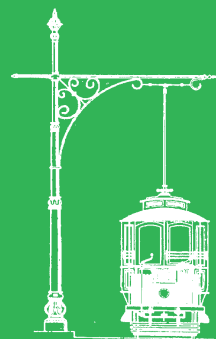


# TROLLEY WIRE

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# TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM  
MAGAZINE

NOVEMBER 2008

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*"When I grow up....." – a small visitor and potential  
future Perth Electric Tramway Society member  
admires Fremantle No. 29 at the Village Junction  
Station on 19 July.*

Michael Stukely

Front cover:

*VR 53 crosses the Maribyrnong River on the former trams-only trestle bridge, bound from Moonee Ponds to  
Footscray. Work on construction of the new bridge at this location began in 1965.*

Dale Budd

# MELBOURNE TRAMS, 44 YEARS AGO

Story and photos by Dale Budd

## Introduction

In March 1964 a group of some 30 Sydneysiders visited Melbourne for the annual Australian Electric Traction Association convention. Many of the group were members of the Sydney Tramway Museum, then known as the South Pacific Electric Railway or SPER. As well as participating in the convention activities, the SPER members were keen to learn all they could about tramcar maintenance, since operations at Loftus were soon to begin.

Notes made at the time of this visit were recently rediscovered, and provided the basis for this article.

## Melbourne's tramways in 1964

Before coming to the information gathered on that visit to Melbourne, it is worth indicating briefly just how different the tramway system was in 1964, compared to what it is today. To describe in detail all the changes that have occurred over that time would take many pages, but the following are some of the key points.

The system was considerably smaller in 1964 than it is now. All in the future were the extensions from Essendon Aerodrome to Airport West, from East Preston in successive stages to Bundoora, from Mont Albert to Box Hill, and from Burwood to East Burwood and later Vermont South. The Queens Way deviation from St Kilda Road to Dandenong Road at Chapel Street had not been built, nor had Batman Avenue been diverted to reach Flinders Street. In the

city there was no track west of Spencer Street. The light rail lines to St Kilda and Port Melbourne were still broad gauge railways. The outer sections of several tram lines had single track.

There were many more trams in service. In mid 1964 the number of trams available for use was about 710, compared with approximately 480 today. Just on half of the trams in service in 1964 were W2 class cars, only a small number of which had been withdrawn. There was considerable variety, with trams of all the W series from the W2s onwards in use, together with the L, PCC, VR, Y and Y1 classes.

Hawthorn Depot was in use, as was North Fitzroy. The latter is being prepared for reopening as this article is being written, after being closed since late 1993.

There was a substantial number of non-passenger trams in 1964, and the service stock fleet was growing, not diminishing. This was a point of interest for the visit in that year, and some details are given later in this article.

Trams were painted in MMTB green and cream, without lining. Many trams carried advertisements on

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\*The advent of articulated cars of the B, C and D series means that some of the trams of today are larger than those of the past, but the total current capacity of the fleet still falls far short of what it was in 1964, and the number of trams available determines service frequencies.

*SW5 841 crosses the railway at East Richmond station, inbound in Church Street on route 77 from Prahran to the city. Temporary track is in use during bridge reconstruction. Operation of route 77 ended in November 1986: all track on the route continued to be used by other services. This and all other accompanying pictures, except centre picture on page 5, were taken in March 1964.*





their side panels and aprons, but cars painted in special all-over colours, for either commercial or non-commercial purposes, were limited to about one or two at any one time. Trolley poles with carbon insert skids were the only method of current collection, and multiple head and tail lights were yet to be fitted to car aprons. There were no restaurant trams!

The larger fleet of trams and the smaller network were reflected in a greater number of services in 1964. Although lines have not been closed, services have been reduced over the intervening years. (This trend was in evidence well before 1964.) Route 27, City to Hawthorn, and route 77, City to Prahran, have gone as have the services, about seven in number, which ran along William Street in the city from southern suburbs in peak hours. Similarly, services which ran along La Trobe Street from northern and eastern suburbs have gone. Increased traffic congestion means that tram services are now slower, with scheduled running times increased by 50 per cent on some lines.

### Dandenong Road relaying

On arrival in Melbourne on 26 March 1964, visits were made to various places of interest. One of those visited this day was Dandenong Road, where relaying was being carried out. From near Chapel Street the work had reached Lansdowne Road, a distance of about 1.5km. Sleepers and ballast were being completely replaced, and some new rail laid. Joints were being thermit welded. All of this work was being done while trams continued to run.

### Maribyrnong River bridge

Another location visited was the bridge over the Maribyrnong River used by trams on the City to West Maribyrnong and Moonee Ponds to Footscray routes.

This interesting timber trestle bridge, used only by trams, was soon to be replaced by a new structure which would carry both trams and vehicular traffic. The need for this was reportedly driven by the deteriorating condition of the road bridge rather than the tramway one.

### The service stock fleet

Visits to South Melbourne Depot on several occasions over four days enabled an inspection of much of the service stock fleet based there. W2 295 was in use as a training car, with different trucks at each end (No. 1 and No. 14, the latter similar to No. 15) to train emergency crews in re-railing of different tram classes.

W2 485 had been converted to carry sleepers by the simple expedient of removing part of the drop-centre side panelling. This car was intended to be numbered 18 in the service stock register, but this renumbering did not go ahead.

Car 20 was an unmotored flat car which had been cut down from W2 419. All that remained above the underframe was the driver's cab at No. 2 end, retained to house a crew member with access to the hand brake; and the other hand brake stand (without protection from the weather) at No. 1 end.

Both Nos 485 and 20 were recent additions to the ranks of the service stock, and neither was destined to have a long career as a works car. One could speculate that No. 20 might have been more successful had the MMTB copied the 'conversion' in Sydney of O car 937, which similarly was cut down to a flat car but remained powered. (Or being somewhat whimsical, the MMTB could have bought a U class ballast motor from Sydney in 1959, along with the two ex-K class



*W2 377 traverses track under reconstruction in Dandenong Road, outbound on route 5. Workers have stepped aside to let the tram pass.*

*W5 779 crosses Maribyrnong River on the former trams-only trestle bridge, bound for the city. Work on construction of the new bridge at this location began in 1965.*



*Service stock lined up in the yard at South Melbourne Depot in April 1962, two years before period described in this article. The cars in order from the left are track cleaner No. 8; one of the two ex-Sydney scrubbers (10 or 11); scrubber No. 9; flusher car No. 7; and the other scrubber from Sydney. All of these trams are now in preservation. The service stock fleet was to grow further before 1964, and then decline to extinction.*

*W2 295 was one of a sequence of W2 cars allocated one at a time for the training of breakdown crews in re-railing derailed trams. At the end nearest the camera the No. 14 truck can be seen, similar to the more common No. 15 truck used on trams from the W5 class onwards.*



scrubber cars.) The MMTB had hoped that No. 20 would not need any crew on board: this turned out not to be the case, a brakeman being required.

Four wheel ballast trailer No. 24 was seen, its sides recently increased in height in conjunction with its conversion to a hopper car. It was said to be being modified to an improved discharge method involving use of a 'tail gate'.

Another interesting tram, seen at Preston Workshops on 31 March, was (the third) No. 6, the vacuum cleaner car. Built using the cabs of W2 361, this was the MMTB's last attempt at a rail-mounted suction sweeper vehicle. Its mass was some 32 tonnes – a very heavy tram. It saw little use, and seemed to be something of an embarrassment to the workshops staff who were reluctant for it to be photographed.

### Passenger trams and Preston Workshops

The overall condition of the tram fleet was very good, as can be seen from the pictures accompanying this article. The appearance of the paintwork on trams varied from good to excellent. Around 90 per cent had apparently been repainted in the preceding 24 months. Operations were conducted with vigour: on receiving a signal from the conductor, drivers would move off from a stop, accelerating rapidly – through traffic lights showing yellow and about to show red.

A noteworthy sight at Camberwell Depot was W2 219, the class leader, fresh from an 02 overhaul (see below) in the month before our visit.

A visit to Preston Workshops on 31 March was a revelation, especially to those whose only other experience of tramway workshops was Randwick in its dying days. In 1964 some 450-475 people were employed at Preston, including 50-60 apprentices, compared with 25-30 employees today.

We were told at the workshops that repainting was being stepped up so that each car was painted every two years. The thoroughness of heavier overhauls was also being increased. All old varnish was stripped from interior woodwork and the timber recoated in clear lacquer, giving the interior the appearance of a brand new car – albeit one built perhaps in the 1920s.

Trams visited the workshops for overhauls as follows:

- 01 Major overhaul including trucks - about every 10 years
- 02 Body overhaul - about every 5 years
- 03 Minor attention including body paint - about every 2 years

In an 01 overhaul all electrical equipment and components were replaced by remanufactured units. An 02 overhaul involved "whatever was needed" and in the 1960s the extent of work was, as mentioned above, increasing.

The timing of overhauls depended on vehicle condition. A tram could be scheduled for an overhaul but if another car was noted in poorer condition it would be substituted.

An 03 overhaul involved a tram being out of traffic for only three days. The program was as follows:

- One day: wash the tram, check equipment – 4 or 5 men
- One day: morning – putty up and touch up – 7 men  
afternoon – paint the tram – 7 men
- Half day: Refit doors, apply numbers, clean glass

The frequency of attention meant that the paint finish did not have time to deteriorate between



*Former W2 car 485 in its role as a sleeper transport car, seen in the yard at South Melbourne Depot. A planned renumbering of this car to No. 18 in the service stock fleet did not proceed; the car was placed out of service in 1965.*



*Un-motored flat car No. 20, cut down from W2 419, with ballast trailer No. 24 in the yard at South Melbourne Depot.*



*Vacuum cleaner car No. 6 at Preston Workshops.*

*With its rear destination sign already set for the return journey to the city, SW2 644 crosses the Epping railway line at Preston. This bridge, which had various names of which 'the hump' was one of the more polite ones, remained single track until 1988.*





*W5 683 and its driver await departure time at West Maribyrnong terminus before setting off on another trip to the city.*

*Freshly-painted W2 246 crosses the Maribyrnong River on the former trams-only trestle bridge, en route to West Maribyrnong. Work on construction of the new bridge at this location began in 1965.*

*The centre section of No. 485 showing the rudimentary changes made for its sleeper-carrying role.*



overhauls, enabling a minimum of preparation for repainting.

In addition to 03 overhauls, about every 18 months trams were given a 'waxer', also known informally as an 04. Pillars and beading were given a paint touch-up, and the car was waxed with a mixture of beeswax and turpentine. In yet another variation, a car with paint in slightly deteriorated condition would be given a 'suburban touch-up', perhaps involving the repainting of a couple of panels.

A recent development in 1964 was the fitting of No. 15 trucks to Y1 class cars, all but No. 610 having been thus treated. When the Y1s were later withdrawn, 610 was initially the only one of the four to remain available for tours, because the No. 15 trucks from the others were taken for use elsewhere. Some time later, 610 was also fitted with No. 15 trucks and all were returned to operational condition.

Laminex ceilings were noted in several trams including W5 722 which had received an 02 overhaul the previous January. Conversely it was apparent that Colorflek as a ceiling treatment stood the test of time very poorly.

Externally, some trams were having 'liquid envelope', properly known as Envelon, applied to their entire roofs if the canvas was in poor condition. Canvas was reported as having a life of 35 years. Another treatment applied to the ends of roofs was Celastic, cloth impregnated with cellulose (and used in the boot trade for toe caps!)

Across the road at the old Preston or Thornbury Depot, 27 W2s were in store together with one W3, class leader 654. This depot had been reactivated as a storage facility in 1961. After it closed as a running depot in 1955 at the time of opening of the new East Preston Depot, the rails were removed and the pits partly filled in, and the depot was used mainly as a store for permanent way equipment. In 1961 the pits were filled in and sleepers and rails were laid at the same level as before.

Two W2s were in store at the workshops. Also at the workshops was the body of VR car 54, standing forlornly on trestles: it was destined not to run again.





W2 class trams, including No. 290 closest to the camera, in store at the old Preston or Thornbury Depot. Laid roughly in ballast, the track reinstated when the depot was reopened as a storage facility is in contrast to the normal construction of track in a depot.

SW6 929 in Victoria Parade, arriving at the Brunswick Street intersection.



Cars 955, 661 and 774 are all showing 'Hanna Street Depot' as their destination although the depot had changed its name in 1960 when Hanna Street was renamed Kingsway. In the future were 774's moment of fame in 1967 when it appeared on the international TV hook-up *Our World* and its later selection as the representative of the W5 class in Melbourne's heritage fleet.



*Not long out of the Preston paint shop, W2 558 swings under the Upfield railway line en route to West Coburg. Today the curved tracks in this vicinity are set in concrete.*

*SW2 644 pauses at the corner of Victoria Parade and Brunswick Street in East Melbourne, the location since named St Vincents Plaza. W5 759 is just visible in Gisborne Street.*



*W2 288 in Victoria Parade, arriving at the Brunswick Street intersection.*



# THE SAPPORO TRAMWAYS

By John Radcliffe

*For some years, John and Barbara Radcliffe have hosted overseas students studying or teaching in Adelaide. Many have come from Japan. Some have featured in past issues of Trolley Wire contributing to projects at St Kilda. In late 2007, John and Barbara visited Japan for the second time and stayed with their former 'home-stay' residents who, among other diversions, facilitated visits to four tramway systems, two railway museums and a tramway museum. This article describes what was found in Sapporo.*

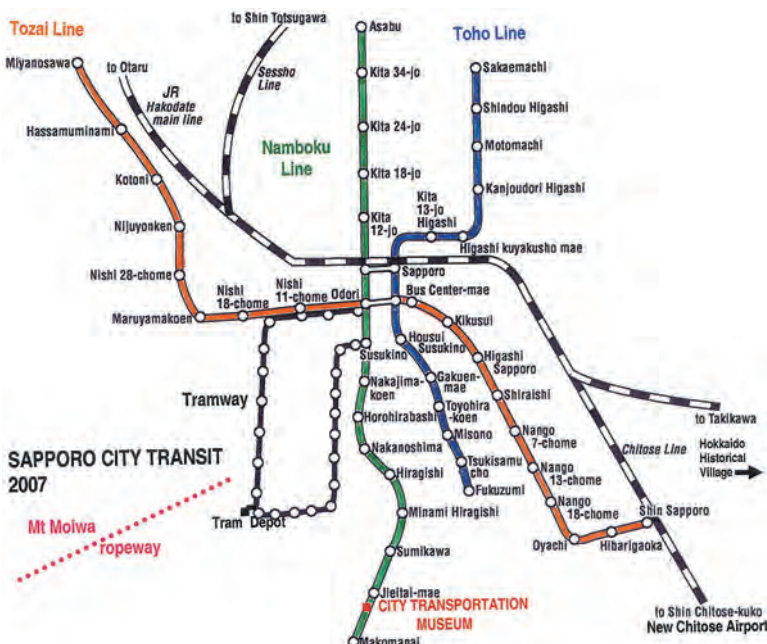
Hokkaido is the most northerly of Japan's main islands. Sapporo is its main city, the fifth largest in Japan, with a population of nearly two million people.

The island of Hokkaido was occupied by its own aboriginal people, the Ainu, but they were unsuccessful in resisting the arriving Japanese in the several wars which they lost, the last being the Battle of Kunasiri-Menasi in 1789. In 1799, in a hasty response to a potentially rapid Russian invasion, the Tokugawa Shogunate from the neighbouring island of Honshu annexed the whole of Hokkaido. Hakodate initially became the seat of government. Substantial colonisation followed the annexure, and the Ainu now find themselves in a similar position to many other indigenous people.

The incoming Meiji government in 1868 began the development of the farming village of Sapporo into the main administrative city of Hokkaido. Advice from the US Secretary of Agriculture in 1870 resulted in a typical American city grid-pattern layout unlike any other Japanese city. Today, the blocks are well numbered and it is easy to find your way around the city. The plan included Odori Koen, a wide linear park through the centre of the city, upon which an annual snow festival is held each February, including models made in compacted snow of internationally recognised buildings. Flinders Street Station was among those featured in 2006.

A horse-drawn railway was introduced in Sapporo in 1909 as Sapporo Sekizai Basha Tetsudo. This is commemorated today in the operation of horse trams in the Historical Village of Hokkaido in Noppo Forest Park, Atsubetsu-ku, about 13 km east of Sapporo. This village is run by a foundation which uses a replica of the former JR Sapporo Railway Station as the main entrance.

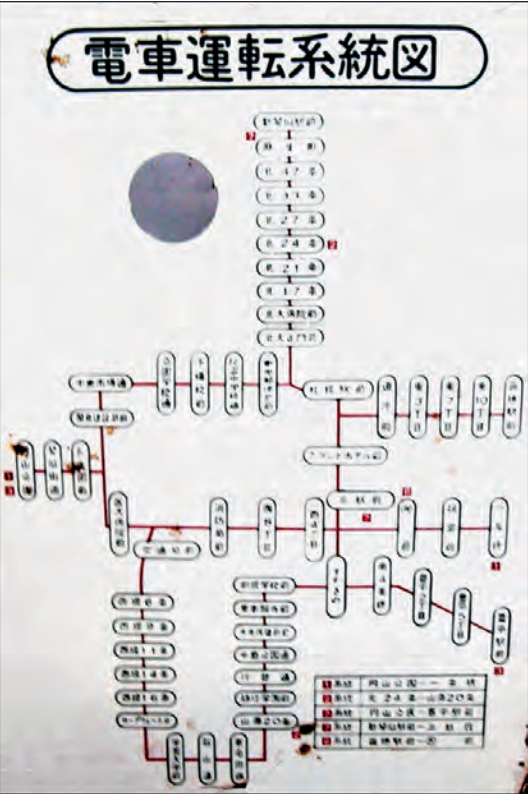
An electric tram service was started by Sapporo Electric Tramway Ltd in 1918 with 24 trams operating over 5.3 km. In 1927, the system was transferred to the City of Sapporo with 63 trams operating over 16.3 km



*Map of Sapporo's current transit routes, which may be compared with the previous tram routes. The northern terminus of the Namboku metro at Asabu is equivalent to the second-most northerly stop on the tram route diagram.*

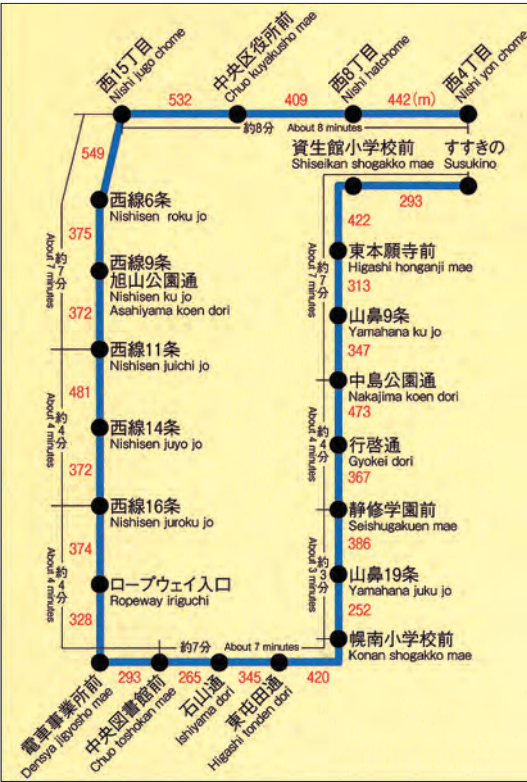
John Radcliffe  
after Takashima 2001





An enamel sign in the tram museum showed the tram system at maximum extent. The route that remains today is on the lower left. John Radcliffe

of 1067mm gauge track at 600 volts DC. By 1935, 14 million passengers were being carried annually by nearly 4 million km of services. By 1945, the impact of the war on the system was being felt with 25 million passengers being carried on only 1 million service kilometres. Major rehabilitation occurred after the war,

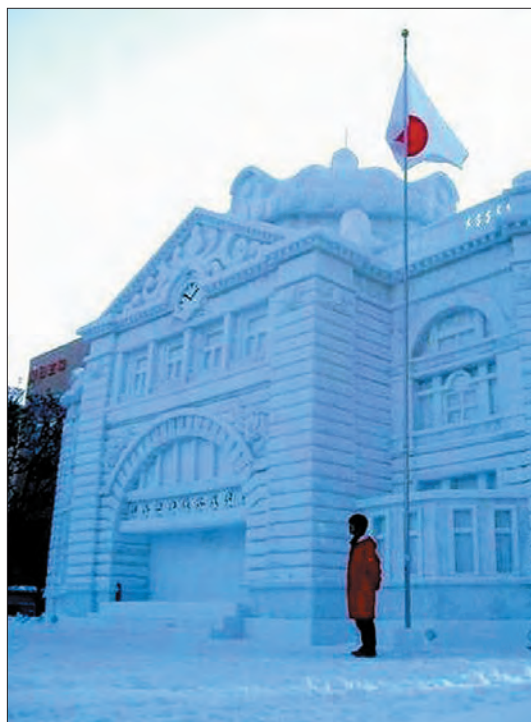


*Stops on the retained tramway: eleven have their names in English and Japanese; all have roofs and road heating elements for winter; and some have traffic priority signals. However more signals would be desirable.*  
Sapporo City Transportation Bureau

*Horse tram at Hokkaido Historical Village.*  
John Radcliffe

and new cars were built. The population of Sapporo increased rapidly to become the dominant city of Hokkaido. With petroleum fuels in short supply, an electric battery bus manufactured by Fuso was introduced in 1947, two more in 1948 and seven more in 1949, but they had all been withdrawn by 1952. New trams were built. Because electrical infrastructure was not able to meet the demand for additional services, 16 diesel-hydraulic trams were added in 1958 to operate among the conventional cars as well as along sections of new non-electrified track. Diesel trams were considered to be cheaper to build than new electrical substations. In 1961, a local two-car articulated design was introduced. This won the Laurel Prize of the Japan Railfan Club in 1966. By 1964, the tramway system had expanded to 25 km with 154 trams.

It was apparent that as the city was expanding rapidly, a new high capacity transport system would be required. Research began into the possibility of developing a rail-guided rubber tyred metro system. Four experimental prototypes were progressively developed, initially based on heavy motor lorry equipment. Eventually a design based on multiple unit cars running on pneumatic tyred trucks with four-wheel drive, automatic puncture detection, 750v DC third-rail power collection and a central I-beam guideway was adopted for the first Namboku line. Cars of this design replaced most of the tram services. The 1500v DC system was adopted in the following Tozai (1976) and Toho (1988) lines. Tracks were concrete based, with resin or steel surfaces, and where above ground, roofed because of the very heavy snowfall which can exceed 5 metres a year. The metro routes have since had various extensions.



*Flinders Street Station in 2006 Snow Festival.*

Sal and Gav Newnham

<http://www.travelblog.org/Photos/234049.html>

*Advertising is a significant source of revenue for many Japanese tramways. Sixteen of the cars are 'wrapped' with advertisements. Car 252, built in 1961, seats 29, has a crush load of 110 and is one of five of this type.*

John Radcliffe





After carrying 97 million passengers in 1965, the tramway system was progressively reduced to the remaining 8.5 km line carrying about 7 million passengers per year. It is now run with 30 trams, built between 1958 and 2001. This line runs in a large 'U' configuration, from Nishi yon chome to Susukino in the heart of the shopping district, the two termini at Sapporoekimaedori (literally Sapporo station – in front of – street) being three blocks apart. Maintenance is carried out at the depot adjacent to the Densya jigyocho mae tram stop (literally tram service place – in front of) and includes all the usual appurtenances of a conventional depot. A ropeway from near the next stop on the tram system goes to the top of Mount Moiwa, where an excellent view of Sapporo can be obtained, along with a refreshing glass of beer. The last bus operations by the Sapporo City Transportation

Bureau were transferred to the private sector in 2005 and in that year, after considerable debate, it was agreed to retain the tram as a feature of the city.

In 1975, as the metro took over from most of the trams, the Sapporo City Transportation Museum was established. It is located beneath a section of the Namboku metro line adjacent to Jieitai mae Station. The interesting collection of cars, several buses and some prototype metro vehicles are kept in good though static order along with a housed interpretive exhibition by the Sapporo Transport Service Promotion Corporation. The cars are maintained by volunteers, admission is free, and the museum is open at weekends from May to September and daily during the summer vacation for primary schools. Remarkably, the site is protected by only a two metre wrought iron fence.

*The wheel lathe at Densya jigyocho.* John Radcliffe



*Rewheeled trucks await refitting to a tram. The car at rear is an 8500 class, seating 34 with a crush load of 100. Six trams of this class were built between 1985 and 1988.*

John Radcliffe



*Car 213 at Susukino terminus. The four cars of this class are the oldest in use, having been built in 1958.*

John Radcliffe



*A 250 class car wrapped in one of the world's most ubiquitous advertisements.*

John Radcliffe



*A tram passes by while a taxi waits with its engine running to keep the driver cool on a hot, steamy afternoon. Its mechanical rear door is open to attract custom from the adjacent department store.*

John Radcliffe

*The Sapporo trams are housed in a six-road depot.*

John Radcliffe



*The Transport Museum collection is housed under the Jieitai station of the Namboku metro line.*

John Radcliffe



*Car 22 represents the original Sapporo cars.*

John Radcliffe



Despite having been there for 30 years, there was no evidence of vandalism or graffiti to the vehicles. The collection is well worth a visit, especially if you are able to secure the assistance of an English speaking guide.

Acknowledgement: the assistance of Mikito Yoshioka, Hiroshi Usui, Yasuhiko Shirahama and Keisuke Kunisawa during the visits and in the preparation of the article is gratefully acknowledged.

*The newest of the four snow brooms still retained. Efforts to replace traditional bamboo bristles with others made from plastic or spring steel have proved unsuccessful.*

John Radcliffe



*Car D 1041 was one of the diesel trams introduced in August 1958.*

John Radcliffe

*The controls of the diesel trams were similar to conventional trams but included additional gauges, such as for engine oil pressure.*

John Radcliffe





*Snow brooms have two sets of controllers – one for traction and the other for the chain-drive broom motor. The cars are very noisy.*  
John Radcliffe

*Surplus snow brooms are also on display at Jieitai.*

John Radcliffe



*Car 801 is one of the articulated cars introduced in 1961.*

John Radcliffe

*A six-wheel prototype metro car. This design was not pursued. The first production set is visible at right, a hole having to be excavated to accommodate it under the Namboku guide-way.*

John Radcliffe



*The final test articulated metro prototype had the general length of the subsequently produced vehicles. The limitations of the Jieitai museum site are most evident.*

John Radcliffe



*Mikito Yoshioka tries out the tram controls fitted to a model layout.*

John Radcliffe





*Pictures of Sapporo Tramways including advertising cars in earlier times, on display at the Jieitai museum.*

John Radcliffe

# HERE AND THERE

## AUSTRALIAN AND OVERSEAS NEWS

### Business case: light rail for Canberra

The ACT Government has commissioned the preparation of a business case for light rail for Canberra. Consultants PricewaterhouseCoopers are preparing the business case.

In announcing the intention to advertise for consultants to undertake this work, Chief Minister Jon Stanhope said the business case would form part of the ACT bid to Infrastructure Australia.

The ACT Government nominated light rail as one of a number of infrastructure projects it believed warranted Commonwealth co-investment. The Commonwealth then asked the ACT for a formal business case.

Mr Stanhope said that the ACT Government would commission a business case and detailed implementation strategy.

“The Government had the foresight to undertake background work on light rail in 2004,” he said. “Since then, our population has grown, petrol prices have risen and climate change has emerged as a more urgent challenge. It is therefore timely that we review earlier work to take into consideration any changes that have occurred over the past four years, so that we can provide the best possible case to the Commonwealth. The Government is aware that work on the idea of light rail is currently being undertaken by a partnership between the Canberra Business Council and the Conservation Council ACT Region and hopes that this valuable work will feed into the development of the Government’s business case. The Government has had fruitful discussions with the partners and looks forward to more detailed discussions. The Government is keen to have key stakeholders such as the Canberra

Business Council and the Conservation Council participate in a reference group for the project.”

Mr Stanhope said aspects of light rail that needed to be explored in some detail included:

- analysis of the most appropriate staging and routes;
- refinement of previous costings and possible funding sources;
- the role of complementary bus services;
- physical access to light rail and patronage strategies;
- impact on the ACT’s urban form; and
- the social, economic and environmental implications of light rail.

The ACT Government would seek the advice of the best firms and recognised experts to refine a light rail planning and implementation strategy. The work will involve community input on the opportunities and impacts of light rail.

“This investigation is extremely timely, as the ACT Government, as part of its Canberra Plan: Towards the 2nd Century, prepares to embark on a broad-based community conversation around our future urban form,” Mr Stanhope said. “The role that light rail and public transport more generally play in shaping the future form of Canberra is significant and may become even more so over time. Between the community conversation on urban form and consultation as part of the work on the light rail submission, there will be an extensive opportunities for all Canberrans to engage with this exciting vision.”

The preparation of the business case was scheduled to be completed by the end of October.



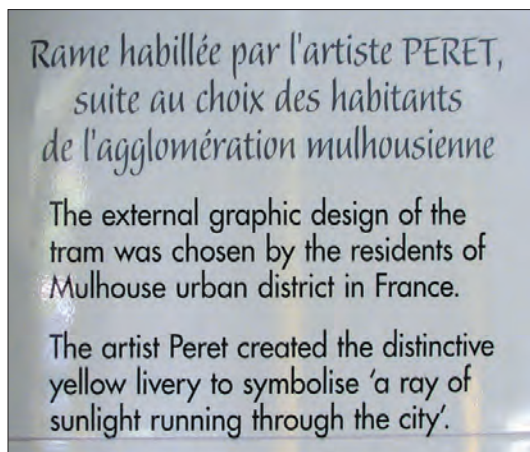
## Melbourne update

Trams owned by 568 Operations which have been stored at North Fitzroy Depot, have been moved to Preston Workshops as the depot is being reactivated to house City Circle trams whilst Southbank Depot is extended at the southern end.

Adelaide H car 368 was moved from North Fitzroy in the early hours of 10 October using emergency vehicle R10 as the tow vehicle to St Vincents Plaza, where B2 class 2050 took over the tow to the workshops.

W2 class cars 568 and 650 were each towed early on the morning of 12 October 2008 by A class 241.

Mulhouse tram 2011 (to become Melbourne 5111 and Bumblebee 5) arrived at Preston Workshops during the week ended 17 October.



*This sign appears in the Mulhouse trams and explains the origin of the external graphic design. In Melbourne the bright yellow livery results in these trams being highly visible.*  
Mal Rowe



*The interior of car 5123 gives an impression of spaciousness. The sign reproduced above is located on a panel adjacent to the articulation on the right. The exit doors are easily identified by having their interior frames painted bright red.*

Mal Rowe

*The first two sections of Mulhouse 2011 undergoing inspection at Preston Workshops on 16 October 2008.*

Mal Rowe





*The three remaining sections of 2011 were delivered to Preston in the early hours of 17 October.*  
Mal Rowe

### Port Junction update

Several photographs were received after publication in the May issue of Richard Youl's account of the naming of Port Junction. The photographs opposite show how the name has been accepted as a location on Melbourne's tramway system, with the tram stop named Port Junction and destination indicators on trams also showing the name.

### Adelaide tram line extension

Over the last two months the tram line extension project team has been gathering technical, operational and local information relevant to the to planning, construction and operation of tram service to the Adelaide Entertainment Centre.

A brochure was issued to provide an update on the project so that students, business people and others would have a better understanding of how and when the service will be extended, and how it will operate. Readers were encouraged to comment on the project. The information presented at the foot of page 23 and on page 24 were taken from the brochure.

After feedback has been obtained and further investigations have been carried out, detailed planning and design of the proposed tram alignment will be prepared and released for further community comment. The project team will be consulting property owners and tenants adjacent or close to the tram corridor in coming months to identify issues related to the preferred alignment and to work out ways of addressing them.

The project will start at the City West stop. From there the alignment will continue down North Terrace to the West Terrace and North Terrace intersection. Conceptual planning suggests the tram stop would be constructed before the intersection. Once past this intersection, the tram will travel down Port Road past the Police Barracks and over the Port Road rail bridge. It will then head north at the intersection of Port Road and James Congdon Drive and travel to the Adelaide Entertainment Centre. Two tram stops are being proposed along the section of Port Road between James Congdon Drive and Park Terrace. These stops



*Emergency vehicle R10 tows Adelaide H car 368 along Nicholson Street towards St Vincents Plaza.*

Doug Moyle





Stop 125 is named 'Port Junction'. The sign which created the name is attached to the pole in the background.

Brendan Schonfielder

are in addition to the stop opposite the Adelaide Entertainment Centre.

Some of the design, construction and operational features of the tram line extension will be similar to the recently completed City West extension.

- Trams will run in a dedicated corridor for safety and operational reasons.
- Platforms at each stop will be integrated with existing or new pedestrian crossings.



B2 class 2063 in Bourke Street Mall displays the destination 'Port Junction' in dot matrix format.

Brendan Schonfielder



'Port Junction' is also a roll blind destination, seen here displayed on SW6 class car 896.

Brendan Schonfielder





- Free tram travel will continue within the city (from South Terrace to West Terrace).
- The project will be designed with regard to accessibility for all users, especially those who have low vision or limited mobility.
- Construction works will be planned to minimise inconvenience to pedestrians, road users, local businesses and nearby residents.
- There will continue to be an emphasis on good urban design principles.

Initial planning investigations for the City West to Adelaide Entertainment Centre tram line extension suggest that a central track alignment offers a number of advantages when compared with alternative alignments such as locating the tracks close to the footpath on either one or both sides of Port Road and/or North Terrace. Locating the track corridor along the centre of the road would:

- enable trams to travel through the intersections on the green light with other traffic;
- allow left turn movements at side streets; for safety reasons, right turn movements from side streets (without traffic lights) would be restricted;
- allow cyclists to have a dedicated cycle lane closest to the footpath on both sides of the road;

- enable pedestrians to reach tram stops easily and safely using pedestrian crossings.
- ensure good surveillance of the central platform by passing traffic from both sides of the road;
- result in greater flexibility for other kerbside uses such as taxi ranks, parking and bus stops;
- minimise noise and vibration in relation to adjoining properties;
- enable the same high level of amenity and urban design to be achieved as the earlier City West extension;
- create less disruption to adjoining properties during construction.

The indicative timeline for the tram line extension from City West to the Adelaide Entertainment Centre is as follows:

- Planning work will continue to develop the preferred alignment for government approvals – November / December 2008 (approximately).
- Award of early contractor involvement contract to successful consortia to develop a detailed design – November 2008.
- Release preferred alignment for public comment – November 2008.
- Develop the final design and construction program – February 2009.
- Main construction works – March 2009 for completion in early 2010.

The indicative timeline is subject to change.

## Book Review

### Duncan and Fraser Ltd – Legacies Left Untold

By David Chantrell

Published by Hyde Park Press: Adelaide

ISBN 978-0-646-47532-S, 268pp

Review copy from St Kilda Tramway Museum

RRP: \$33.00

The author describes the coming together in 1865 of James Duncan and James Fraser to establish Duncan and Fraser (D&F) as a business that in the following sixty-two years made a national name for itself with three product lines – horse drawn vehicles including horse trams, electric tram bodies and bodies for motor cars, most of which were model T Fords. It then abruptly closed in 1927, putting 400 staff out of work. The initial location was established at 37 Franklin Street, Adelaide in Armour's former coach factory. Within four years, it moved across the road to 42 Franklin Street which remained the company's headquarters for the rest of its life apart from when it

moved temporarily back across the road after its much enlarged showrooms and factory were totally destroyed by fire on 21 February 1923.

Drawing on an excellent record of the horse-drawn vehicles built by the company due to its practice of photographing many of them standing in the middle of Franklin Street, often with the Adelaide GPO in the background, the origins of the business are well described.

When the Adelaide and Suburban Tramway Company commenced in 1878, it imported its first cars from John Stephenson, as did the Adelaide Unley and Mitcham Tramway Company. Duncan and Fraser built their first two horse trams “in a plainer style” for the Port Adelaide, Queenstown, Alberton and Portland Estate Tramway Company in 1879. By 1883, Adelaide had eleven horse tram companies. In 1884 D&F had finished 36 cars, being as far as possible facsimiles of Stephenson’s American cars – too much so, probably to please him, were he to take his seat in one of them. In 1887, twelve cars were built for the Ballarat Tramway Company. The very well illustrated book includes a picture of the first Ballarat car outside the Franklin Street premises before disassembly and re-erection in Ballarat. Eight horse trams followed to the

Caulfield (Melbourne) Tram Company but required legal recourse to extract payment. The widely demonstrated but ill-fated Julian battery car was another D&F product.

James Fraser died in 1894, but the Duncan family continued the business. Soon afterwards, a large plant was established on 16 acres of land at Kilkenny for railway rolling-stock building. From 1903, starting with an order from Bendigo, the company moved into building bodies for electric trams. Ultimately, the company built 140 horse trams, 131 electric trams for use in Victoria and 120 electric trams for Adelaide including its car No. 1.

In 1903, the Oldsmobile agency was secured, followed by Argyll, Standard and Studebaker cars and Hallford, Duplex, Republic and Thornycroft lorries. But it was the Ford agency which was the success story. Many thousands of bodies were built on the model T chassis, mostly imported from Ford Canada due to Empire Preference policies. Complex distribution arrangements followed. In 1923, Ford Canada sent H.C. French to review Australian operations. French lauded the Duncan and Fraser manufacturing standards but after interviewing the Duncan directors, reported “it has never been my lot to sit around a table in conference with a more heavy, slow thinking, sleepy and dull crowd”.

Meanwhile, the Duncans had sold the factory at Kilkenny (later renamed Woodville) to Holdens which built 60 W2 class trams there for Melbourne in 1925-26.

French returned to Australia in 1925, established Ford Australia at Geelong, and eventually took over all manufacturing, rendering Duncan and Fraser unviable. Rather than persevere while losing money, the Duncans ceased trading from 22 August 1927, though with some property revenue, their companies were not wound up until 1942.

The family vicissitudes and the manufacturing story are well researched and told. The book is exceptionally well illustrated in A4 format with an excellent index. The surviving D&F trams in museums are described, as are many of the privately owned motor bodies.

However, the text is not without a few blemishes. It is indicated that D&F built the remaining Adelaide horse trams, whereas the Adelaide and Suburban Tramway Company established its own body-building shops at Marryatville about 1900. In its 1908 trial runs, Adelaide’s first electric tram is described as “unmarked and no numbers” whereas contemporary pictures show this was not the case. The author appears to have been led into errors by assuming the Adelaide alphabetical nomenclature was issued in order of car







*Adelaide A type No. 1, which celebrates its 100th birthday at St Kilda on 30 November 2008, was clearly numbered and identified on its first trial runs a century ago. It was later decorated more lavishly for the official opening of Adelaide's tram system on 9 March 1909.*

construction (it was imposed 15 years afterwards), so the imported disassembled Brill bodies are described as type D when they actually became type E. One erroneous reference to the Adelaide 'Metropolitan' Tramways Trust slipped through. A grammatical criticism is the author's frequent taste for apostrophised plural nouns that should have been corrected in the editing.

Despite these minor issues, the author is to be congratulated for an excellent book that will appeal to tramcar and motoring historians alike. It is highly recommended.

JCR

## COTMA

### COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA

PO Box 61, Carlton South, Victoria 3053

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

By Warren Doubleday

#### Conference report

The Launceston conference held in August 2008 was well attended, successful and a very enjoyable event. It was a great conference, and we express our thanks to the organisers.

The Conference papers comprised an excellent mix of information and advice, and were thought-provoking. They were well received and thanks were conveyed to the various authors and presenters. Copies of the papers are available for viewing on the COTMA website, along with other conference reports and the group photo.

For many members of the Launceston Tramway Museum Society, it was their first COTMA event and their first opportunity to meet many workers from other museums.

The weather throughout the conference, though cool, was fine and sunny during the day with a little overnight rain. On the first evening and on other nights, the Launceston team put on a great show by operating their tram, Launceston No. 29, in the museum precinct. No. 29 operated on these occasions by coupling it to a generator wagon. On the opening

day, Friday afternoon, while the tram was running in brilliant sunshine, the compressor started to squeal. Fortunately, Ian Seymour of Adelaide was on hand to diagnose the problem; not enough oil being thrown around inside the compressor crankcase to keep the bearings lubricated.

The post-conference tour visited Queenstown to ride the West Coast Wilderness Railway. Contrary to expectations, the weather was sunny. For those of us who had not been to Queenstown for some time, it was amazing to see the growth on the hills surrounding the town that once resembled a moonscape. The journey on the railway was great and we were warmly welcomed by the Railway's staff. The group then travelled on to Hobart where our visit was co-ordinated by Jeremy Kays and Leon Parker. We viewed all the Hobart tramcars in their various stages of restoration and finished up with an enjoyable afternoon at the Tasmanian Transport Museum at Glenorchy.

The next COTMA conference will be held in Wellington in June 2010 on New Zealand's Queen's Birthday weekend. Further information and preliminary thoughts for a post-conference tour should be available by mid 2009. We look forward to seeing you there with many important and interesting developments occurring in the New Zealand heritage tram scene.

## One regulator and other changes: the news continues

One thing that affects all Australian tramway museums that operate trams is the rail safety legislative environment. Possible changes are in the air in this important field, specifically, a single national regulator.

For the major interstate rail operators, the state regulatory environment remains fragmented with different rules and regulations applying in each jurisdiction. There are over 80 heritage rail operators in Australia, and some of these are very small community-based operations. The concerns of these organisations are very different from the larger operators: they believe that the regulatory environment should cater specifically for the heritage sector, encouraging its growth, not inhibiting its development as it does at present.

COTMA will be working with the Association of Tourist and Heritage Rail Australia (ATHRA) to try to achieve a less burdensome regulatory environment for heritage operators. Initial discussions have occurred with consultants working with the National Transport Commission on the subject of the regulatory impact of any future legislative changes. It is good to know that this time around we are recognised as part of those who will be affected by any new regulatory changes.



*Conference delegates gather outside the Launceston Tramway Museum depot for the official conference photo.*

John Binns



## COTMA website

The COTMA website has changed servers. Our formal address, [www.cotma.org.au](http://www.cotma.org.au), will work as before, but if you had bookmarked the main page rather than the index page, you will no longer be in the correct server and will get a redirection message. The

change has been necessary because of the space required for the 2008 COTMA conference papers. We thank Andrew Cox for hosting the COTMA website on his system for many years. Currently it is sharing space with the Ballarat Tramway Museum's host as a separate identity.

# BALLARAT

## BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

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

### From Dave Macartney

Most activities in the workshop were centred around No. 38 in July and August. During those months, the motors were removed and dismantling commenced, while the 22E trucks were stripped of brake gear and thoroughly cleaned. The underside of the body is also receiving attention, with decades of dust and road grime being removed to assess the condition of the timbers. The roof was painted at the beginning of September, and a new set of motor suspension and armature bearings delivered from a local brass foundry.

Work on No. 38 has since taken a back seat with the arrival of No. 14's motors back from a prolonged stay in Melbourne, where they received remedial work. The lifting crane was moved to the second set of mounting brackets at the rear of No. 5 road and a separate workshop area created here to enable No. 14 to return to service as soon as possible. The field coils still require rewinding, but this is being done locally and is not expected to take long. Meanwhile, No. 14's controllers were given a good overhaul and the cream paintwork touched up.

No. 26 had a long standing problem in relation to one corner of its saloon which had loosened up after receiving attention some 20 years ago. With everything tightened up again the saloon body now has much less movement. No. 26 has since been used for a children's party charter and a wedding charter, and will be used more when the warmer weather arrives.

Two second-hand long trolley poles have recently been received through COTMA and these have been fitted to cars 13 and 18. The poles replaced the rather tired ones previously fitted. ESCo No. 12 has had the holes in the end saloon roofs filled and the ceilings are in the process of being painted to their final colours. Work continues on this car as time permits.

The change room, damaged by the motor car incident some months back, was rebuilt during July and August. The room is better than ever and back in use. With the temporary change room in display car



*It is amazing the number of passengers, particularly from Melbourne, who comment on the fact that we have a tram conductor. As the tramways in Melbourne have not had conductors for many years, we get nostalgic calls from the passengers for their return to Melbourne's trams. Neil Lardner is the conductor.*

Warren Doubleday

*Driver Bill Kingsley chats with the passengers during the September – October school holidays on No. 33.*

Warren Doubleday



*No. 14's motor cases and armatures have recently returned from our maintenance contractor. The BTM has commenced work on overhauling and replacing as needed, the field coils, pole pieces and wiring.*

Warren Doubleday



*How often do you hear the term, "it's a bucket of bolts"? One of No. 14's motor cases is taking on this appearance, while work is undertaken on another tram.*

Warren Doubleday



*Richard Gilbert, on the step of our museum display tram, talks to a group from the City of Ballarat, Kohinoor Centre on 30 September about the history our Museum and Ballarat's trams.*

Warren Doubleday



No. 39 vacated, the museum display is now concentrated in the centre and front saloons of No. 39, while the area between tram No. 39 and the depot wall itself has been stripped out for rebuilding. Our normal demolition expert from Haddon was much in evidence.

The tramway operated every day during the recent September school holidays. The lake now has some water in it, but a very dry September, saw inflows fall behind once again. Works to enable the use of recycled water in the lake from about November 2008 should

ensure that we have at least an appearance of water over the lake from now on, but it will take several years to refill the lake.

Google Earth – Street View now has many Australian streets imaged from the street itself. These views are created by driving a vehicle down the street with a camera taking 360 degree views at short intervals. Wendouree Parade was ‘imaged’ during the summer of 2008, with No. 13 at the St Aidans Drive terminus. It shows the very dry lake in the background.



*No. 13 at St Aidan's Drive features in a Google Street View photo taken in January or February 2008. The driver is busy on his mobile phone: not quite appropriate content. The background shows a very dry Lake Wendouree.*

## ST KILDA

### AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) Inc

PO Box 213, Salisbury, South Australia 5108

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

From Colin Seymour

### Bib and Bub project

Bib tram A 14 has returned to the bodyshop after successfully completing its trial runs. There is still a considerable amount of work to complete the restoration of this tram. Jack Pennack has made a start by refitting the double sliding doors and their chain-drive equalising mechanism to the saloon.

### E type tram 118

While Bruce Lock and Mike Crabb have been busy refitting the Brill 22E trucks with their brake rigging,

Jack Pennack revarnished the original ceiling panels ready for reinstallation in the crossbench section of car 118.

### Track and overhead

Poles 10 and 24 have been replaced. These pole replacements were organised by Mike Bosworth and the Friday gang. Preparatory work has commenced on the first of the two poles at Mangrove Loop to extend their life span. This will involve welding collars onto the poles where they are being eaten out by rust caused



*Bib & Bub cars 14 and 15 meet in June 2008.*

Chris Summers

*Bib & Bub cars 14 and 15 showing the ends which will eventually be coupled.*

Chris Summers



*Andy Hall and Michael Bosworth watching a replacement pole being put in place on the lakeside track.*

Chris Summers

by the salt air. These centre poles are historic as they are from King William Street.

Kym Smith has completed a detailed audit on the overhead with a time line on when works will be required to be done to keep the overhead in tip top condition.

Andy Hall organised two work parties to re-sleeper parts of the 'D' section of the loop. These work parties were held on 30 August and again on 20 September. They were attended by Mike Bosworth, Mark Jordan, Jack Pennack, Ian Seymour and Andy Hall.

### **In the workshop**

A mandrel has been made to turn the outside of the motor suspension bearings for car 118 true to the finished bores. Each bearing will be tailor made to suit each axle condition and each motor bore. After the



*Bruce Lock preparing to weld the pole into position, watched by Michael Bosworth.*

Chris Summers



*Bruce Lock welding the pole. Works car W2 354 provides the power.*

Chris Summers

*Bruce Lock and Michael Crabb making a replacement beam for attaching the brake shoe pull-off springs for one of 118's trucks, September 2008.*

Chris Summers



bores and outsides are complete, jiggling will be required for accurate machining and clamping of the bearings for the dowel holes which pin the bearings to the motor caps.

During manufacture some roughing out was done on the museum shaper. The bores are done on the vertical borer, with the outside being done on the large lathe and dowel holes being done on the milling machine. The bearings are soldered together before boring to ensure accurate boring and outside turning, then melted off upon completion.

### Other news

The City of Holdfast Bay has agreed to car 361 being stored at the Museum for a further 12 months. The monthly storage rental is being paid in the form of a 12 month sponsorship agreement with the Museum.

A number of delegates attending the History Trust's State History Conference visited the Museum on 2 August 2008. The focus of the visit was on museum management. The feedback we have since received has been very positive.

On the same weekend as the above conference, about 20 fully self-contained campervans spent the

weekend at the Museum. The visit was organised by member Kevin Collins.

### An invitation

The Australian Electric Transport Museum invites you to attend the 100th Anniversary of Tram No. 1's Trial Run at the Museum on St Kilda Road, St Kilda, SA on Sunday, 30 November 2008 at 1:30pm.

Adelaide's first electric tram, No. 1 ran its first trial run along North Terrace on 30 November 1908. Following successful trials, Adelaide's electric tramway system opened on 9 March 1909.

Tram No. 1 is now preserved at the museum and will re-create its trial run at 2:30pm. Prior to the re-created run, Tram No. 1 will line up for photographs with the Museum's other electric trams from 1908-1909 – trams 10, 14, 15 and 42. The photo line up will also include vintage cars and bikes of the same era.

Adelaide Model Rail Operators are setting up a model tram layout.

Gates open at 10:00am and trams will continue to run until evening. Bring this copy of *Trolley Wire* for admission.

## BYLANDS

### TRAMWAY MUSEUM SOCIETY OF VICTORIA

38 Piccadilly Crescent, Keysborough Victoria 3173

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

From *Running Journal*

### Scrubber tram 10W

Long time readers will recall that this tram, built in Sydney in 1908 as a K class passenger car, was acquired by the Society in July 2002, soon after it was retired from traffic with M<Tram.

In 1998 the tram was withdrawn from service due to wheel problems, and an approach was made to the Society for assistance in supplying components for its repair. To this end a pair of wheel and axle sets were lent to M<Tram and these were fitted to 10W allowing it to resume its duties. In return, and in view of the Society's long-standing interest in the tram, the Society was given the understanding that in the event of its withdrawal the Society would be the recipient of the car.

Soon after the transfer of 10W to Bylands, we were advised by the then Department of Infrastructure that it had been reclaimed back into government control and was to be placed on loan to the Society. Although we were not happy with the situation (in effect we had to sign a loan agreement not only for the tram as a whole but also for our own wheels!), this was reluctantly agreed to.

This anomaly has now been rectified, with advice recently received from the Department of Transport that the loan agreement has been terminated and the Society is now the official owner of the tram. What a wonderful 100th birthday present!



We thank the Department of Transport, especially Mr Tom Sargant, General Manager Safety and Asset Management for his assistance and perseverance in this matter.

### Infrastructure rehabilitation

Work continues slowly on the rehabilitation of the section of main line track near One Tree Hill. At the last working bee in July, members Graham Jordan, Michael Fedor and Harry Twining replaced a further five sleepers with new units, and then finished off lifting, packing and ballasting the section concerned. We have now completed more than one third of the upgrade of the main line in the section between the pit shed and the first stock crossing.

Also on the same work day, member Ken Peck cleared the remaining surplus spoil and ballast from the grassed area adjacent to the southern terminus. This has not only improved pedestrian access but removes a tripping hazard. The final task for the day saw all hands to the fore to assist in loading a large trailer with old sleepers which had been sold to a local resident for firewood. Our workers enjoyed a hearty lunch provided by Aileen Jordan.

### Museum works

Although our current workforce is limited, both for traffic staff and for work around the site, a number of tasks continue to be undertaken, which keeps those involved quite busy at times. Apart from the infrastructure works mentioned earlier, we never seem to run out of other tasks.

Tram restoration and maintenance continues at a steady pace. Works on Q 199 and to a lesser extent X2 680 continue under the direction of Doug Prosser. The overhaul of the door motors for Y1 612 has been completed by the Melbourne Tramcar Preservation Association, the final installation and testing being undertaken by Tony Smith and Kym Smith in early July. The quality of the workmanship undertaken by the MTPA is a credit to their skills. However before we could place No. 612 back into traffic, its compressor governor decided not to work properly. A quick clean and adjustment by Graham Jordan seems to have solved the problem.

Our Adelaide H 373 is starting to look a little more like its pre-1970s appearance with the refitting of the special fare blocks under the central drivers' windscreens at both ends. These blocks date from an even earlier period, with wording like 'Special Fare 9d', 'Special Fare 1/-' and 'Special Fare 2/-'. The fourth side is blank. It is intended to eventually remove

the TransAdelaide signage from the exterior of this tram and replace it with the monograms of the former operator, the Municipal Tramways Trust (MTT).

Our supply of H class tram parts has seen a major increase with the acquisition of a large number of parts purchased from a private source. Additionally we were offered a quantity of parts from TransAdelaide, which had been delivered to the AETM museum at St Kilda, South Australia. Some of these parts are also part of a consignment obtained by COTMA. Society Secretary Graham Jordan drove to Adelaide with a trailer in early July, and returned with an overflowing assortment of parts and equipment, including windows, seats and mouldings. We thank our friends at the AETM, especially Ian Seymour for their assistance and support, and we also thank COTMA.

Other tramcar works has seen the controllers of SW2 644 overhauled by John Walker, and the routine servicing of several other trams by Corey Robertson.

John Whiting has made a start on clearing out and sorting the items from the old steel containers near the house. These units were purchased in the 1970s and have been used for storage. Over the years they have deteriorated or rusted out, no doubt as a result of their years under the now gone cypress trees. They no longer provide safe covered storage for their contents. Provision is being made to transfer the contents into the cable tram shed where they will be sorted and their viability assessed for further use. This is an urgent and important priority task. Once the containers have been emptied, their remains will be removed for scrap.

### Rail corridor reserve

The official last train on the Heathcote line, a special steam hauled train organised by the Australian Railway Historical Society, ran on 9 November 1968. This was the last train to operate through what is now the Bylands museum site and along our current operating main line.

In 1991 the Society was granted a 20 year lease on the former rail corridor from the end of the Society's property at McKerchers Road to Tootle Street, Kilmore. This lease is due to expire in 2011. Its purpose was to retain and secure the reserve for the future extension of the tram line to Kilmore.

Over the years several applications have been submitted for funding to rebuild the line. However none has been forthcoming and the project has never proceeded. A more recent locally based proposal was for an initial rail-trail bike and walking track between the two location points, with an extension along the

western edge of the Society's property to the Bylands site. This proposal also failed to gain support or funding and did not materialise.

In recent years, the influx of population to the Kilmore township has seen the residential area extend south of the town, along and adjacent to the rail reserve. With it brought the needs and expectations of the now adjacent neighbours, who do not appreciate the intent of the retention of the reserve, nor the current natural state in which it remains. Following complaints, we have been requested by the land owners Victrack, and by Mitchell Shire, to attend to vegetation clearance on the reserve in the Kilmore South area. A contractor has been engaged by the Society to

undertake remedial work in selected areas. This work, however, comes at rather large expense.

At our recent Annual General Meeting the issue of the rail corridor reserve was raised with members. This was to gauge their thoughts and suggestions as to our future requirements or use of this reserve, bearing in mind the possible need for ongoing or continued expenditure just to maintain the unused leasehold. The general feeling was that in light of the current condition of the entire length of land after over 40 years of disuse, and with limited opportunities for the eventual use of the reserve, the Society's Board should formally consider all options available including the termination of the current lease.

## 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 Mike Stukely

### Closure of the Perth Tramways, 50 years on

PETS members and guests commemorated the 50th anniversary of the closure of Perth's last tram route on Saturday, 19 July.

On Saturday, 19 July 1958, E class tram No. 66, decorated with banners and bunting, made the ceremonial last return trip, departing about 10.30am from Barrack Street Jetty to Inglewood. Following the slow trip back from Inglewood to the Jetty, with the streets lined with well-wishers, speeches were made, photos taken, and dignitaries boarded the car for one last ride. Just after midday, No.66 slowly made its way

from the Jetty up a very crowded Barrack Street with a mounted police escort, turning right at Murray Street and running via Pier Street and Hay Street back to the Car barn in Hay Street East for the last time. This marked the end of Perth's tramway era after almost 60 years of service since the opening of the city's first tram route on 28 September 1899.

At Whiteman Park on 19 July 2008, a Cavalcade of Trams arranged by Traffic Manager Les Hunt departed the Car barn for Village Junction Station at 11am, with many members aboard and others following with



*The Tram Cavalcade on 19 July: Fremantle No. 29 departs the original Mussel Pool stop for the Village after posing for photographs, followed by W7 No. 1017 and W2 No. 329; W4 No. 674 and W2 No. 393 are waiting clear of the South road crossing.* Michael Stukely



*W4 No. 674 rounds the Bennett Brook North curve after leaving the old Mussel Pool stop on 19 July; the photographers at left were kept busy.*

Michael Stukely



*W7 No. 1017 (left), W2 No. 329 and W4 No. 674 between Mussel Pool East and Horse Swamp Curve on their way to the Village on 19 July. Some of the newly erected steel traction poles are visible.*

Michael Stukely

cameras. Our founding members led the procession of five trams – the leading car was Fremantle No.29, driven by Lindsay Richardson (member No. 1), then came Melbourne W7 No. 1017, driven by Ric Francis (member no. 2). They were followed by W2 No. 329, W4 No. 674 and W2 No. 393.

A stop was made for photos at the site of the original PETS Mussel Pool tram stop (where a logging whim is now on display on the platform), and on arrival in the Village the convoy closed ranks and stopped in the Mall outside the Motor Museum. The trams then travelled slowly through the length of the Mall, attracting great interest from visitors, and on to the Village Junction Station, where they were lined up at the terminus. Passengers walked across to the Revolutions Transport Heritage Centre, where Curator, Val Humphrey, gave an address. We were in good company here, with 'Canton' trolley bus No. 38 to one side, and the unrestored body of 106 year old Kalgoorlie bogie tram No. 25 on the other.

With passengers back on board, the cavalcade returned slowly through the Village Mall, stopping again at the Motor Museum before travelling back via the Triangle to the present Mussel Pool tram stop. Morning tea refreshments were available here at the nearby shelter, provided by Tony and Beth Kelly and their helpers. The assembled party was welcomed by PETS Secretary, Bob Pearce, and Whiteman Park Manager, Steve Lowe, then addresses were given by Lindsay Richardson and the Mayor of the City of Swan, Mr Charlie Gregorini. Lindsay noted that he was speaking exactly 50 years on, almost to the minute, from when he watched No. 66 starting from the Barrack Street Jetty on its last run back to the Carbarn.

In the evening, the PETS Annual Dinner was held at The Agonis in the Gosnells Civic Centre, when Lindsay shared more of his reminiscences of that sad occasion 50 years ago. Altogether, a very enjoyable and memorable day was had by all.



*W2 No. 329 leads W7 No. 1017 and Fremantle No. 29 over the Workshops Road crossing as the cavalcade returns to Mussel Pool on 19 July.*

Michael Stukely

## Annual General Meeting

The twenty-seventh Annual General Meeting of the Perth Electric Tramway Society was held in the theatre at the Public Transport Centre, East Perth, on Friday, 25 July. The following Officers and Councillors were all re-elected: President, Michael Stukely; Vice-President, David Brown; Secretary, Robert Pearce; Treasurer, Tony Kelly; Membership Secretary, Jim Paton; Councillors, Ric Francis, Les Hunt and John Shaw.

Some highlights from the Annual Report are:

During the 12 months to 31 March 2008, five trams travelled a total of 10,315km on 245 running days. Distances travelled by the trams were:

Freemantle No. 29	518km
Melbourne W2 No. 329	2355km
Melbourne W2 No. 393	2310km
Melbourne W4 No. 674	1583km
Melbourne W7 No. 1017	3549km

A total of 26,148 ticketed passengers were carried, which was a little lower than the previous year, but a different mix of passengers resulted in a record traffic revenue total for this year.

PETS membership had reached an all-time high total of 111 by 31 March, with 53 of these members contributing voluntary work for the Society at the Park during the year. There was a 30 per cent increase in the total hours worked by members for the year.

Wednesday workdays are now the key time for Society work to be carried out, with weekend workdays attracting nowhere near as many members – a very different pattern from the Society's early years. From September 2007 there has been a sustained average daily attendance of 20 to 22 members (up from 12 to 15 members). A tremendous amount is being achieved, and we now need to extend the members' room! No doubt, the very successful Operations Group Committee and Restoration Group Committee have reinforced these positive trends.

*Returning from the Village Junction to Mussel Pool, the Tram Cavalcade pauses outside the Motor Museum of WA in the Village on 19 July.*

Michael Stukely







*Rebuilding the eastern end platform sub-frame and floor of B class No. 15 is nearing completion on 18 September. The newly replaced pillars along both sides of the saloon can be seen behind the bulkhead.*

David Carling

*Bryan Adcock (left) and David Carling check the line of the tongue and groove exterior cladding on the rebuilt south side of B class No. 15 on 18 September. The body of sister B class No. 46 is at left.*

David Carling

## General

An exceptionally dry August in Perth provided a welcome boost to patronage on the trams. A single car operating on Fathers Day resulted in a record bag for a single conductor – well done to conductor, Trevor Dennhardt and motorman, Lindsay Richardson! Bennett Brook Railway's Friends of Thomas the Tank Engine Day was held in the Park on 21 September. Early showers cleared soon after midday and passenger loadings on the trams were better than expected.

New double-sided permanent information signs about two metres in height have been erected by Park Management at the Village and Village Junction tram stops, and at several other locations around the Village. These signs are associated with a Heritage Transport Trail, and linked to the Revolutions displays. They carry various photos and information about nearby attractions, and are of a very high standard.

Work has continued along the main line on the replacement of rotted timber sleepers with steels. Sleepers were replaced at Mussel Pool, Bennett Brook North curve, and at the Triangle, where re-gauging was carried out on the North points and on the main line at the passing loop. Steel sleepers have been placed ready for installation on the passing loop, and north to Red Dam on the Village line. The Electrical and Mechanical Section are diligently carrying out the regular servicing of the trams, now with the great benefit of the tram servicing pit. W7 No. 1017 is the preferred tram for school holiday (seven days per week) service, with the sliding doors assisting safe one-man operation, and it was back in service in time for the July holidays.



Pat Ward continues the maintenance of our very important motor vehicles, which are essential to many Society work programs. Much of the work carried out involves the continual improvement of the state of these vehicles.

Covered storage is now at a premium in our Car barn precinct, for trams and equipment alike.

The shunting tractor and fork-lift have been temporarily housed in front of the two ex-Adelaide H

cars in the Pennenburg Workshop, pending the provision of permanent housing for them. Plans are also being developed for a new storage shed for the Electrical and Mechanical Section, to properly accommodate the larger items of equipment and parts.

Work is continuing on the restoration of WAGT E class No. 66, with the preparations for fitting under-body equipment progressing well. Bill Blain is servicing the car line breaker, and some work is required to complete preparation of the resistor banks for fitting. The interior fit-out with seats is now awaiting completion of the saloon floor treatment.

Restoration of the body of Perth B class No. 15, for future static display with the City of South Perth Historical Society, continues to progress fast. Bryan Adcock, David Carling and their helpers have completed the replacement of the south side under-floor longitudinal side beam, and all of the roof support pillars on that side of the saloon. The matchboard exterior cladding below the windows has been replaced on both the rebuilt south and north sides. Recent work has focussed on the eastern end motorman's platform, where new floor-support beams have been being grafted in and the floor replacement is nearly finished.

## LOFTUS

### SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

[www.sydneysteamway.museum.com.au](http://www.sydneysteamway.museum.com.au)

From *SPER News*

### Overhead

For some time David Rawlings has been preparing sections of overhead troughing for use inside the depot extension. On 2 August David and Geoff Olsen fixed the supporting brackets beside the power operated roller doors at each end of the extension using the bucket truck operated by Tom Tramby. The following Wednesday, the troughing was lifted into position and secured to the building. On 9 August additional

support chains were added and it was permanently fixed into position.

David is manufacturing two roller door bridges based on those used in San Francisco and elsewhere that will automatically bridge the gap between the trolley wire outside and the trolley wire inside the building under the roller doors.

*The bucket truck was used by Geoff Olsen to install a cable tray and wiring in the display hall for connection to the new distribution board on 22 August.*

Martin Pinches







*Brisbane centre-aisle car 180 waits for the track gang to complete their task and give the signal to proceed over the work site on 27 September.*

Martin Pinches

A pivoting section hangs down vertically when the door is closed. The steel angle on the bottom of the roller doors engages a lever as the door is opening and tips a counterweight past the centre of its travel. Gravity takes over and swings the hinged section to a horizontal position. This allows trolley poles and pantographs to track through under the fully opened door. The reverse process happens when the door is being closed.

## Electrical

Over the past months, Bill Denham, Tom Tramby and Geoff Olsen have been busy rearranging the lighting in the Display Hall. This involved clearing most of Road 7 out so the bucket truck could be moved in to allow a cable tray and wiring to be installed above the new Display Hall distribution board. The lights between Roads 7 & 8 and 6 & 7 were then transferred to the new board in one very successful days work.

The success of this operation spurred Geoff to greater efforts and he convinced his faithful helpers to do it all again a week later. This involved clearing most of Road 5 for a repeat performance with the bucket

truck resulting in the remainder of the high bay lights being transferred to the new board.

These are all now controlled from what will become known as the 'Display Officer's Control Panel'. This panel also controls the under floor outlets which supply exhibits such as prison car 948.

Some lighting, both temporary and permanent has been erected over Road 8 road and in Ballarat 37 and O/P 1089 to 'lighten the darkness' for Ian Hanson and his assistants in their efforts to complete the painting of these cars.

## Track and other work

Surplus concrete deliveries were slow during the period July to September but pours continued northwards along the new western track north of Pitt Street with the formwork being moved along as required.

On 29 August Holland's backhoe was used to excavate the western track just inside the main gate and the timber sleepers were removed and stacked. The tar surface at the gate has been chewed up by heavy



*The truck for D117 was assembled on 28 August and the wear in the axle box hornways was measured for new wear plates to be made. The truck frame has since been lifted again to allow this work to continue.*

Mike Duncan



*The reconstruction of D car 117 is progressing well under the expert craftsmanship of Geoff Spaulding. The body ribs have since been installed on this side of the car.* Martin Pinches



vehicles turning through the gate over the years and it is intended to concrete between the waiting shed and the Pitt Street crossing. Spoil from this excavation was dumped along the side of the western track north of Pitt Street using the unique side tipping capability of our Daihatsu tipper.

Twelve recovered sleepers were installed in the Sutherland line between the TAFE crossing and Army crossing, next to pole 331, on 27 September. This work was done during school holiday traffic operations under safe working conditions. A great display was provided for the passing trams as visitors got to see a rare glimpse of live track work in action, as the tram waited for clearance to pass the work site area.

Chris Olsen and David Bennett carried out repairs to the level crossing lights following damage caused by a passing truck. They then resumed their Tuesday night work on the rewiring of 42s and have 'belled' and tagged the wires ready for termination in the controllers and the various connection boxes under the car. Warren Howlett and Terry Thomas have almost finished fitting the hardwood decking.

Frank Cuddy primed and painted the steel framework for the switch group for O car 957 and has since been installing the repaired contactors and arc shields.

### **Berlin car 5133**

Berlin 5133 entered the workshop on 12 July and has had a damaged end stripped. A new curved sheet metal apron has been made by an outside contractor. The timber cab lining has been replaced by a competent CSO worker.

### **Sydney D car 117**

Work on this car reached a significant milestone on 27 September, when Geoff Spaulding, our coachbuilder completed restoration and fit out work on body ribs, side rails and the drivers bulkheads, which had been lifted into position the previous Saturday. With Bill Parkinson and Bill Denham operating the cranes and with assistance from Mike Giddey and Tom Tramby, Geoff shoehorned the roof into place, and all the shelving roof support steel was removed by 11:00am.

The Wednesday crew re-bushed and welded up the motor suspension beams and reassembled the Brill 21E truck for 117. They were then able to check and measure the amount of wear in the axle box hornways so that new wear plates can be made. The frame has since been lifted from the wheel sets to allow this work to continue, whilst Geoff will push on with permanent screw out of the body components and commence other fit out works on the car.

### **Ballarat car 37**

A small team of members commenced the final stages of the restoration of the body of former Ballarat tramways bogie car 37 on 2 August. The members who are assisting in the restoration are Peter Butler, Robert Norton and Ian Hanson with assistance from Aaron, our CSO worker. They have made tremendous progress so far.

The interior is being completed first, starting with removal of body parts such as windows and numerous other items. Aaron, Robert and Ian have been sanding back saloon seats and sills which were black with age



*Three of our Wednesday team, Alan Leask, Warren Howlett and Rainer Nickel install more deck boards on ballast motor 42s on 17 September.*

Martin Pinches

in some cases. Dropcentre seats have been restored to as-new condition, although a few more coats of varnish are still to be applied. Work on sanding the saloon seats is nearing completion.

A small workshop has been set up on Road 8 to enable work on both 37 and Sydney O/P car 1089 to be carried out. Peter Butler has been involved in restoring the window frames which have since been varnished. Ian Hanson is varnishing the ceiling panels in one saloon and the drop centre. It is expected that once the interior has been completed, the tram will be moved for lifting and workshop attention later this year.

Assistance from Bendigo Tramways in the restoration of this car is gratefully acknowledged. Several missing items have been supplied for refitting and we thank Tony Cliff and Darren Hutchesson for their generosity.

### **Sydney J car 675**

Low voltage communication buzzers have now been installed and are operational, with a number of the external covers still to be fitted. Sanding equipment and hand brakes have been installed. At the end of September, Bendigo Tramways were in the process of fitting air gauges and lines for connection to the air



*Ballast motor 42s is nearing completion of the first stage of its rebuilding. It is on the traverser on 27 September while other work is carried out in the workshop annex.*

Martin Pinches

system. Couplers have not been fitted and will be installed when the car arrives at Loftus as the couplers on hand in Bendigo are of the wrong length. The car still requires the numbers to be applied, and final engineering sign off as part of the lengthy accreditation documentation necessary before it leaves Bendigo.

### Sydney C car 33

Work in Bendigo continues on the body with sand boxes now fitted along with lower deck seating, saloon end panelling and window cavity infill timbers. Protective railings and joints have been designed and delivered for the upper deck end platforms by Masfields Engineering. At Loftus, Terry Thomas and Warren Howlett designed a jig and fabricated the steel brackets for the upper deck seats which have been primed by Vic Solomons ready for delivery to our joiner.

### Launceston car 14

Our friends at the Launceston Tramway Museum have fabricated and delivered to Bendigo two metal light globe covers for the driver's colour light

destination indicators. Measurements have been taken of the underfloor end bearers preparatory to obtaining quotes for supply of replacement timbers. Terry Boardman has brought back the remnants of the centre driver's windows for delivery to our joiner, who will make four replacements to complement the larger side windows. Our chief sponsor for this project, Hugh Ballment, is chasing up replacement enamel car numbers for fitting to the saloon bulkheads, whilst the new side windows have been varnished in Bendigo.

### Sydney P car 1501

The old tarpaulin which was fitted to PR1 1517, and which should be well past its use by date, has been fitted to the car while it remains at Bendigo gasworks. The donor trucks for this car are still to be extracted from Newport workshops for delivery to Bendigo. Richard Clarke has supplied detailed truck drawings to Bendigo for preparation of a quote for our chief sponsor, Andy Hall. A pair of trucks will be fabricated by Bendigo Tramways using donated surplus Melbourne No. 1 truck frames, suitably modified and using the donor motor and axle sets from Newport. Further donors for this project will be needed.

## GLENREAGH

### GLENREAGH MOUNTAIN RAILWAY

PO Box 104, Glenreagh, NSW 2450

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

From Greg Wilson

### Accreditation

The long task of obtaining accreditation remains the top priority of Glenreagh Mountain Railway.

Documentation is being complied and a dedicated group is aiming to complete most of the work in the near future. Rather than seeking restricted accreditation that may have enabled us to operate only our tramcar, we have decided to pursue full accreditation. This would enable us to operate both our steam locomotive 1919, which is currently under repair, and our tram, W2 392.

Although GMR is not operational at present, our tramway division has been working steadily to improve our assets including the tramcars and the new tram shed.

### W2 class 392

Although 392 has not turned a wheel since January it has certainly not been forgotten. A full repaint is underway following completion of repairs to the tram's exterior and cab timberwork. The windows are being repaired and they too are being repainted and replaced. All in all No. 392 is now looking first class and its condition will be most presentable when it is back in service.

When repairs to locomotive 1919 are completed, we plan to re-shunt our collection so as to allow better access to 392 and other exhibits.



**W5 class 792**

As reported in the August issue, W5 792 arrived at Glenreagh in early July. After being positioned outside the tram shed work has progressed on cleaning the tram to make it more presentable.

No. 792 arrived with a damaged cab on one end. A replacement cab, which arrived with the tram, will be fitted in due course. Most of the windows were smashed during its years in storage and these will need to be replaced. Although the tram requires a lot of work, it can be completed and made operational.

**W2 class 447**

Work on 447 has come to a halt temporarily because of the concreting of the shed floor. When this is completed we will be able to lay out the parts required for the tram's underfloor cabling and pipes. Most of the equipment required for the restoration of 447 was removed from W2 370. When work on 447 resumes, the car's bogies will be removed to enable installation of overhauled traction motors and other restoration tasks to be carried out.

**Tram shed**

Progress on the fitting out of stage 1 of the tram shed is continuing at a steady pace. The floor is being concreted as part of our regular Saturday workday tasks. Stage 2 of the shed arrived recently and has been stored pending relocation of W5 792.

On completion of Stage 2 of the tram shed, it will extend the length of the existing shed to a length of approximately 36m x 10m and will be able to accommodate two trams on each track. Again, GMR has purchased the skeletal frame work and will be using donated Colorbond sheeting to clad the building. When the trams are in position in the completed shed we will have a workshop area of about 4.2m x 36m. The double-track shed will be accessible from the proposed passing loop using a sector plate arrangement that will avoid laying a set of points. As this will be the restoration road, only limited use of the second road will be required.

Excavation has also commenced outside the shed in preparation for the laying of track which will include a connection to the mainline. A passing loop will be constructed to service the restored Moorland station building that has been renamed Glenreagh West.

**Victorian Railways car 40**

Restoration is continuing on the body of VR No. 40. Timber panelling has been manufactured for this tramcar using original designs where possible. No. 40 has had a lot of work done to its exterior including covering the roof with a vinyl-like material. The tram has been returned to its VR green and cream colour scheme, a distinct improvement on its appearance when it arrived at Glenreagh.

# BENDIGO

## BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

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

From Len Millar

**Some people are lucky**

We at Bendigo pride ourselves on a few unique attributes of our tramway and operations. The North Bendigo terminus is a very old 'temporary' one. In 1942, the State Electricity Commission laid the track into a cul-de-sac, pending permission from the Victorian Railways commissioners to cross the Swan Hill rail line which never happened. The City Depot, dating back to 1903, is a stand-out, the oldest operating electric tram depot in Australia.

One of our personnel drives himself to work two days a week – by tram! That is a personal best and a maybe a world record. Central Deborah Mine foreman and occasional tram driver and overhead installer/maintainer Karl Penrose, drives in from his Woodvale home and parks his car at the depot. He then drives the 'display' tram to the Gold Mine. The car sits there all day, attracting visitors. At the end of the day Karl drives home, part of the way by tram. Lucky man!

*Passengers boarding 610 on its first tour on 14 August are welcomed aboard by Len Millar. Bendigo Tramways*



## Y1 class 610 launched

Thursday, 14 August saw Y1 610 launched into traffic. The car, one of five Y and Y1 cars, had undergone a major rejuvenation, and it was time they earned us some dollars. People gathered on the depot fan to hear Tramway Manager Darren Hutchesson describe the car's history and its progress through our

workshop. The fitting of low-voltage lighting, sound and light systems and repainting were carried out by our shed staff, who proudly lined up to see the product of their efforts.

No. 610 then conveyed workers and invitees on a tour of the line, and the MMTB green and cream livery fairly sparkled in the spring sunlight. The car was the service car over the following weekend, carrying paying passengers who soon got into the habit of tipping their seat-backs forward at each terminus. And our drivers soon learned the thinking behind the nickname. With no bulkhead between himself and the passengers and conductor, a yap with the driver is just so easy.

The car's wheel flanges are a little deep, so it stirs up the dust at times, especially down Pall Mall with its shallow flange-ways.

## Two more cars returned to service

Thursday, 30 October witnessed the re-launching of maximum traction cars 25 and 44. No. 25 has been repaired and repainted by our Work for the Dole crew, and looks good in the Red and White corporate livery. This tram ran on our first day in 1975 – a true 'First Fleeter' - and it will be good to see it earning its keep again.

Car 44 has had its replacement compressor and low-voltage wiring installed, and will again run on our line in the Prahran and Malvern Tramways Trust livery, which is remarkably similar to that of Adelaide H car 369. With the Sydney Tramway Museum's help Malvern-style destination boxes have been replicated and installed. Our conservation volunteers uncovered the original plans drawn up by the PMTT showing the



*Karl Penrose driving 610 to his job at the Central Deborah Gold Mine on 24 October.*

Bendigo Tramways



*Car 25 at Charing Cross during a test run on 22 October.*  
Bendigo Tramways

construction of the box, which was similar to the side destination boxes used in Sydney. No. 44 will be a welcome sight back on the streets of Bendigo.

### Adelaide Birney 302

Restoration of this car has commenced, with Damian Steel supervising a new Work for the Dole crew. No. 302 replaces maximum traction car 25, which is about to re-enter service again after its restoration. We hope to have No. 302 ready to celebrate the Centenary of the Adelaide tramways next year.

### 30 minute service

Starting at the beginning of the September school holidays, we have implemented a Bendigo Trust Board decision to double the Talking Tram Tour service. Transport consultants claim that increasing the



*Our two new old trams in the morning sunshine at the Bendigo depot on 23 October.*  
Bendigo Tramways



*Tram 302 on stands, is positioned for a repaint on 17 October.*

Bendigo Tramways



*Peter Thornton applies the numbers to J class car 675 on 24 October.*

Bendigo Tramways



some pressure to cope, but a 20-minute tram service fitted the bill.

### ESCo. car 8

This major reconstruction project has been stalled for a while, but recently extensive carriage works commenced. George Stirling is building the saloon, Denis Rodda has made the sand-boxes, and Sam O'Brien and Scott Kendall have fitted life-trays to the car.

A more substantial steel frame and air-brakes have been previously been completed, both significant changes to the car, so that it can operate on our line.

### COTMA Conference

Manager Darren Hutchesson and Workshops Foreman Tim Blythman attended the recent COTMA conference in Launceston. They thoroughly enjoyed the gathering, and the papers delivered, and the benefits of sharing problems and successes in our Australasia-wide activities.

### Rest in peace

We join our Ballarat colleagues in mourning the passing of stalwart Ballarat Tramway Museum member and long-term Driver Frank Puls. Our sincere condolences are extended to his wife Jenny and to Sharon and David. We remember with affection his loyalty, good humour and extended service – in Melbourne with the MMTB, and in Ballarat at the west end of Lake Wendouree.

frequency of service has a direct impact on patronage – “less time to wait”. At the same time conducted tours of the workshops are being re-introduced. The more frequent service is on trial until the end of the January holidays.

At a stroke, tram kilometrage and servicing requirements double, but we hope that our coffers will benefit too.

### T model Ford visitors

On 30 September and 2 October a large number of these lovely old cars (affectionately known to all and sundry as ‘Tin Lizzies’) invaded Bendigo. In all, 445 passengers travelled on the trams on the Tuesday, and 418 on the Thursday. We were understandably under



*A view from across the wetlands, at the St. Aidan's Drive end of the Ballarat Tramway Museum's line, showing tram No. 27 nearing the terminus on 18 September. Lake Wendouree, out of view in the background, remains well below its normal water levels. The wetlands is a holding pond which cleans the water from street drainage to the north west before it flows into the lake.*

Alastair Reither



*Launceston 29 operated for delegates attending the COTMA conference in Launceston in August. It is powered by a generator car coupled to the tram.*

Warren Doubleday