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In this issue

- A Tramway Bridge Reborn
- San Francisco Update
- Gardens at Sydney Tram Depots

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TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

NOVEMBER 2014

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*Small's Power Poles replaced four timber poles on the
Sydney Tramway Museum's National Park line on
5 August. The old poles will be removed for firewood
by Engadine Fire and Rescue at a later date.*

Danny Adamopoulos

Front Cover:

*The Melbourne Tramcar Preservation Association's Melbourne W4 class 670 undergoes clearance trials on
new curves at Haddon.*

Jacqui Smith

A TRAMWAY BRIDGE REBORN

By John Radcliffe

On 23 October 1880, the Adelaide, Hindmarsh and Henley Beach Tramway Company commenced a horse tram service skirting the parklands via Shierlaw Terrace and Port Road to Hindmarsh. This was effectively on the same route as the Adelaide Entertainment Centre - Hindmarsh electric tramway extension opened in 2010, except that the earlier line left the city via Hindley Street and Mile End Road. When the MTT Chief Engineer W. G. T. Goodman sought to electrify the horse tramway in 1908, he determined to move the route several blocks to the west so it passed through the heart of the suburbs of Thebarton and Hindmarsh via Holland and Manton streets. In its original alignment, the electrified line was built as a spur from the Henley Beach route.

The proposed electric tram route required a new bridge to cross the River Torrens. Normally little more than a creek below the 1880-built weir that creates the impression of a significant river in the centre of Adelaide, heavy rain in the Adelaide Hills caused severe flooding of the Torrens each winter. A substantial bridge was required at the river end of Holland Street to link with Manton Street. As ultimately built, it was a bridge of architectural and historical significance and although the Hindmarsh-Findon tramway closed on 17 October 1953, the bridge has just been refurbished and reopened for cycle and pedestrian traffic.

The bridge was the first built in metropolitan Adelaide of reinforced concrete and the second using concrete beams as distinct from concrete arches. It was designed by the engineer John Monash for the Reinforced

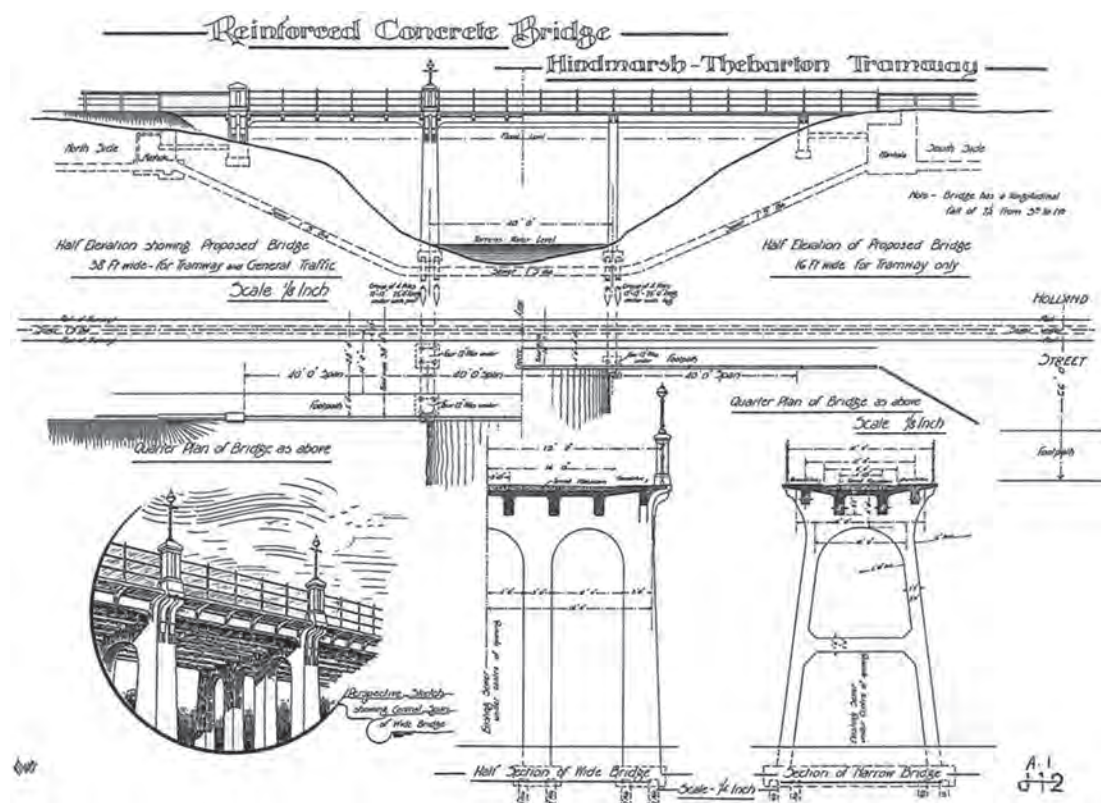
Concrete and Monier Pipe Construction Company of Melbourne, in conjunction with the South Australian Reinforced Concrete Company established by John Monash in 1906. In recognition of his outstanding intellect, management ability and ingenuity during the First World War, Monash (1865-1931) was knighted on 1 January 1918 and later was promoted to the rank of General by the Scullin Government. In the 1920s he was Chairman and General Manager of the State Electricity Commission of Victoria and Vice-Chancellor of the University of Melbourne. Monash University is named after him and his image appears on Australia's \$100 note.

Two designs were prepared for the Holland Street bridge, one for an 18 feet wide single track tramway, and another for a 38 feet wide road and tramway bridge. As local government declined to contribute to the tendered £3,038 to construct the wider bridge, a tram-only bridge was erected, the lowest tender price being £1,546. (One hundred years later, the two adjacent councils, now City of West Torrens and City of Charles Sturt, contributed between them \$1.4 million of the \$2.6 million required to refurbish the bridge.) The final structure was 120 ft. long and 17 ft. wide. The roadway was carried on girders which were 2 ft. 0 in. wide and 13 in. thick. Running lengthwise through the girders were eight bars of 1½-in. round steel. Half-inch steel bars were laced across from girder to girder at intervals of three inches. Running along the bridge through the concrete of the roadway were quarter-inch steel rods six inches apart. The bridge was supported by the abutments at each end. Two piers divided the bridge into three spans of 40 ft.

E-1 type car 111 (now at St Kilda) crossing the Holland Street Bridge in 1953 en route to Findon.

D.A. Colquhoun





each. The two legs of the piers were each 18 in. by 24 in., and had four 1½ in. bars running throughout the length.

A re-routed horse tram service began using the Holland Street bridge on the electric tracks from June 1909, the 'cattle pits' at each end being temporarily filled to allow the passage of horses. The electric service to Hindmarsh commenced on 9 March 1910. The service through Thebarton was duplicated in 1923 with a new 'up' line via Cawthorne Street, for which a similar bridge was erected linking with Manton Street, along with a new route directly to the city via Light Terrace and Port Road, the 'down' track being relocated through George Street.

After the closure of the electric tram service, the two bridges were offered to the South Australian Highways Department which refused to accept them, but they were accepted by the then Hindmarsh and Thebarton councils. Following subsequent representations from the two councils to the Minister of Roads, the bridges came under the care of the Highways Department. Asphalt was laid over the tram rails, which were left in place, barriers installed to confine traffic to the centre 11 ft width of the structures, and the bridges re-opened

Plan of the alternative designs for the Holland Street Bridge.
Alan Holgate

in May 1962 to one-way road traffic with a 5 ton load limit. The Holland Street bridge carried south bound traffic and the Cawthorne Street bridge carried north bound traffic. By 1966 the northern abutment of the Cawthorne Street bridge was being badly scoured by the river, exposing the full length of some of the reinforced concrete piles. One pier was being held up by the bridge decking. The bridge was closed and subsequently demolished before it collapsed. The Holland Street bridge was entered in the State Heritage Register, under the South Australian *Heritage Places Act*, on 20 November 1986, but in that year, the load limit on it was reduced to 2 tonnes and in May 1990 the bridge was closed to road traffic. It was transferred back to councils and remained open to pedestrians until 2010.

Heritage SA refused to have the bridge taken off the Heritage Register and be demolished. Options were to manage it as a 'heritage ruin' and build a new bridge, or it could be remediated and reopened for use. The latter course was followed. Engineers Australia had

The 'up' track from Manton Street diverged to the left of a large Moreton Bay fig tree to cross the Cawthorne Street bridge, while the 'down' track from the Holland Street bridge emerged from the right of the tree.

Late Wal Jack



Crowds at the reopening of the Holland Street Bridge wait under the Moreton Bay fig which, like the bridge, has survived 100 years.

John Radcliffe

Bridge structure deterioration after 100 years.

John Woodside

prepared a heritage study. The bridge was jointly owned by two councils, one which wanted to build a new bridge and one which wanted to restore the bridge. To overcome the impasse, one council gave their half of the bridge to the other council with a sum of money. This then allowed the bridge to be repaired and restored. J Woodside Consulting project-managed the restoration on behalf of the City of Charles Sturt. Flightpath Architects were the heritage architects, URS the engineers and Synergy Remedial Pty Ltd did the work. The structural deterioration of the bridge with reinforcement corrosion and cracking of the concrete had been occurring for many years. There was no evidence that any significant repairs or maintenance have ever been carried out on the bridge. It became evident that the corrosion of the reinforcement was almost certainly initiated by stray electrical currents from the trams, rather than from carbonation as originally supposed. The trams ceased in 1953 but with the porous nature of the cracked concrete, the corrosion continued.

The reconstruction and restoration work has involved not only repairs to the existing concrete with new coatings but also includes a new concrete slab with a



waterproof membrane over it to fill the set down for the tram tracks to the top of the bridge. Other work has been restoration of the existing heritage handrails at the edges of the bridge, provision of new handrails inboard from the existing handrails; new lighting and civil works at the base of the pier foundations as well as landscaping and signage with public art at either end of the bridge. The tram rails were removed, donated to the Australian Electric Transport Museum (AETM) and taken to St Kilda for possible re-use. The previous location of the rails is shown by two strips of pavers with small LED lights at night.



City of Charles Sturt Mayor Kirsten Alexander (robed) invites cyclists and pedestrians to cross the re-opened bridge.

John Radcliffe

The refurbished Holland Street tramway bridge after reopening on 13 September 2014.

John Radcliffe



Mark Jordan speaking on behalf of the St Kilda Tramway Museum at the bridge opening.

John Radcliffe




William Goodman bridge and is available for pedestrian and cycle use. During the ceremony speakers included AETM Secretary, Mark Jordan, who spoke on behalf of President Kym Smith. Mark acknowledged the presence of Sir William Goodman's grandson, John Morphet, who is the AETM Archivist. The refurbished bridge includes an interpretive panel prepared for Engineers Australia by Mr Richard Venus, whose assistance with the preparation of this article is gratefully acknowledged.

The bridge was formally reopened by the mayor of the City of Charles Sturt (Kirsten Alexander, who is an engineer) in the presence of the Mayor of the City of West Torrens (the Hon John Trainer, a former Speaker of the SA House of Assembly) at a ceremony held on 13 September 2014. The bridge was named the Sir

Sir William Goodman Bridge


Adelaide's First Reinforced Concrete Bridge



Adelaide's Electric Tramways


In 1906 the Municipal Tramways Trust was formed, its purpose was to convert the horse tram network (which began in 1876) to an electric system and to extend the service to all suburbs within 10 miles of the Adelaide GPO.

To reach the suburb of Hindmarsh, the tramway had to cross the River Torrens and a location in line with Holland Street was chosen. The bridge was finished before the electric system was ready and a horse tram service was provided from June 1909. The electric service began on 9 March 1910.



Type C-1 tram No 120 crosses the bridge in 1911


Concrete Construction




The MTT wanted a concrete arch bridge but John Monash was able to show that long beams supported by trestle structures was a better design. This was the approach used in a railway bridge he built at Victor Harbor in 1906, the first such structure in Australia. The bridge was built by the SA Reinforced Concrete Co. Concrete piles were driven into the river bed to support the trestles and timber formwork was erected. Concrete was mixed by hand and carried in wheelbarrows. The bridge was completed in 13 weeks.

The bridge carried a single tram line. However, the demand for the tram service grew rapidly. In 1920 a second bridge of the same design was built at Cawthorne Street, 100 metres east. Diesel buses replaced trams in 1953 and the bridge was used by road traffic from 1962. Cawthorne Street was closed in 1966 and later demolished. Holland Street was closed in 1990.

Castings

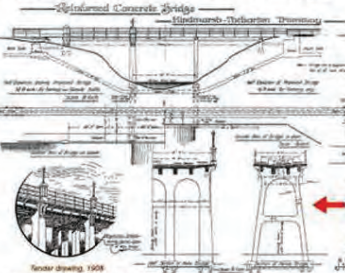


The iron handrails on the bridge were cast in the Hindley Street foundry of A C Harley. Most have been restored and refitted. Damaged casts have been replaced with replica castings.





Sir William Goodman (1872 - 1961)
William George Toop Goodman was the first Chief Engineer and General Manager of the Municipal Tramways Trust. Before coming to Adelaide, he had extensive experience with electric tramways in Tasmania, New South Wales, and New Zealand. In 1929 he converted the Adelaide to Glenelg railway to the electric tramway which still runs today.

General Sir John Monash (1865 - 1931)
John Monash had a successful career as a civil engineer and lawyer in Victoria which began in 1884. In 1905 he started the SA Reinforced Concrete Company to introduce the new construction material to this state. Following a brilliant military career in World War I, Monash became Chairman of the State Electricity Commission of Victoria.



Reconstruction

Over time, the concrete deteriorated. Now, using modern engineering materials and techniques, the damage has been repaired. The depth of the beams has been increased to meet current design standards and the 100+ year old bridge has been returned to service for use by pedestrians and cyclists.







Bridge before repair

Bridge after repair

The original tramways bridge was never named nor formally opened. Now, following its reconstruction and reopening, it has been named after Sir William Goodman.

To find out more...

Adelaide's first reinforced concrete bridge was restored in September 2014.
Engineers Australia • City of Adelaide • City of West Torrens • Government of SA

www.engineersaustralia.com.au

Engineers Australia heritage panel.

Richard Venus

Formal identification of the renamed Holland Street tramway bridge.

John Radcliffe



Sydney Snippets

From The Sydney Morning Herald
Friday 3 January 1896, page 4:

CASH SYSTEM ON THE CABLE TRAMLINES.—Commencing on Monday next, a new system for the collection of fares will be brought into operation on the Ocean-street cable, North Shore cable, and electric tramlines. The sections and fares will remain as at present, but payment will be by cash, and passengers will receive from conductors a ticket representing the amount of the fare paid, which tickets passengers must retain, for the purpose of examination, if required, until the end of their journey, when they are requested to destroy them.

DISMISSAL OF TRAMWAY EMPLOYEES.—During the last few days the Railway Commissioners have had occasion to dismiss eight tram conductors for failure to strictly carry out the regulations of the service in regard to the selling and the collection and tearing up of tram tickets. Seven of the men were connected with the steam tramways. Four men were dismissed some time ago from the cable trams for the same breach of the regulations. These regulations, especially that in regard to the tearing up of the tickets when collected, are intended to guard against the tramway revenue being defrauded. If they are not strictly carried out there is a loophole for dishonesty.

SAN FRANCISCO UPDATE

By Dale Budd

Photos by the author except where shown.

It is five years since *Trolley Wire* reported on tramway developments in San Francisco, in the November 2009 issue.

A number of the initiatives announced at that time have come to pass. Four more D class PCCs (sisters of No. 1014 at Loftus) have been restored to service. Two of them, Nos 1009 and 1011, were rebuilt from fire-damaged shells. Car 1040, the last PCC built in North America, has also been renovated and returned to operation.

Other developments with the historic fleet include the acquisition of a second Blackpool 'boat' car and the upgrading of Milan Peter Witt car 1834 to enable it to run in regular service. Obtained in 1984, this car was off-standard compared with the 10 Milan cars purchased later and has been restricted to a training role.

Melbourne SW6 916 will enter service once a running gear issue is overcome.



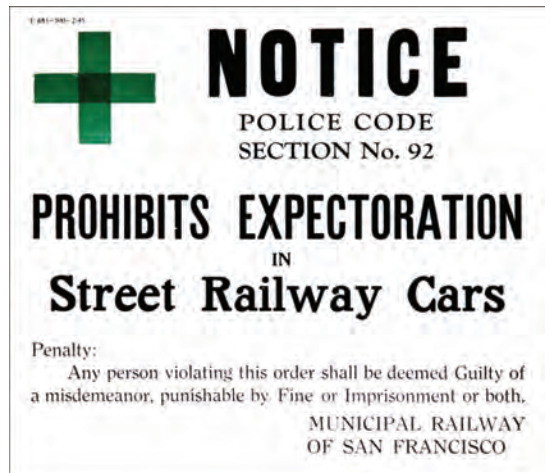
Muni's PCCs are painted in colour schemes of the past including of those of other cities which ran these cars. No. 1061 recalls the colours of Los Angeles' famous Pacific Electric system.

Breda car 1434 leaves Sunset tunnel, inbound on the N line. It will soon be underground again, beneath Market Street on its way to the Caltrain station.



Looking ahead, the operation of historic cars is to be extended to the Caltrain railway station at King and Fourth Streets starting in 2015. Double-ended PCCs will run on this route. The Breda cars which provide all current services (except for the F line, run by historic cars) are to be replaced by a new fleet of trams from Siemens, starting in 2018. And an underground tramway (the Central Subway Project) is being built beneath Stockton Street in the heart of the city. It will open in 2019.

Market Street Railway is an active group supporting the operation of the historic fleet and advocating the expansion of its use. Its very informative website is at <http://www.streetcar.org/>. Information about the new order for cars from Siemens is at <http://inr.synapticdigital.com/siemens/SFMuni/>



A notice displayed in car 130. The admonition is more comprehensive than the blunt Australian message 'Do not spit in the car penalty £2'.

What a difference a couple of million dollars can make! Painted in the colours of the Dallas Railway & Terminal Co., No. 1009's sleek appearance is in contrast to the picture on page 18 of the November 2009 issue of Trolley Wire. Much of Market Street has two parallel sets of trolleybus wires; trams use the positive wire of the inner set.

A throwback to lower Market Street as it looked in the 1960s, with PCCs in Muni's 'Wings' colour scheme. Note that 1050 at left is reflected in the immaculate paintwork of 1006 at right.





San Francisco's trams are clean on their roofs as well as their bodies. No. 1008 arrives at Fisherman's Wharf.

Milan Peter Witt car 1856 passes an articulated trolleybus in Stuart Street near the Ferry building. San Francisco has one of the world's largest trolleybus systems, with 14 routes and more than 300 vehicles. An order has recently been placed for 60 new trolleybuses.



Milan car 1818 has turned onto upper Market Street in the Castro district, at the start of its journey to Fisherman's Wharf. San Francisco has mixed operation of pantographs and trolley poles, with the added complication of trolleybus overhead.

Some of the historic cars are based at Muni Metro East, a new depot opened in 2008. It has large yards with massive structures supporting the overhead wiring. In this picture a Breda car is seen in company with Milan tram 1807 and PCC 1079 in Detroit colours.



Melbourne W2 496 beside a Breda car of the current fleet, built between 1997 and 2003. No. 1478 is scheduled for replacement in the next few years but 496 will live on.

No. 496 alongside Dolores Park on the J line, with a misty San Francisco visible behind. The tram is descending a grade of 1 in 15. Historic cars based at the Geneva car shed use this line to reach the start of their service runs.

Rick Laubscher
Market Street Railway





Type B car 130, celebrating its 100th anniversary this year, was chartered by the Market Street Railway on 21 September 2014. The last of its type in service, in 1958 it became a breakdown car, or 'wrecker' in US terminology. Restored as a passenger car in 1983 it is painted in the blue and gold colour scheme of the late 1930s.

No. 130's interior is similar to Australian trams of the same period. It is a four motor, equal-wheel car with GE remote control. When built, the end sections of these cars did not have glazed side windows. More than 200 cars of generally similar design were the mainstay of Muni's pre-PCC fleet. The privately-owned (until 1944) Market Street Railway, whose name was adopted by today's support group, had a larger fleet which included similar vehicles.



Enthusiasts waiting for the charter trip with car 130 take the opportunity to photograph PCC 1075, painted in the colour scheme of the former Cleveland Transit System.

Cable car 25 has climbed Powell Street to the crossing of California Street. No. 25 is painted in the colours of United Railroads, a past operator of transit in San Francisco.



San Francisco trams commonly carried panels on their aprons expanding on the brief information of destination signs. (Today's cable trams continue this practice.) This is a reproduction of a sign carried by cars on the L-Taraval route in the 1950s, a line still in operation today.

Market Street Railway



PCC 1059, in the colours of the Boston Elevated Railway, speeds along the Embarcadero as it returns from Fisherman's Wharf.

Former Milan car 1834 undergoing a major overhaul and upgrading to full operational status.



GARDENS AT SYDNEY TRAM DEPOTS

By Ian Saxon

The gardens attached to the various tram depots throughout Sydney show very decidedly how much gardening could improve bare and ugly places. They were at the same time a credit to the department and staff. It was reported that

The handsome gardens are noticed, with pleasure, by almost every tram traveller passenger passing the depots.

During the era when electric trams were running in Sydney, most of the depots in that city and in Newcastle displayed beautifully maintained gardens. Between 1917 and 1930 the NSW Government

Tramways even ran competitions for the best gardens for the year. It seems that the staff took great pride in the appearance of their depot and the competition appears to have been very fierce.

In 1908 Mr John Kneeshaw (Tramway Traffic Superintendent) suggested to the NSW Railway Commissioners that the tramway depots be included in the annual railway station garden competition.

In 1909 it was decided to run a competition for the various tram depot gardens. However the competition was suspended between 1913 and 1916 due to the First World War.

An early view of the garden at Rozelle depot c1919, before it had developed into a prize winner.

Vic Solomons coll.



The gardens at the front of Rozelle Depot. These gardens won the championship for 1922.

Vic Solomons coll.

A view of the 1928-29 Section 1 First Prize Competition Garden at Dowling Street depot. Note freight car 24s behind the flagpole. Its crew are watching the depot or tramways band playing at extreme left. Was this the day the prize winning depot was announced?.

Vic Solomons coll.



Tempe depot showing the prize winning gardens at the depot entrance. Vic Solomons coll.

Tempe depot, showing its award-winning gardens which covered previously vacant land on the southern side of the depot site.

Vic Solomons





Another view of Dowling Street depot showing the gardens which won the Section 1 championship in 1928-29. Vic Solomons coll.

The NSW Railway and Tramway Magazine reported that

When the Tempe Depot was established about three years ago (1914), very few people expected to see such a large and beautiful garden brought into existence in the place previously covered with heaps of ballast, sand and rank weeds, but owing to the indefatigable energy of the Depot Master, Mr. W. Johnston (who is an enthusiastic gardener) and his staff, the depot is now pleasantly situated amidst green lawns, well-turfed mounds and beds filled with brilliant coloured flowers. Flower beds have been formed even between the lines of road leading to the car shed, and these are kept filled with flowering plants.

The same magazine also reported that

Dowling Street is another depot with a large garden. Situated as it is in an elevated and windy position, on what was formerly a huge sand hill, it would not be chosen as an ideal place for a garden, but by the planting of shelter hedges and by bringing intelligence and industry to bear, the Depot Master, Mr R. Heydon, with the assistance of his staff, have succeeded in producing a beautiful garden with good lawns, well kept hedges, and a large number of flower beds, in which are growing many beautiful annuals and perennials. There is always something to admire in this garden.



Rozelle and the gardens at the depot entrance. These gardens won the championship in 1926.

Vic Solomons coll.

The gardens at Rozelle depot extended to the rear of the depot. They were awarded the championship prize for 1930.

Govt Printer 13251



Rozelle Depot has the prettiest garden of them all, but smaller than the two preceding, owing to the limited space available. To this depot belongs the credit of first initiating gardens. Considering that the depot was built in 1904 and it won the first prize in 1909, it shows the considerable effort put in by the depot staff. The then Depot Master, Mr H. Mark, with his staff, performed some very heavy work in converting the space between the car shed and Traffic Office, which prior to the erection of the latter, formed portion of the rocky ridge at the rear, into one of the most beautiful gardens that it has been my pleasure to look upon. Mr W. Phillips, the present Depot Master, who is also a very capable and enthusiastic gardener and his staff, have very ably maintained the excellency of this garden which is situated in a well-sheltered position, and the climbing ficus (Ed: known more commonly as figs) on the surrounding walls, together with the green of the excellent lawns, and the brilliancy of the flowers in bloom, give the garden a very striking appearance.

The Depot Gardens Competition was re-instated in 1917 by Mr T. R. Johnston, Chief Commissioner of Railways and Tramways. In that year the depot gardens competition was changed and divided into two sections: large and small gardens; and the department awarded prizes for the best gardens in each section. Keen interest was taken in keeping the gardens in order, and the result was a healthy competition between the various depots.

The judging was by Mr Grant, Superintendent of the Sydney Botanic Gardens. In the gardens competition, points were allotted as follows: culture 20; arrangement 10; neatness 10; and general effect 10. The results of the competitions were usually published

in *The Railway and Tramway Magazine* and *The Staff*, in-house magazines that were sent to all NSW railway and tramway personnel. The gardens were judged at the autumn and spring inspections.

The gardens for competition purposes were arranged in sections as under:

- Section No. 1 comprises the larger gardens
- Section No. 2 the smaller gardens.

The prizes for the winners were:

- Champion Garden - £6
- Section No. 1 – First prize - £5; Second Prize - £2
- Section No. 2 – First prize - £2; Second Prize - £1.

The gardens competition was originally an annual event, taking place in October. From November 1927, however, judging of the gardens became a twice-yearly event with the spring displays being judged in November and the autumn flowerings being judged in March. Prizes continued to be awarded yearly based on the total points obtained at the two judgments each year.

The gardens mainly adorned the entrances to the depots and even some of the tramway substations had well maintained gardens. The permanent way depot at Wolli Creek, established in 1915, had a beautiful entrance, winning first prize in 1922 and champion garden in 1924.

The gardens were maintained by two gardeners employed by the NSW Government Tramways, with help from tramway employees at participating depots. These employees were tram crews who would tend to the gardens in their own time most probably between



The gardens at Wolli Creek permanent way yard were a well kept secret, as they were not visible to the public eye.

Vic Solomons coll.

their split shifts. The depot gardens were a source of great interest and pleasure to the men attached to the depots, many of whom were keen amateur gardeners who gave and received valuable hints on the subject from their fellow workers.

The Randwick tramway workshops had a garden section on the eastern side of the yard. It included a glass hot house, and from about 1952, the body of L/P class tramcar 222, located next to the traverser, was used for cultivating the plants. The workshops also won prizes for their gardens between 1920 and 1928.

The size of the gardens at the various depots depended on the available space. Depots like North Sydney had very small gardens on either side of the main shed; others like Tempe, which were set well back from the roadway, had large gardens at their entrances.

The 13 tram depots and substations that maintained gardens were:

- Bridge Street (steam tram depot)
- Dowling Street
- Fort Macquarie
- Hamilton (Newcastle)
- Leichhardt
- Manly depot and substation
- North Sydney
- Randwick workshops
- Rozelle
- Rushcutters Bay, where the garden was next to the substation on the eastern side beside the canal
- Tempe
- Waverley
- Wolli Creek permanent way depot.



The gardens at North Sydney depot were located at the western side of the depot. A small garden surrounded the war memorial on the eastern side.

STM Archives

Rushcutters Bay depot garden was the champion for 1923. The garden was located on the eastern side of the depot and is viewed from New South Head Road.

Vic Solomons coll.



There were a few depots that could not have gardens due to their location. These were:

- Newtown, where there was insufficient space because of its location alongside the Main Suburban railway line
- Enfield, where there was no room on the depot site
- Ritchie Street trolleybus depot at Sans Souci
- Rockdale, which was considered to be a temporary depot, and
- Ultimo, where, again, there was no room because of its location between Harris Street and the Darling Harbour goods yards.

While North Sydney, Waverley and Fort Macquarie had very little space available for gardening, tramway staff still tried to make their depots look attractive by providing small hedges and dwarf shrubs on their front

and side boundaries. Their efforts were noted in one of the reports judging the various depots.

Between 1909 and 1912, four tram depots were awarded places in the garden competition. These were Bridge Street, Fort Macquarie, North Sydney and Rozelle.

From results published in *The Railway and Tramway Magazine* and *The Staff* magazine, between 1917 and 1930, the tram depots and substations which won prizes were: Dowling Street; Manly (depot and substation); North Sydney; Randwick workshops; Rozelle; Rushcutters Bay (substation); Tempe; Waverley; and Wolli Creek permanent way depot.

Unfortunately the competition was discontinued by the department in 1930 because of the onset of the Depression and the need to reduce operating costs. However the gardens continued to be tended at the depots until their various closure dates.

Most of the photographs illustrating this article do not have any identifying information on the back but were taken by the Government Printing Office photographer.

The gardens surrounding the tramway substation at Manly.

Vic Solomons Coll.



HERE AND THERE

AUSTRALIAN AND OVERSEAS NEWS

Memphis, Tennessee

A new report is pointing the finger at Memphis Area Transit Authority for the recent troubles with the downtown and Madison Avenue trolleys. The report claims MATA ignored its own safety standards.

Two vintage trolley experts were in Memphis on 6 October to help decide when the trolleys will be ready to roll again.

MATA's new president, Ronald Garrison, provided an update on the trolley troubles that have kept the vintage vehicles out of service for months. "These vehicles," he said. "unlike many others around the country that are vintage trolleys, have put on many, many more miles and many more hours."

The wear and tear on the trolleys took a toll last November and April when fires destroyed two of them on the Madison Avenue line (see *Trolley Wire*, February 2014 page 21, and May 2014 page 24).

The peer review report released recently by the American Public Transportation Association cites 'a failure within the motor control circuit' as one of the causes of the fires. Contributing factors include modifications that were made without meeting MATA's own safety standards.

"It's our opportunity to reset, make them safe, and get them back in service for our customers as soon as possible," Garrison said.

Engineers and trolley experts arriving on 10 November will conduct in-depth assessments of all 17 trolleys. A \$US6 million federal grant will continue to help pay for repairs.

MATA told WMC Action News 5 Memphis that the trolleys could make their return in December.

Canberra light rail

On 31 October the Capital Metro Agency, representing the ACT Government, invited suitably qualified respondents to submit an Expression of Interest (EOI) for the delivery and operation of the Capital Metro light rail project.

The EOI process will result in the short listing of respondents to be invited to submit detailed proposals for the subsequent stage of development of Canberra's first light rail line.

Registrations of interest were due on 17 November, while the closing date for submission of detailed EOIs is 19 December 2014.



MATA trolley 1978 is former Melbourne W2 353, seen here in the MATA trolley workshop. It is likely to be one of five former W2 cars to re-enter service on the Memphis trolley line.

Courtesy WREG Memphis

Simultaneously with issuing the EOI invitation, the ACT Government released the detailed business case for the light rail project. Running to 158 pages, the business case gives much more detail of the project than has previously been issued. It can be found at <http://www.capitalmetro.act.gov.au/the-case-for-light-rail/the-business-case>.

The business case identifies the site for the light rail depot: it is on vacant land at the rear of the National Archives of Australia's repository, to the south-west of the intersection of Flemington Road and Sandford Street in the light industrial suburb of Mitchell. It will be reached by a connection from Flemington Road.

The government has indicated that the light rail line could be extended to Russell, a distance of some 3.4 km east from the city. The extension could be included in the tender phase of the project early in 2015.

Letter to the Editor

I was pleased to see the reprint of three important articles on the Melbourne Brunswick & Coburg Tramways Trust by the eminent tramway engineer, Struan Robertson, in the May 2014 edition of *Trolley Wire*, and wish to provide additional biographical information on the author which may be of interest to your readers. In your notes on Robertson the comment was made that he 'apparently disappeared from the tramway scene with the formation of the MMTB'. This was not the case, as he played distinguished pivotal roles with the MMTB until his retirement in 1946.

Struan Sholto Douglas Robertson was born in Southbridge, New Zealand in 1880. He attended the Canterbury College of the University of New Zealand, obtaining a MA in 1903, and a BSc in Electrical Engineering in 1915.

Before moving to Victoria in about 1909, Robertson was chief draughtsman and head designer of the Christchurch Tramways for two years, and for five years was assistant engineer of the Westport Stockton coal mine in the north west coast region of the South Island. In Victoria, he was resident electrical engineer of the Victorian State coal mine, Wonthaggi, for five years prior to his appointment as Engineer and Manager to the Brunswick & Coburg Tramways Trust (later renamed the Melbourne Brunswick & Coburg Tramways Trust) on 1 July 1914.

He was admitted as an Associate Member of the Institution of Civil Engineers (London) in 1916, just prior to the successful opening of the Brunswick and Coburg tramways. In 1921 the Institution awarded

Robertson a Telford Premium for his paper on the tramways, which was published in the Minutes of the Proceedings of the Institution in January 1918. The prestigious Telford medal is the Institution's highest award for a paper, and was introduced in 1835, following a bequest from its first president, Thomas Telford.

During 1918 Robertson and Mark Knight Westcott Jnr., the Works Superintendent of the Melbourne Brunswick & Coburg Tramways Trust, obtained Patent No. 6792 for a double acting air brake cylinder for use on single truck and double bogie-truck trams. Westcott became Engineer of the Melbourne Brunswick & Coburg Tramways Trust when Robertson resigned from the Trust and took up the position as Engineer and Manager of the Hawthorn Tramways Trust on 5 June 1918.

Upon the formation of the MMTB in 1919-20, Robertson was appointed Manager of the Eastern System, which comprised the tramways of the former Prahran & Malvern Tramways Trust and the former Hawthorn Tramways Trust. He retired from the MMTB, as Distribution Engineer, on 31 December 1946. He was a highly esteemed officer, and the MMTB, in its annual report, placed on record its appreciation of the inestimable value of the services he rendered, which were at all times characterised by thoroughness, efficiency and devotion to duty.

Prior to taking up his position with the Brunswick & Coburg Tramways Trust in July 1914, Robertson married Ethel May McShane. He died in Gardenvale on 7 October 1956, his wife having predeceased him. They had no children. An obituary in the November 1956 issue of *Tramway Circuit* recorded that 'He was recognised as one of the leading tramway engineers in Australia, as he was experienced in all phases, including Distribution, Permanent Way, and Rolling Stock. The present high standard of construction of the Melbourne and Metropolitan Tramways Board overhead system can be attributed to his planning and foresight. In his younger days he was a very keen golfer and an omnivorous reader of all types of literature. He will be remembered for his remarkable memory, as evidenced when he was a member of the Victorian team in the Empire Radio Quiz series'.

Robert Green
Brighton East, Victoria

The Trolley Wire Survey is still open, with over 100 responses received to date. They are still trickling in, and if you have not completed it, we would still like to hear from you.

COTMA

COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA

PO Box 61, Carlton South, Victoria 3053

www.cotma.org.au

From Howard Clark

COTMA conference

Sydney Tramway Museum and the Steam Tram & Railway Preservation Society at Valley Heights played host to a very successful conference between 9 October and 14 October, with delegates from most COTMA museums around Australia and New Zealand in attendance.

In addition to presentations on behalf of museums, we had presentations from outside parties, including Howard Collins OBE, CEO Sydney Trains; Peter Lowry OAM, Chair of NSW Rail Heritage; Jeff Goodling, Project Director for Sydney Light Rail, Transport for NSW and formerly with MAX Light Rail, Portland, Oregon; and Dennis McManus OAM, who before retirement was Senior Heritage Officer for 25 years at the NSW Heritage Office. Tim Borchers, formerly from Bendigo, and now Deputy Commissioner for Public Works, Streetcar Executive Director, City of Atlanta, provided two presentations via video link and Skype on the subjects of the new Atlanta streetcar and a report on the fires in two former W2 cars in Memphis. Tim had booked to attend, but at the 11th hour all executive leave in Atlanta was cancelled, hence the need for the video presentations.

Longstanding Sydney Tramway Museum member Noel Reed also gave a presentation on the subject of Sydney tramway signalling.

Delegates enjoyed an outing to the Sydney Tramway Museum on Saturday afternoon, and a trip to Valley Heights loco depot for lunch and steam tram rides and on to Katoomba on Sunday. Monday morning saw trips on the Dulwich Hill light rail line, followed by lunch on board *South Steyne* at Pyrmont and a harbour cruise on MV *Proclaim* taking in many of the areas where trams and ferries used to meet.

David Critchley and his team are to be thanked for planning and organising the conference, Marina Clark for hosting the accompanying partners program, and ST&RPS members for their hospitality on the Sunday. Sydney Tramway Museum traffic staff did a great job on the Saturday.

Thanks go also to the Sydney Bus Museum for providing transport to and from Sutherland on that day, and to Sergio Fiorenza who returned people to the city in his ex-London Routemaster bus.



COTMA delegates re-create the crowd scenes of yesteryear as they disembark from O cars 805 and 1111 at the Sydney Tramway Museum.

Dale Budd

Bendigo Birney 11 leads Nagasaki 1054 across the Princes Highway on 11 October 2014. Bright sunshine for most of the COTMA conference added to the enjoyment of photographers.

Dale Budd



A young passenger enjoys the view from the end platform of steam motor 103A at Valley Heights.

Dale Budd

Motor 103A propels trailer 93B along the siding adjacent to the running lines at Valley Heights as it returns to the Steam Tram and Railway Preservation Society's precinct on 12 October 2014. 93B is equipped with a letter receiver for those wishing to post mail.

Dale Budd



BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

www.btm.org.au

From Dave Macartney and Warren Doubleday

Around town

Friday 1 August saw a substantial fall of snow in Ballarat in the morning. Not being an operating day tram traffic was not affected, though the two wedding groups taking photos in the Gardens were looking a little the worse for wear, particularly the bridesmaids!

During September the film crew for the ABC TV series *The Doctor Blake Mysteries* was busy filming in the lake area for the third season of this popular program. The tramway has contacted them with a view to being included at some future date, as we can reproduce 1959 Ballarat very easily.

Substation and depot developments

Work on the substation upgrade has continued, with the pouring of a new raised concrete floor that would be higher than any possible future flooding. New equipment was installed and commissioned in preparation for the fitting of solar panels sometime in the near future. The work involved fitting double doors to the room, which was then entirely fitted out with heavy plaster on the walls and ceiling. The new equipment and cabinets mean that all the substation switches, control equipment, diodes and metering circuits are now contained within modern electrical cabinets.

During October the area at the front of Nos. 4 and 5 roads was cleared of all benches and assorted parts in

preparation for concreting this area. The rear section was done in 2013. The timber rack situated in that part of the depot was removed, and various odd bits of timber which were never going to be used were reduced to firewood. When the concreting is completed we will have a level floor across our entire workshop area.

Work on the reconstruction of Electric Supply Company (ESCO) tram No. 12 has come to a temporary



The new and old substation equipment during the changeover on 4 September 2014.

Roger Gosney



Work in the depot: preparations for a new concrete slab as at 17 October. The angles have been welded to the pit top and the area has been cleared ready for concrete.

Warren Doubleday

halt while concreting the front portion of the area is being done. The stored timberwork for No. 12 has been sorted through; it was like completing a large jigsaw puzzle which included additional bits from a Melbourne cable tram to make the task more difficult. We have also worked out how the top panel and drip rail over the saloon windows were modified when the tram was changed from a six window saloon to a three window saloon.

A major project to commence after Springfest, the first weekend of November, is the relocation of Wendouree Parade at Depot junction. The work will involve moving the road and car parking bays about 12m to the west. However the tram track and all our poles will remain in their existing positions. The relocation of the roadway is to address the relatively recent issue of cyclists slipping on the rail head when

crossing the junction. By moving the road to the west, cyclists will cross our track at close to a right angle. It will also improve the crossing of the roadway by trams, giving better visibility to both motorists and tram drivers.

A new Business Plan

The Museum's Board has recently approved an extensively revised Business Plan. The plan was prepared to assist the BTM to achieve its objectives over the next five to seven years. A summary of the plan was published in the August 2014 issue of the *Fares Please!*, which can be viewed on the BTM's website: www.btm.org.au, using the news tab.

Commemorating the First World War

Alan Bradley and Peter Waugh have been researching Ballarat trammies involved in the First World War. This involves EScO staff who worked either before, during or after the war itself, that is returned soldiers. We have found some great stories, including of a number of men who, sadly, did not return to Australia. The more digging we do, the more we find. An article is intended to be published in the October 2014 issue of *Fares Please!*, but we are likely to be publishing more follow-up stories of individuals. This has included tracking down a motorman who we knew was killed in France, but we could not find a war record under his name. By using the EScO Employees Register, the National Library of Australia's *Trove* and other sources, Alan and Peter have put together a great story of Ballarat trammies of the era. We will be publishing these stories on our website as well, as we commemorate Australia's and New Zealand's involvement in the war, 100 years ago.



More shovels than workers - while an insert rail is welded into position in Wendouree Parade, our assisting workers lean on the ute. They are Greg Robinson (left), Peter Waugh and Barry Wade.

Roger Gosney

Depot junction prior to the commencement of road relocation work. Wendouree Parade shifts to the extent that the footpath crossing in the centre of the photograph becomes the eastern side bike path.

Peter Winspur



BENDIGO

BENDIGO TRAMWAYS

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www.bendigotramways.com

From Bendigo Tramways

Time to stop dreaming and start doing ...

Over the years the Bendigo Tramways team has given some thought to improvements and possible extensions to our Talking Tram Tour route. Should there be more stops along the current tram route? How about more double track? A loop, perhaps, at the north end of the line? What about a new line between the hospital (which is undergoing significant expansion) and the Bendigo railway station, or on to the university? “Yes, of course” is often the reply. But we need to balance our enthusiasm for such suggestions with the likely responses from those who must issue the approvals or pay the construction costs of such initiatives. Would new stops, line extensions and more double track really be worth the expenditure? Which projects are the most important, and why? Which ones would earn us more income so the tramway is more sustainable, and which are simply ‘white elephants’ in waiting?

For some time now we have been seeking funding for a wide-ranging study to answer these questions. It is pleasing to report that the Victorian Government has agreed to fund two thirds of the cost of the study, with the rest being funded by the Bendigo City Council. The study is currently under way and we eagerly await its findings.

In the workshop

Birney 302 developed a compressor fault on its last trip on the last Saturday of the May school holidays. The tram was repaired on the following Monday in time for the Sheep and Wool Show weekend.

In recent times No. 302 has acquired an appearance very different from the rest of our fleet. The tram was decorated with hand-made crochet bibs and bobs of wool both inside and out that took hours to create. This ‘knit hit’ is the best work yet of Bendigo’s ‘needling ninjas’, with an explosion of colours and shapes that has to be seen to be believed. The Bendigo sky may be grey and the weather chilly, but No. 302 has never been so warm and inviting.

No. 302 became the talk of the town and it received more Facebook comments than anything else in Bendigo with its spectacular and colourful look. To date, thankfully, it has not been damaged or interfered with. The publicity has been fantastic and full credit must go to the Yarn Bombing Group that had put the makeover together. The tram drivers were provided with a poncho shawl to wear while driving 302, although not everyone was keen to wear it. In our cooler winter and spring days, the passengers loved the cushions and knee blankets.



Tram 302 colourfully decorated in crocheted wool.

Bendigo Tramways

Our workshop will be extremely busy for the next 12 to 18 months. With work on the Sydney Tramway Museum's Y1 class 611 completed, attention has turned to Yarra Trams' car **957** that will become a member of the new W8 class. Several weeks ago 957 received new driver's cabs that were crack-tested to ensure their structural integrity. Our engineering team has done an outstanding job with this despite some frustrating moments while sorting through various small but important details that were missing from the specifications supplied to us. We are currently engaged in phases 5 and 6 of this major rebuilding project, with the floors, ceiling and wall panels being prepared for installation. The ceiling and wall panels will be varnished to a high standard that will complement the polished brass fittings that will feature in the car when it is finished. No. 957 is resting on steel stands at present to facilitate the fitting of the under-floor steel trays that will house the 4.5 kilometres of electrical



Inside 302: even the drivers had knitted ponchos to keep them warm!

Bendigo Tramways

Tram 2 being lifted onto the tracks to be moved into the shed at the Weeroona Avenue Depot.

Bendigo Tramways



cabling that will be installed as part of the upgrade. W7 1010 will follow as the next W8 class conversion.

Another of our projects is **Sydney R1 car No. 2050**. This tram has been completely stripped, with some rotted timber, including some roof ribs, being replaced. The team has now taken delivery of a special order of Queensland Maple and bending ply timber for rebuilding the tram's interior. After its completion we are likely to receive another Sydney R type tram for restoration.

Although the above are the large projects, we still have to continue our work on **Launceston 14** and on our own four-wheeler, **No. 7**. In other work, Y1 class **610** has had some of its seats re-sprung and re-covered, which should add to the comfort of passengers.

At our Weeroona Avenue Depot, Bendigo trams **2** and **20** are now under cover. And Birney **15** will be out soon for driver training and will then be decorated and on the road as the Santa Tram in November and December.

International interest in our tram expertise

In times past Bendigo Tramways' workshop made several sales to United States operators including the supply of trucks to Savannah's River Street trolley and brake shoes for Dallas's McKinney Avenue trolley. Just when things were looking promising, along came the GFC, which hit the United States particularly hard. The US-Australian dollar exchange rate moved against us, resulting in all Australian exports to the US becoming much more expensive to our potential customers. Further, Australia's Free Trade Agreement with the

United States did not prevent the application of 'Buy American' requirements, which encouraged local sourcing of products that might otherwise have been bought from Australia. The result was five years of no sales to the US; the situation only changed when we sent motors to Dallas at the end of 2013.

The Bendigo Trust's CEO, Tom Seddon, recently visited friends and family in the US, and he took the opportunity to visit Memphis and Dallas to speak to tramway operators in those cities. At this stage there is no telling how much or how quickly we might get back into the US market, but it is apparent that there are several tramways that urgently need parts, and knowledge, that we can supply.

Dallas's McKinney Avenue trolley is an interesting case study. The trolley is formally affiliated with DART, the bus, light-rail and train operator for the eastern half of the Dallas-Fort Worth metropolitan area that has a population of around 6.5 million. They receive funding from DART, from Dallas's Downtown and Uptown business development associations, and a share of federal public transport funding based upon their 'footprint' and passenger numbers. All of this allows the organisation to run free all day, every day. In addition, they earn about \$40,000 a year in fare box donations.

Father's Day

This year, for the first time, Bendigo Tramways in conjunction with local major hardware company Hume & Iser, ran a special promotion for Father's Day – and we encouraged our staff and volunteers to make the day a success by encouraging their friends who have not yet been on a tram tour, to try it out.

Father's Day is a great opportunity for families to spend the day together doing something that Dad will enjoy. So, on the first weekend of spring what could be more relaxing than enjoying some quality time learning more about Bendigo's trams. We offered all families who brought their Dad along a free Depot and Workshop tour when they purchased a Vintage Talking Tram Tour ticket. The Dads also received a special free gift from Hume & Iser, whose exclusive tram was out on the tracks throughout the day.

Farewell to Bendigo Trust CEO, Tom Seddon

Our CEO, Tom Seddon, turned 50 on 8 September, and we happily helped him celebrate this great personal milestone. But our happiness for Tom was then sobered a great deal when, after nine and a half years, he announced his resignation.

Tom has been a wonderful leader of the Tramways, the Central Deborah Gold Mine, the Discovery Centre and the Joss House – all Bendigo tourist attractions. At the Tramways, he oversaw the enlargement of, and improvements to, our Depot and Workshop as well as the introduction of tours of these facilities. The opening of our new shop was another significant achievement. Tom also secured rebuilding contracts for Melbourne's City Circle trams and other tram projects that were worth \$1 million in the past year. Under his leadership, tram patronage, including tours and charters, increased; and we took over the operation of the annual Santa Tram from the Myer store, and made a great success of it.

We thank Tom for a job very well done and wish him every success with his next challenge.



The body of SW6 957 in the workshop on 23 September. Work proceeds on its upgrade to the W8 design.

Randall Wilson

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY

PO Box 94, Ferny Hills, Queensland 4055

www.brisbanetramwaymuseum.org

From Peter Hyde

Although there have been few obvious physical changes to the trams we have under restoration, a great deal of work has been done. In the case of Dreadnought 136, a new traction cable harness is being prepared for this car. We found that the practical way of doing this was to lay out the old harness on the ground and to make a copy alongside.

Preliminary work on restoration of trolleybus 34 is also under way. Unfortunately this revealed extensive corrosion behind virtually every panel. Years of open storage have certainly taken their toll with particularly bad rusting around the windscreen and front entry steps. An interesting discovery was a short steel off-cut sitting on top of one of the underfloor cross-members - presumably left over from the last body repairs of its service life. How it managed to remain there while travelling around some of Brisbane's bumpy roads will remain a mystery!

The Valley signal cabin has undergone a major restoration. Rotted timber sections and cracked window glass have been replaced and the whole structure sanded and repainted. Landscaping of the immediate area improves the visual aspect of this significant piece of tramway infrastructure. A viewing platform is being built so that visitors will be able to

see into the 'work space' of the signalman. While the Silentia toilet cistern remains, we are trying to obtain a 1920s style toilet pedestal to replace the missing original.



An industrial strength trip hazard: the new cable harness for Dreadnought 136 being laid out.

The completed paving leading to the Display Building.

Significant improvements are obvious in many areas of the grounds. The display building has been completely repainted, the access ramp has been paved and other paving works have improved visitor access. Grounds maintenance has been reduced lately with the deepening drought reducing grass and shrub growth dramatically.

All photos by Peter Hyde.



Not all work at museums is glamorous restoration. Kev Maizey replaces brushes in the compressor of FM 429.

Not all restoration work is big and heavy: Ian Ross repairs a light switch from Dreadnought 136.



Darryl Soden renovating one of the destination boxes from Dreadnought 136.

Part of our Tuesday TRAMS team restoring seats donated by the Brisbane City Council.



Cameron Struble and Bob Deskins working on Trolleybus 34.



John Hudson at work installing wiring under FM 400.



Dudley Cowin attacks some of the extensive corrosion in trolleybus 34.



Brian Martin applies undercoat to a newly cleaned section of a bogie from FM 400.

HADDON

MELBOURNE TRAMCAR PRESERVATION ASSOCIATION

324 Sago Hill Road, Haddon, Victoria 3351

www.mtpa.com.au

From Tony Smith

AGM and 30th anniversary dinner

The 2014 Annual General Meeting was held on 14 September at the North Ballarat Sports Club. Following the AGM, the association celebrated its 30th anniversary with a dinner and slide presentation. Whilst only a small group of members could attend, an enjoyable evening was had by all with many comments made during the slide presentation on the considerable progress that has been achieved at Haddon. Kym Smith is to be thanked for all the work he put into organising this special occasion.

Trackwork and overhead

Additional ballast has been spread along the main line straight towards the lower terminus and provision has been made for a drain under the track at the front of the proposed new shed. The main line has now been inspected by our chief engineer, Craig Tooke and certified for traffic operations. On 12 September, Kym Smith and Tony Smith completed the last of the adjustments to the overhead on the south-west curve and main line straight. This involved some retensioning of spans, adjustment to the height of collars and the



SW5 849 at the upper terminus following the completion of its restoration. Anthony Smith

A line up of trams on the main line showing W2 407, W3 663, W4 670 and SW5 849.

Jacqui Smith



removal of some minor kinks in the trolley wire. This has now made the overhead serviceable for traffic operations.

Restoration of SW5 849

During August, 849 was shunted from the workshop to the car barn and the rebuilt lifeguard equipment was fitted along with new sand hoses and brackets. The painting of the step boards and motorman's foot stirrup irons were also completed during this period. All the internal sign plates have now been fitted along with a Preston Workshops builder's plate thus completing the restoration of this tram. In early September, a commissioning service was conducted followed by a number of test runs which has allowed us to perform minor adjustments to the braking system and pneumatic doors prior to the car entering service.

Rolling stock testing

On 13 September further rolling stock testing was conducted on the new trackwork utilising L 103, W2 407, W4 670 and SW5 849 to check for clearances through the curves. A minor problem has been identified with the lifeguard equipment on 670 that will require work before this tram is authorised for full system operation. All other operable trams have now been certified for traffic.

Substation

The new rectifier panel and mounting frame were installed in the substation during the last week of September and work is now concentrated on the manufacture of the necessary cabling and fittings to allow this unit to be commissioned.



L 103 negotiates the north-west curve on its initial test run.

Anthony Smith



The completed earthwork for the new shed at the lower terminus area. Jacqui Smith

New shed – update

In early August we received all the required planning permits from the shire council and the contract was then signed with the builders for our new shed. As part of the site inspection by the builders they identified some additional earthworks that would be required before they could pour the concrete footings. This work, which involved additional filling and levelling, was undertaken during September and at the time of writing it is anticipated that construction will begin in October. This has delayed placing W5 792 into the workshop for the commencement of its restoration as we have had to store W2 357 there pending the completion of the new shed.

New retaining wall

In recent months, the retaining wall on the south side of main line has been steadily renewed with pine sleepers as a temporary measure. After conducting a detailed examination of the condition of the remaining section of wall in the gully area it was felt that a more permanent and substantially stronger method of construction involving steel beams and concrete slabs should be utilised in its replacement. After reviewing a number of quotations from potential contractors, a local company was selected to undertake this work. The work was undertaken and completed in late September. We are extremely pleased with the finished result and decided to immediately replace the temporary pine retaining wall section with concrete slabs. The work was completed in late October.



The replacement retaining wall, under construction during September.

Anthony Smith

LOFTUS

SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

www.sydneytramwaymuseum.com.au

From SPER News

Trams under the Stars

Attendances for this event, which took place on 16 August, were considerably higher than on previous occasions thanks to some well-trying and tested publicity. Activities commenced some hours before darkness fell to enable services to operate over the National Park line. Cars 1497 and 728 carried good loads over the whole of the museum's tramway, and Bendigo 11 undertook several runs alternating with Adelaide tram 358.

A substantial downpour proved no deterrent to the many visitors who came during the evening. At the closing time of 9:00pm we still had many visitors and photographers on site taking advantage of night photography in the rain.

Adding to the atmosphere was a special lighting display mounted on the façade of the YMCA building. The stunning light show was organised by Stephen Johnson of Light Bureau Australia, assisted by students

from Sydney University who were undertaking an illumination design course.

Coming events

Saturday, 29 November 2014:

Annual Members and Friends Day

This year's Members Day is being held earlier than usual to coincide with a visit to the museum by volunteers and friends from Transport Heritage NSW. Our visitors will be arriving at Loftus by steam train at around 2:40pm and will be with us until 4:00pm. This event will require extra trams to transport the large contingent to the Royal National Park.

Sunday, 22 February 2015:

Sydney Vintage Tram Festival

Planning for the 2015 Sydney Vintage Tram Festival is now in hand. There will be a slightly different theme for next year's event that will include extended opening hours and special tram operations.

P car 1497 triggers the flashing lights which illuminate the façade of the YMCA building during our wet Trams under the Stars night.

Matthew Geier





Four Japanese enthusiasts braved the weather to enjoy riding the trams in the rain on 17 August. Richard Jones

Traffic operations

Sunday 17 August was a very wet day. Despite the weather we had a group of four Japanese enthusiasts at the museum. Our reporter is not sure if they spoke English but they had fun despite the rain. Surprisingly, we also had a family group from the USA who spent some of their limited time in Sydney with us.

The starter's cabin was moved on 27 August to a new position next to the kiosk. It has been found that this is a much improved arrangement.

The Bundy clock at the front gate has been without a clock face for some time. Recently member Don Chandler modified the clock's internal workings and, with assistance from Vic Solomons, fitted a new clock to this historic item, once commonly seen on the streets in tramway days.



Sleeper replacement was carried out on the Sutherland line during August and September. Martin Pinches



The starter's cabin was moved to its new location next to the kiosk on 27 August.

Martin Pinches

Concreting the newly relaid track at the front gate was carried out over a number of days. This load was received on 6 August. Martin Pinches



Sydney D class scrubber car 134s doing what it does best: cleaning recently relaid track ready for traffic operations to recommence.

Martin Pinches

Richard Clarke reports that the energy consumption for our Adelaide H car on one return journey from the Railway Square waiting shed to the terminus at the Royal National Park on 16 July was 16kWh. At about 35c per kWh (an average cost) this would amount to about \$5.60 for the return journey.

Track and associated work

Works have continued on several fronts since our last report. The relaying of the eastern track from Pitt Street through the front gate and extending some 25 metres uphill towards the scissors crossover has been completed. New fabricated track drains replaced the old grated drains at the front gate.

Scrubber car 134s scrubbed the re-laid track on 20 August and it was handed back to the Traffic Department for use from the following day. Since then

concreting of the 450mm wide side strips has been completed while on 3 October two tonnes of hot mix was laid between the side strip and the gutter through the gate area, with the remainder used on the side strip of the western track near the Railway Square waiting shed.

At the northern terminus some welded track was set up to take surplus concrete once the gate area was completed. Conduits have been laid under the track bed between several pairs of span poles for future street lighting.

The grass strip in the 'six foot' north of the Pitt Street crossover became very boggy during the recent wet weather as it was located right where the traffic crew alight from trams to change the facing points. It was excavated and concreted on 24 September.



Track work at the museum's northern terminus continues and the newly relaid eastern track received a load of concrete on 18 October.

Martin Pinches

With the need to move trams into the new Loftus Junction shed becoming urgent, the curved track panel in front of the western door was lifted out of the way on 5 August to allow the filled area to be lowered to get a better grade. The track panel was replaced four days later and was fish-plated on 17 September.

A new ramp has been made to transfer trams from the National Park line to the temporary track into the new shed. Being made from 71lb rail it can be fishplated to the rails on the temporary track making it much more stable than the old ramp. Further work will resume on this job now that the school holiday traffic operations are over.

During August and September, 17 timber sleepers were replaced on the Sutherland line.

Overhead work

The new side arm brackets to be installed on the replacement poles on the Sutherland and National Park lines have been completed. Four replacement poles were installed by Smalls Power Poles on 5 August. The redundant side arms will be overhauled for future use, and the old poles will be removed by Engadine Fire and Rescue for use as firewood.

Glenn Killham will be making a start on additional pull-offs for the Park line commencing with the curve near the No. 2 sub-station. He has sourced two sample pull-off arms from John Holland Rail and one has already been installed to see how it performs. We may need to consider acquiring suitable pull-off arms for this work that are pantograph compatible. Contact has been made with Proweld Engineering regarding suitable arms; they are the manufacturer of the overhead equipment used by RailCorp.

Preliminary design work is under way for the overhead at the new north terminus.

Tramcar news

Sydney P car 1729 is now at the back of Road 8. Geoff Spaulding has moved to the south coast and will work on 1729 for several consecutive days each month instead of travelling up each Saturday.

Arrangements have been made with the Tramway Historical Society, Ferrymead, for them to continue the construction work commenced by Andy Rowe on the pair of new trucks destined for **Sydney PR1 1573**. The THS are in the process of completing construction of a pair of Peckham trucks for their restoration of Hills car 24. Once finished, they will be free to spend time on the trucks for us, which we trust will be ready late in 2015.

The final coats on **Sydney C car 37** are being applied after a major effort to thoroughly prepare all surfaces to get a first class finish. The seats and bulkhead panels were temporarily refitted in time for the COTMA conference. Steve Lea from Christchurch Tramway visited during COTMA, and arrangements have been made for him to visit STM several times in 2015 to fit mechanical and electrical equipment to the car, assisted by Rod Burland. The car is wanted in Christchurch in the latter half of 2015.

Ballarat 37 has been residing at the rear of Road 4. Work has been undertaken on rewiring the light circuits in that awkward location, but a reshuffle on 30 August saw it back over the workshop pit on Road 10. Craig Parkinson steam cleaned the decades of dirt and grime from the underside of the car to facilitate the rewiring efforts.

The workhorse for our track relay team is ballast motor 42s which carries tools and equipment to and from work sites. It is at the Railway Square waiting shed with a load of sleepers on 20 September.

Martin Pinches



Melbourne cable grip car 322 finally received its new seats from the joinery shop. Our joiner, Ross Traeger, fits in our work around his other commercial business, at a good price. Nevertheless some \$7,200 from unallocated donations was needed to cover the cost of these seats, which are beautifully crafted from the rotted samples he was given as templates. The new side seats have been fitted while the platform seats are a work in progress. The reconstructed roof frame was trial fitted to the car using one of the workshop overhead cranes on 24 September. The new roof end bows have also been fitted.

Our long serving member, Richard Jones has again demonstrated great sign writing skills with the preparation of two new Adelaide destination rolls for H car 358. The new rolls are copied from an earlier one which dated from about 1943.

Paint shop

Work on the repainting of **Sydney R 1740** is nearing completion with the final coats of green and cream having been applied. Car 1740 will be returned to service in its original 1933 livery complete with numerals in gold leaf.

The interior of 1740 is receiving attention as well, with seat replacements required in a few cases. The wooden drop-centre seats are being revarnished in addition to repainting the ceiling. It is expected that the work on this tram will be completed in time for our annual Members Day.

Thanks to the efforts of Howard Clark, the museum now has ample supplies of Navy Dressing courtesy of Pichi Richi Railway in South Australia, which has access to the original SAR formulas. Until some years

ago this product was obtained locally until the business was sold and the exact formula lost. It was then temporarily prepared by a paint company in Victoria, but they elected to discontinue supply. Navy Dressing is an important component in the preservation of timber tramcar roofs. Sydney R car 1740 and Melbourne Y1 car 611 will be the first two trams to have their roofs treated.

Motor vehicles and miscellaneous

AEC bus 2619 had its new fluid flywheel and tail shafts fitted, and on 21 August it was driven to Kirrawee to collect its new skirting panels from the sheet metal works there. These panels have since been riveted in place and allowed the seat frames to be refitted. New kerb-side window safety bars have been fitted upstairs and the destination boxes have been glazed and rolls installed.

Tower wagon 3 and the Matador were displayed at the annual Motorfest event at Eastern Creek on 17 August.

The Broomwade air compressor was steam cleaned on 21 June and after a thorough checking was started on 19 July. It ran perfectly after decades of disuse and outside storage. The roof covering was considered to be beyond repair and is at a sheet metal works in Wollongong for duplication. These units were a feature of Sydney tramways' way and works activities, and will provide a more than adequate air supply for activities at the museum. Craig Parkinson fabricated a new A-frame tow bar for the compressor as the old one was badly bent. He also obtained on eBay a pair of genuine makers plates inscribed 'Broomwade, British Made'. Further work will involve a repaint into its original maker's dark green colours.

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC

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From Colin Seymour

Trams de Nuit

A photography and enthusiast night was held at the Museum on Saturday 20 September from 3:00pm to 10:00pm. It was billed as:

A very unique and rare opportunity to experience and capture Adelaide's classic vintage transport, in the most evocative and nostalgic settings in one action packed night.

This was a fundraising event, so a higher than normal special charge applied for the seven hours of entertainment which included a barbeque and desert run on the restaurant tram.

Trams making an appearance included Adelaide cars 1, 118, 192, 264, 360, 362, 378 (restaurant tram) and Melbourne W7 1013. Seven vintage cars, built over the



Adelaide H trams 360 (Tuscan) and 362 (silver) give the appearance of being coupled during a photo stop during 'Trams de Nuit'.

Arnold Krueger

Opposite page top:

Mark Jordan vacuums the Green Goddess trolleybus on 2 August. John Radcliffe

Melbourne W7 1013 and Adelaide A 1 make an unusual combination at the 'Trams de Nuit' Day. Note the temporary 'MTT Ticket Seller' yellow signs used to mark the stopping places. Arnold Krueger





period from 1951 to 1971 came along to add to the photographic opportunities.

To enable photographers to take advantage of the picture opportunities as day turned into night, trams stopped at Samphire Road, along the lake and in Shell Street, St Kilda (terminus for the event).

The first trip involved H trams 360 (tuscan red) and 362 (silver) running in convoy, but stopping close together to give the appearance of a coupled set. On return, H 360 joined cars 1, 118, 192 and 264 on the depot fan for 'an evolution of Adelaide's trams' photo

opportunity. A 'Sunset Run' was done in cars 1 and 1013. Participants then broke for a barbeque tea followed by workshop tours. Desert was served in two sittings on the Grand Lady (restaurant tram 378). Those not on the first sitting travelled on dropcentre car 264 as far as the lake for some night time shots. The last few runs were done in H 362, with the last trip finishing around the 10.00pm mark.

The event was well organised by an enthusiastic group of members led by William Adams, Maikha Ly, Arnold Krueger, Julie Lench and Yahaira Molina.



W7 1013 was over the pit on 15 August having its air compressor governor replaced. William Adams

Adelaide's first electric tram, A type No. 1, pictured on the lakeside track, made a special appearance at 'Trams de Nuit' at St Kilda on 20 September 2014. Arnold Krueger



Trolley troughing being erected above Road 5 in the new depot on 29 August.

Chris Summers

The Road 5 trolley troughing upon erection, prior to fitting the overhead wire.

William Adams

It was great to see something different being tried at the Museum to encourage visitation outside of our regular operations.

Trolleybus Pavilion

Saturday 2 August saw a group of members improve the Trolleybus Pavilion displays by cleaning the vehicles inside and out, and conducting an initial start to cleaning the floor.

The AETM's AEC Regal bus No. 623 was on display at the National Railway Museum at Port Adelaide on Sunday 5 and Monday 6 October a part of the Festival of Vintage Boats, Trains and Planes at museums at Port Adelaide.

Track

A number of successful trackwork days over the winter season have seen a total of 68 sleepers replaced along the lakeside track so far, with further trackwork days planned. It has been great to have the level of participation that we have had and we look forward to seeing more members and friends joining the trackwork parties and enjoying the satisfaction of a job well done.

Overhead

Trolley troughing was erected above Road 5 in the new depot on Friday 29 August 2014 with the overhead being erected the following day. Members and our reliable contractors NED (North Eastern Demolition) undertook this task, utilising a hired 6 metre platform scissor lift. It is pleasing to see the project of replacing the original depot with the new building edging closer to completion.



Rolling stock

Three air compressor governors from the Museum's stocks have been overhauled and made ready for use. One has already been installed on W7 1013, replacing its original one which had developed a fault. New rubber diaphragms are also being sourced to allow for further governor overhauls, as well as to have a stock pile of spares.

Cars 186 and 303 were brought out of temporary storage and cleaned before being released back into traffic.

Silver H car 362 was pulled out of long-term storage to be made ready to appear at the 'Trams de Nuit' event. The wool in all of the axle and motor suspension journals was checked and oil levels topped up. The

brake valves and door engines were also serviced while all the lighting circuits were checked and made operable after the replacement of a few blown globes. Finally, a small amount of paint touching up was carried out.

Restaurant tram 378 was shunted off the unwired Road 9 in the Northern Depot and on to a powered track. It underwent an examination before also appearing at 'Trams de Nuit' on 20 September.

AETM on Facebook

The Museum is now on Facebook. You don't have to be a Facebook user to visit the site as it has been set up as an 'open page'. The link appears below: <http://www.facebook.com/trammuseumstkilda>.

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

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From Michael Stukely

Annual General Meeting

The Society's thirty-third Annual General Meeting was held in the members' room at the Car barn on Sunday, 27 July. The following office bearers were elected: President, Michael Stukely; Vice-President, Allan Kelly; Secretary, Robert Pearce; Treasurer, Tony Kelly; Councillors, Garry Barker, David Brown and Darren Ward.

In the 12 months to 31 March our four available trams ran a total of 9,659.8km on 242 running days (the 2012-2013 total was 10,968km on 238 running days). The mainstays of the tram fleet were W7 1017 (4,876.8km) and W2 329 (2,901.4km), with significant running also by W2 441 (1,382.4km), and there was again occasional running in most months by FMT 29 (499.2km).

Certificates of Appreciation were presented to the regular members of the team who have worked on the recently-completed Special Project body restoration of WAGT B 15. The David Secker Award, in recognition of 'meritorious service above and beyond the normal contribution made by the membership', was presented to Bryan Adcock, who led the team working on B 15.

Traffic operations and service cars

Patronage on the trams in the winter months was, as usual, highly weather-dependent, with wet periods leading to some very quiet days. Services ran on seven days per week throughout the July school holidays, which produced a good overall result. In June, two days were lost due to an internal power supply problem.

In June, W2 441 was the main service car, while in July, W7 1017 was mostly used including for the school holiday traffic. In August, equal numbers of service days were run by W2 329 and W7 1017.

Tram refurbishments

Re-sealing and repainting of the roof of Adelaide H 371 has been completed. The door seals were repaired and the entry steps adjusted.

Work has started on repairs to the body of SW6 891 for its return to passenger service.

Bryan Adcock and his team continue to make good progress in constructing the work platform mounted above the roof of W7 1023, for overhead maintenance.



W2 393 stands at the temporary terminus of the newly-installed trolley wire at the west end of the Pit Road on 30 July. Fremantle 29 is standing over the pit.

Lindsay Richardson

This is the first stage of its conversion for use as a general works car. It had originally been intended that this tram would be stripped for parts.

Documentation for the re-profiling of the wheels of Ballarat 31 is being worked on by Rob Dillon in conjunction with Noel Blackmore.

The receipt of drawings of Brill 39E trucks from Peter Hyde of Brisbane Tramway Museum Society has enhanced the preparation of manuals for work to commence on these trucks.

General

Preparation of the site of the planned new carbarn in the north-east corner of our leased area, directly across the main line from the Lindsay Richardson carbarn, has continued. Tree stumps and the remaining vegetation were excavated and heaped by a contractor, arranged through Frank Edwards, late in August.



Bryan Adcock and David Carling erecting the new overhead line work platform on the roof of W7 1023 for its future role as a works car, on 30 July.

Lindsay Richardson



Looking west through the site of the planned new three-road carbarn from the main line, with the Lindsay Richardson Carbarn at left, on 30 August. The vegetation has been excavated and heaped for disposal.

Michael Stukely

The three-road carbarn will have the capacity to hold nine bogie trams.

Concreting of the remaining floor space inside the west end of the Noel Blackmore Tram Service Centre was done on 23 July, following site preparation organised by Bryan Adcock and several members of

the Wednesday team. Lindsay Richardson has paved the alley-way between this building and the Oketon Geddes Spare Parts Shed.

The major upgrade to the power supply for the general Workshops precinct (including the premises of all operating groups there) was carried out by



On 16 July, Jack Kendall applies the finishing touches to the last corner of the floor of the Noel Blackmore Tram Service Centre ready for the concrete pour.

Concreting the last corner on 22 July.

Both: Lindsay Richardson

The weed spraying trolley WT 1 connected up to W7 1017 ready for its first test run on 13 August.

Lindsay Richardson



contractors to the Park on 4 and 5 August. This upgrade included the installation of a new transformer and its relocation from the former Western Power compound near the carbarn, and installation of a new terminal pole for the mains power line.

A new fire suppression system has also been installed by Park Management in the Workshops area, including hydrants strategically located around the site. These replace several which were no longer compliant with regulations.

Herbicide-spraying of weeds along the track formation is an essential task, required to be carried out annually. In recent years, after the retirement of an



Just over two weeks after the track formation was sprayed with herbicide using the new spraying unit WT 1 (under test), the excellent results are clearly seen looking east towards the triangle from Horse Swamp cattle grid on 30 August.

Michael Stukely

The track team carrying out sleeper replacement at Horse Swamp Curve on 30 August — Bryan Liversidge (left), John Azzaro, Trevor Dennhardt, Nick Tsiaglis, Lindsay Richardson, Laurie Ahearn and Jack Kendall.

Michael Stukely



Michael Mason-Coe (left), Nick Tsiaglis and new member, Magdalena Klimek, packing a replacement steel sleeper on 9 September.

Lindsay Richardson

operator (associated with Whiteman Park) who had previously carried out the spraying for us, we have been unable to complete the job adequately as we only had back-pack sprays available and contract spraying proved to be prohibitively expensive. Jack Kendall has modified the track trolley to accommodate a 200-litre tank, an electric pump powered by an on-board battery, and a spray unit which is controlled from the cab of a tram, which propels or tows the vehicle at low speed. The whole of the main line from the Car barn to Whiteman Village Junction terminus (including the Triangle and passing loop) was sprayed in August by Jack Kendall (spray operator) and Lindsay Richardson (tram driver): this trial run took just one hour, and only a few litres remained in the tank. An excellent result was achieved, with full coverage of the track formation completed in a single pass. A minor follow-up treatment has been carried out where needed.

John Azzaro (left) and Bryan Liversidge with the Mercedes Benz truck (with Hiab crane) after collecting four old timber poles from the Triangle (east end) on 30 August.

Michael Stukely



On the 30 August track work day, 12 timber sleepers were replaced with 11 steels by a team of 8 members, starting on the Horse Swamp Curve and working west into the straight towards the Mussel Pool East tram stop where the last day's intensive replacement effort had finished. Progress here was slowed significantly due to the build-up of highly invasive couch grass around the old sleepers. Trevor Dennhardt, Lindsay Richardson and Nick Tsiaglis have carried out lifting and packing on sections of track near Horse Swamp Curve, near Mussel Pool East Curve, and west of Farmgate Curve.

The newly-operational Mercedes Benz tray-top truck was used for the recovery of four old timber traction poles which had suffered storm damage, from east of the Triangle on the old Lord Street Branch. A new steel pole was installed here in August to enable the secure tie-off of the truncated trolley wire.



Samuel McGuinness keeps an eye on the local resident peacock as it tries to board SW2 426.
Shane Parsons



The official Council of Tramway Museums of Australasia group photograph taken at the Sydney Tramway Museum on 11 October. Sydney O class trams 805 and 1111 provide the backdrop.

Martin Pinches



A Western Australian sunset: Melbourne SW2 class 426 on the Perth Electric Tramway Society's main line at Whiteman Park.

Samuel McGuinness