Victoria, for its day of glory under the arc lights in Flinders Street, Melbourne. The tram last ran in

Melbourne in 1969, and 39 years later was cast to appear, with W2 car 510, in the TV mini-series *The Pacific*.

### Article in Rail, Tram and Bus Union magazine

Bendigo Tramways was pleased to be the subject of a recent feature article in the magazine of the Rail, Tram and Bus Union. The article referred to our Talking Tram operations and the professional capabilities of our workshop staff particularly in relation to external projects.



*Trammies and friends on 8 March after the hairdresser's clippers had done their job on eight tramway workers, which raised funds of nearly \$500 for awareness for a cure for leukaemia. Bendigo Tramways*



## LOFTUS

## SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

www.sydneytramway.museum.com.au

From *SPER News***Sydney Tramway Festival**

Because of several alternative attractions around Sydney over the weekend of 23/24 February, the organisers of the festival did not have high expectations of patronage at the Museum for this year's event. Surprisingly, we were proved wrong! Our visitor numbers exceeded those of last year's festival, the previous record for the largest number of admissions we have had.

This year's theme was planned to feature for the first time a tramcar from each of four Australian capital cities including some rare antiques from the Sydney fleet. Unfortunately our use of Adelaide 358 did not eventuate owing to a technical problem which meant that this tram stayed inside the depot for the day. Trams from interstate that operated over our tramway were Brisbane centre aisle 180 and popular drop-centre 295. Melbourne was represented by veteran W2 class 249, admired by many of the travelling public for its immaculate interior varnish work. Sydney trams brought out for the day were F class 393 of 1902 vintage, N 728 of 1906, O 1111 of 1912 and L/P 154 of 1926.

Many of the trams were despatched in pairs operating a through service from Loftus to Sutherland and direct to the Royal National Park terminus. Another interesting aspect of the day was the large

number of interstate visitors and enthusiasts present. A woman visitor from Perth told a member that it was the best \$15 she had ever spent! Adding to the atmosphere was a 1947 vintage Albion double deck bus hired from the Sydney Bus Museum for the occasion.

The Engadine Scout group was committed to a scouting event elsewhere, but managed to provide one of their number who was assisted by museum members to provide us with their usual sausage sizzle.

The Museum was open until 6:00pm to take advantage of daylight saving, and the longer hours proved popular with our visitors. This resulted in large loads being carried right up to the last tram for the day, Brisbane 180, which operated with a full seated load.

As in previous years, this event was made possible due to the untiring efforts of our volunteers. All of us must say thank you to those members who made it all happen.

As a footnote, we participated in another festival early in the year. On 26 January Geoff and Val Olsen took our No. 3 tower wagon into College Street in the city for display in Motorfest, part of the Festival of Sydney.



*Cars 728 and 393 cross the Princes Highway level crossing on their return from the Royal National Park on 24 February.*

Liam Brundle



*R 1740 stands at the front gate ready to run a National Park service. This length of track is available for traffic again, after the removal of the temporary unloading ramp on 12 April.*

Martin Pinches

## Back to Brisbane

Sunday, 13 April 2008 was the 39th anniversary of the final closure of the Brisbane tramways. The Museum has for many years marked this day by running our operational Brisbane tram fleet. This year drop-centre 295 and Phoenix 548 were joined by veteran centre aisle tram 180, fresh from its recent overhaul and restoration.

The annual 'Back to Brisbane' day has always been popular, not only with our visitors but also with our tram crew, many of whom fondly remember the final days of the Brisbane system. Many members who joined the fledgling Museum in the 1950s and '60s were in Brisbane for that historic day in April 1969.

This year, you might say that we went to heavenly lengths to recreate Brisbane's final day atmosphere. The day dawned bright, warm and clear, perfect tropical Brisbane weather, and this encouraged good passenger numbers during the morning. The temperature kept rising during the morning and the open seats of 180 and 295 were keenly sort by our happy visitors.

Around 1:10pm however, just as 180 had returned from Sutherland and 548 was heading for the National Park, Brisbane weather – part two – started. The whole area was enveloped in a spectacular and violent thunderstorm. Lightning flashed, thunder roared and rain fell in torrents. The tram service suddenly stopped as a lightning strike somewhere close by caused a total electrical blackout. Some Queensland visitors likened it to tropical storms in the north. Power was restored after a short time, but tram services did not resume until our Geoff Olsen arrived to cast an expert eye over

the substation and gave the traffic crew the all clear to continue.

Meanwhile down in the National Park, Phoenix 548 was motionless, stranded by the loss of power. Driver Sam McGuinness, Observer Richard Jones and Guard Richard Mason did a terrific job in keeping the passengers occupied while waiting for the power to be restored, but when it finally was a further problem was encountered. For the first time in the 40 year history of the Museum we suffered a motor failure. No. 548 was not in the mood to travel and complained bitterly every time the controller was moved above second notch. Fortunately a temporary solution was found and 548 made its way safely back to the depot. Just as in 1969 when 548 was put away and not used on the final day of service, so in 2008 the tram saw no more trips that afternoon.

Throughout the afternoon rain showers continued and the sky was a gloomy grey. Col Gilbertson reported that in Brisbane 39 years previously it was much the same: 13 April had been warm and sunny but on 14 April there was just rain, a grey overcast sky ... and no trams.

Donated equipment from Newport Workshops has generously been made available by Victrack to provide GE247 motor spares for car 548, to cover the failure on this day and future contingencies with the car.

## Around the site

On 8 March John Holland's backhoe excavated Pitt Street outside the front gate for the construction of two more brick electrical pits with Gattic covers. Conduits were then installed between those laid under the level crossing slab back in 1987 and the ones recently extended behind the Miranda waiting shed. This will





*The bogie with the failed motor is being pushed out because the Brisbane fittings were incompatible with the cable couplings of our motor generator set.*

Martin Pinches

*The No. 3 motor from 548's bogie is removed for inspection on 23 April.* Martin Pinches



allow the removal of the temporary overhead 415 volt cable over Pitt Street.

Geoff Olsen, Bill Denham and Josh Dreaves have installed four more heritage streetlights on the eastern side of the main line north of Pitt Street. Some trenching is required before these can be made operable.

The Wednesday crew have been preparing and painting three large streetlights similar to the existing one which has adorned the footpath in Tramway Avenue for many years. These will be fitted to the bases located on the footpath outside the Restoration Building and also to the base located opposite the Railway Square waiting shed. This should improve the look of the street scene as well as providing additional illumination for night events. The mundane but

important electrical maintenance tasks of course continue.

Collaboration between the electrical and overhead sections saw a light installed over Cross Street on a span wire, typical of past practice, in keeping with the Museum's overall plan to visually represent the period between the wars.

The new western track north of Pitt Street has been concreted as far as the blades of the points for the trailing crossover. The temporary unloading ramp was removed from Tramway Avenue on 12 April.

### **Sydney J car 675**

Richard Clarke conducted a mechanical and electrical inspection of this car in Bendigo on 4 April.



*Our weed-killing trolley, which has been given the number 146s, is prepared by Sam McGuinness and Robert Norton for line-side spraying on 15 March. R1 1979 is the propelling vehicle.*  
Martin Pinches

Bendigo and Sydney member Bill Jolly and workshop manager Tim Blythman acted as test drivers, whilst Richard had them perform brake tests in the yard and in Tramways Avenue. These tests were satisfactory. A few tasks remain before the car will be passed as operational, including the fitting of handbrake chains, completion of the conductor's bell circuit, installation of buzzers, fitting of lifeguards and minor door adjustments.

The lifeguard trays supplied by the Sydney Tramway Museum are standard for later Sydney cars and are too wide for fitting to 675, so alternatives are to be installed.

Final touch-up work on the paintwork is required, together with the sign writing of numbers, which on the car sides will be in traditional gold leaf, with the class letter J on the lower panel. Fortunately a damaged

example of each original panel survived for use as a template.

### Sydney C car 33

Warren Howlett, Terry Thomas and the Wednesday team have been fabricating 20 steel reversible seat brackets, similar to those on F car seats, for supply to our joiner for manufacture of the upper deck reversible seats.

In Bendigo, the carpentry team, now consisting mainly of Dennis Rodda, has been working on the restoration of lower saloon seats, of which both backs and one complete base have been meticulously sanded by volunteer Billy Chan and others, and French polished. The original blackwood tops and seat nosings now have a magnificent dark glow, whilst the slats and 'bum dividers' have a light honey tone. The



*A side view of Sydney J 675 at Bendigo depot on 4 April.*

Howard Clark





*A view of the D car's roof under repair and reconstruction. New timber is being spliced in where the original could not be reused due mainly to rot and water damage.*  
Howard Clark

*One of the motors for D 117 was reassembled and tested successfully on 12 March.*  
Bill Parkinson

remaining incomplete seat base and frame is being remade by Dennis, requiring splicing of new materials to the remnant part which was all that remained after fitting of a compressor and other equipment during the car's service life at Randwick.

The end and side aprons adjacent to the stair at each end have been fitted, as have centre platform grab rails. Staircases, designed and fabricated by Masfield Engineering including use of original style rivets, have been fitted to the car. Masfields are designing and fabricating the stair hand rails and upper deck end platform protective railings.

Lower deck side windows and internal window top flap panels made by Ross Traeger have all been French polished and varnished ready for installation. Work on the overhaul and assembly of the car's truck is almost complete along with the overhaul of a smaller DH10 type compressor for installation within the truck frame between the axles.

### Sydney D car 117

Progress on this car has continued on several fronts – body work, electrical and mechanical.

Prolonged roof leakage had resulted in rot affecting some of the roof ribs, parts of the horizontal timbers framing the clerestory, and the top part of one of the saloon bulkheads which are integrated with the roof structure. Stripping of the roof framing commenced soon after this was discovered.

Geoff Spaulding expertly cut and spliced new Tasmanian Blackwood into the rotted sections of the roof timbers and bulkhead. He then mortised the new sections of timber to take the tenoned ends of connecting pieces. Greg Sutherland and Howard Clark



have been stripping old paint and varnish from these components while dismantled. At the time of writing re-assembly of the roof framing has commenced.

Our joiner, Ross Traeger, made two new clerestory window sashes to replace rotted ones. All the remaining clerestory windows had the old damaged mouldings removed before he carefully removed the coloured glass. He then sanded the sashes, re-gluing and repairing as necessary, before refitting the glass and replacing the beading. New green 'daisy wheel' pattern glass similar to the originals was acid etched by Harradence Glass for two of the 16 sashes, using glass supplied by leadlighter, Bob Bush. Three of the four clear glass panes needed replacement, and Ross sourced four new panes of red glass for fitting to the outer end clerestory which had been panelled over with plywood. The saloon end clerestory had retained its red glass. All sashes have been French polished and varnished by Howard Clark.

Bill Parkinson refitted the field coils and interpoles to the casing of the first of the two traction motors for



*Sydney P class car 1501 arrived in Bendigo from Byrock in western New South Wales on 28 February.* Howard Clark

*P 1501 is backed into the Bendigo gasworks yard for storage prior to restoration.* Howard Clark



the car. The motor was reassembled and tested on 30 January. The second motor was dismantled and cleaned with electrical solvent. A rat's nest was found inside along with the mummified remains of its former occupant. This motor was in better condition than its mate and as a result it was re-assembled and tested by 12 March.

Frank Cuddy of the Wednesday team has started work on a small Westinghouse two cylinder trolleybus compressor from New Zealand to go under the car, as DH16 or CP27 compressors are too big to fit under the floor. The 6ft 6in wheelbase Brill 21E truck does not have enough room between the motors for these compressors. The couplers and safety chains have also been fitted by the Wednesday crew. The truck side frames were sent out for shot blasting and have been primed while the wheel sets are still at Zig Zag for turning.

### **Ballast motor 42s and bus 275**

David Bennett and Chris Olsen are continuing the re-wiring of 42s on Tuesday nights. The Wednesday crew have modified and fitted four W5 sand boxes. Ian Hanson has carried out painting of the cabs.

Leyland half-cab bus 275 arrived from Tempe and was placed over the 10 road pit on 16 February. Craig Parkinson and Dennis O'Brien removed a defective clutch plate and replaced it with a spare unit. The bus then swapped places with 42s, taking its place in the workshop extension.

### **Two new arrivals : Sydney P car 1501 and Melbourne cable trailer 589**

The body of Sydney P car 1501 was delivered to Bendigo's gasworks depot on 28 February. We are



grateful to the five donors who generously contributed the whole of the \$12,000 cost for storage of the car during its time at Byrock, and for transport to Bendigo.

Regrettably the car has suffered from the harsh environs of western New South Wales. Contrary to earlier advice it has obviously not been in covered storage for the whole time. In addition the car has suffered from damage to both drivers cabins due to incorrect lifting as well as some underside damage.

All is restorable, although additional costs can be expected. Richard Clarke inspected the car body during a recent visit to Bendigo. A condition report is being completed prior to a restoration plan being prepared. At this stage it is intended that body restoration works will be carried out in Bendigo, and

when finished the body will be transferred to St. Kilda for fitting of PC5 control equipment by Jack Pennack.

At the Victrack heritage meeting in Melbourne on 30 April, we were pleased to learn that Victrack have generously made available a pair of No. 15 trucks from Newport to provide donor wheel, axle and motor sets for fabrication of Sydney No. 9 trucks. These will be manufactured from Melbourne No.1 frames and will use Sydney axle boxes ex stock held in our top shed. Gifts towards this restoration will be appreciated.

Our second recent addition is Melbourne cable trailer 589, previously an exhibit at the Canberra Tradesmen's Union Club. This car arrived from Canberra on 6 February and was unloaded into the shed at our old National Park site.



*Bill Denham and Frank Cuddy watch as cable trailer 589 is lowered onto the rails at our old National Park depot on 6 February.* Bob Merchant



*Launceston No. 1 in Bendigo gasworks before its transfer to Launceston on 21-22 February.*

Howard Clark

*Exchanged for No. 1, Launceston 14 arrived in Bendigo on 25 February.*

Howard Clark



### Launceston cars 1 and 14

The exchange of these cars between the Launceston and Sydney museums took place with the delivery of No. 1 from Bendigo on the overnight ferry from Port Melbourne on 22 February, arriving in Launceston the next day; with No. 14 returning on the ferry that night and safely unloaded in Bendigo on 25 February. All parties involved were happy with the exchange, and the Launceston Tramway Museum received some favourable media coverage of the event.

### Melbourne W5 car 792

This car has been in open storage at HPOTS, Cessnock for many years. The board has approved its long-term loan to Glenreagh Mountain Railway for restoration there. Their immediate plans for the tram are described in news from Glenreagh in this issue.

### Sydney PR1 car 1517

This car was acquired many years ago, prior to the acquisition of 1501. As PR1 1573 was already to hand, 1517 was set aside as a contingency for retro-restoration to a second P car had 1501 not become available. The car was received in derelict condition apart from a sound roof, underframe and drivers cabins, and has been kept in open storage under a tarpaulin at HPOTS, Cessnock for more than ten years.

At the April Board meeting it was agreed that this car be de-accessioned and sent to Bendigo for removal of salvageable components, including the driver's cabins, brake rigging and other underfloor electrical parts for use in the restoration of 1501. Assistance towards the expected transport costs of around \$4,000 will be welcome.



*Our Albion double-deck bus is undergoing rebuilding at Craig Parkinson's home in Figtree. The underframe was trucked to Parkes on 3 May for shot blasting and silvering. This will be carried out by Phil Dixon at no charge.*

Bill Parkinson



# GLENREAGH

## GLENREAGH MOUNTAIN RAILWAY

PO Box 104, Glenreagh, NSW 2450

[www.gmr.org.au](http://www.gmr.org.au)

From Greg Wilson

The Independent Transport Safety Reliability Regulator has suspended our operations as Glenreagh Mountain Railway's accreditation application failed. This came about because GMR had not followed its accreditation requirements, and in November last year ITSRR stepped in and reduced GMR to a single train or tram operation. It also advised that GMR's accreditation would expire at the end of January. Subsequently from November the tram was not permitted to operate over the line while the train was in operation. On our December running day the tram made a couple of runs while the train was held at Glenreagh West.

With the tram now unable to run during normal running days from November through January, it could only be used for midweek charters or operations when the train was not on the main line. GMR's accreditation had to be renewed by 31 January 2008 for operations to continue and one of the last operations of W2 392 was the positioning of one of the bogies for W2 447. Once this operation was completed, 392 was returned to the locomotive shed and stabled. At this point it was not known when operations would recommence.

Although GMR's accreditation was cancelled and all operations suspended, the tram side of the operation had complied fully with the requirements. In some respects the tram operation had demonstrated to ITSRR that GMR had the knowledge and understanding to complete what was required to obtain the accreditation. Unfortunately, not all GMR members understood the ramifications of the ITSRR restriction in November or the impending cancellation of the accreditation, while others believed that a closedown would never occur. GMR is still not operational and may not be for some time.

As well as accreditation being cancelled, GMR suffered another major setback with steam locomotive 1919 developing some boiler foundation ring rivet leaks. Although a boiler ticket was issued for operation, the boiler inspector deemed that the repair would be better done sooner rather than later. This resulted in GMR aiming for limited accreditation using tramcar W2 392, with the locomotive and train to be included when 1919's boiler repairs were completed.

Subsequently, the focus of the accreditation application is for the initial operation of the tramcar

running between Glenreagh West and Tallawudjah Creek picnic area. This operation is still a little way off at the moment with some important areas of track work, staff qualifications and operational details still to be finalised. Despite the loss of accreditation, GMR is working to have train and tram operations returned to GMR and all members are now dedicated to restoring these services as quickly as possible.

Although we are not able to operate, restoration continues at the Glenreagh West facility with the repair of 1919's boiler and continued restoration of the tramcars. The Glenreagh West facility is open to visitors on the normal Thursday work day and first weekend of the month, with a gold coin donation.

### W2 447 back on rails

Another small milestone was achieved at Glenreagh Mountain Railway in March when tramcar W2 447 was returned to the rails. Since its arrival at Glenreagh, 447 had been resting on sleeper pigsties and covered with tarpaulins. The car's condition under the tarpaulins was always a concern and every effort was made to find a better alternative.

On 9 March the newly finished stage 1 of the tram shed received its first car when 447 moved into its new home. The tram body was lifted by crane and placed on its bogies, one of which had been completely stripped, restored and painted. The second bogie was still in 'as received' condition. Back on the rails, the tram was assisted by two motor vehicles to move into the shed. We hope that the next time it comes out, it will be under its own power.

Doors are being fitted to the shed to enable the tramcar to be stored securely. R1 1936 will be placed beside 447 when it arrives from Brisbane.

Getting 447 under cover was a small milestone for GMR but a big achievement for the tram department as the construction of the shed was paid for by funds raised from the operation of 392, Devonshire teas at the creek and midweek charters. The tramway side of the GMR is fully self funded by tram operations.

### W5 792 to come to Glenreagh

Last August Russ Phemister and Greg Wilson

Melbourne W5 792 at Cessnock. It is to be made available to us on long-term loan.

Greg Wilson



inspected tramcar W5 792 at Cessnock with a view to it joining the Glenreagh fleet. This car was obtained from Melbourne in 1990 by the Sydney Tramway Museum but owing to a shortage of space at Loftus has been at Cessnock for some time. It has suffered from outside storage but is restorable. The Sydney Tramway Museum is making the car available to Glenreagh on long-term loan.

The Sydney Tramway Museum obtained a pair of motored trucks for this car through the generosity of Victrack, and they are expected to be delivered to Bendigo from Newport in mid May. A replacement driver's apron was generously donated by Bendigo Tramways to allow repairs to be made to the car's front, damaged by a truck at Cessnock a couple of years ago.

The erection of the second stage of our tram shed will see 792 placed under cover and secured. The next step is to transport the car to Glenreagh, and a tentative date of early May has been set for the move.

### Tram 370

W2 370 had come to Glenreagh to be stripped to enable 447 to be returned to service. No. 370 was one

of three cars that went to Port Kembla for a heritage tramway venture which failed. It was later stored on a farm at Robertson before arriving at Glenreagh.

Our plan was to use car 370 to supply all the electrical equipment for 447. It was decided that on arrival at Glenreagh, 370 would be turned on its side to ease the removal of the compressor, brake gear and all other underfloor equipment. Once this equipment was removed, it was to be righted again and slowly demolished. It was later suggested that the car could be burned as had been the means of scrapping many Sydney and Brisbane trams.

Glenreagh Rural Fire Brigade was approached to see if they and other Rural Fire Service personnel would be interested in undertaking an emergency training exercise. Accordingly on 25 February the tram was set on fire and put out several times, and was eventually completely destroyed. Its demise was for a good cause.

Electrical equipment from 370 will breathe life back into car 447, and the bogies from 370 and 577 will eventually power 447 along the tracks. The steel underframe of 370 will be recycled as a bridge on a local farm in the area.



*The final hours of 370's life provided training for our local Rural Fire Service on 25 February.* Greg Wilson



*Car 447 is lifted by crane before being returned to the rails by being placed on the bogies beside the car on 9 March.*

Greg Wilson



*Back on the rails again! This is the first step in restoring the tram to a passenger-carrying vehicle.*

Greg Wilson



*W2 447 is now safely under cover in our new shed.*

Greg Wilson





*The Tramway Museum Society of Victoria's cable tram set, grip car 28 and trailer 286, were on display in Federation Square, Melbourne, to help mark the Centenary of Women's rights on 19 February 2008.*

Ian Green



*Mulhouse 2023/5101 was transferred from Preston to Southbank Depot on 21 April. It is seen in Clarendon Street near Whiteman Street outside the Crown Casino on its transfer run. The roofline slogan reads 'Your new low floor tram on route 96 from St. Kilda to Brunswick'.*

Ian Green