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AUSTRALIA'S TRAMWAY MUSEUM MAGAZINE

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Geoff Spaulding trial fits a body rib on Sydney D class car 117 in the Sydney Tramway Museum's workshop on 25 July 2008. Bob Merchant

Back to the mid-1960s at the Sydney Tramway Museum's 'Trams After Dark' event on 21 June. Brisbane Phoenix car 548 of 1964 and Tony Buckland's handsomely restored 1964 Ford Falcon pose for the cameras. Mal Rowe

PURELY FOR PLEASURE - A SAGA OF 2FT GAUGE TRAMS

by John Browning and Richard Youl

Beginnings

What better leisure occupation for two young men in Sydney back in 1966 than to build a 2ft gauge electric trolley? Richard Youl and Graham Beller combined their talents to construct a 4-wheel vehicle. First run in late 1966, powered temporarily by a wandering lead from a transformer and rectifier, it was intended eventually to operate from an overhead wire power supply.

The wheelsets and axle bearings for the trolley came from a colliery site west of the Illawarra Railway between Austinmer and Thirroul, probably Excelsior Colliery No.2. They were easily acquired as the mine was closed and the skip which they had carried had been burnt out. One wheel was removed somehow, and the axle turned down on Graham's lathe to suit plummer block style bearings. Drive was double reduction gearing using 12DP (tooth size) gears bought new from Threadco. The motor was a Lucas car generator in which the field coils had been replaced with new ones of thicker wire. The 5-notch controller was hand made, and current was regulated by means of some thick resistance wire. The controller knob was from a hand drill, and the controller shaft was an old car door window winder handle, these parts with the driving wheels and axle bearings being the only components dating back to 1966 that are still part of the vehicle today. Braking was accomplished by means of a lever which pressed wooden brake shoes against the driving wheels under what was nominated as the 'front' end. The vehicle was simply known as 'The Trolley' until other rolling stock was made, after which it received the grand title of 'Number 1'.

The desire to provide a permanent line where it could be run led to the start of tramway construction behind a friend's factory at Kirrawee in early 1968, using very good second-hand 35lb rail from Corrimal Colliery. The overhead power supply was nominally 30 volts, supplied by a bank of car batteries charged from the mains supply.

Number 1 took the basic form of a flatcar, but equipped with a trolley pole it bore some resemblance to the early narrow gauge electric locomotives developed for industrial use around the beginning of the twentieth century.

The yard at Kirrawee was also home for 2ft gauge Hudswell Clarke 0-4-0WT 1423 of 1922, from Corrimal Colliery. Operations on the 100-yard line continued until late 1971.

Wollongong

Moving to Bulli near Wollongong, Richard installed the tramway in the garden there in 1973. Track and overhead standards developed. Track was set into the turf, supported by concrete 'sleepers' poured on site. The overhead wire, 3/16in solid copper, was supported by copper or brass ears bolted to steel hangers of tramway appearance.

The trolley was joined in December 1973 by a small battery electric locomotive that had been acquired by the Illawarra Light Railway Museum Society from a machinery yard at Mittagong. The locomotive was missing its battery box but it was soon fitted with a trolley pole and repainted to operate at Bulli as number 26, believed to be its original Water Board number. It was painted blue to correspond with the traces of colour found under its flaking yellow paint. This locomotive has been said to be a Gemco, and when acquired it incorporated Gemco parts, but its stated building date of around 1947 strongly suggests that it is one of a batch of eight English Wingrove & Rogers locomotives (builder's numbers. 3683 to 3690 of 1947) for the Water Board's Potts Hill to City tunnel project. A further batch of six was supplied in 1951.

The need for good electrical conduction between wheels and rails resulted in one item of service rolling stock being built, namely a scrubber trailer. This basic 4-wheel tank vehicle delivered water flowing through pipes between the wheels. A household scrubbing brush on each side assisted in the removal of rust, grass and all other insulators, and could result in particularly shiny track with minimal sparking.

During 1973, the trolley worked on a couple of occasions as a battery-electric on the part of the Corrimal Colliery 2ft gauge line that was restored by the Illawarra Light Railway Museum Society for salvage operations.

Richard's love for small trams led him to spend 10 weeks in mid-1975 working at the Seaton Electric Tramway, a 2ft 9ins gauge line on the Devon coast in England. The tramway had originated in 1949 as a 15-inch gauge operation at fetes and various British seaside locations using portable track. It graduated to a permanent site at Rhyl in north Wales, and then from 1955 at Eastbourne, where 2ft gauge was adopted. Finally a permanent home was found in Devon in 1970. Richard gained not only much enjoyment and many ideas on small gauge trams, he also became the



owner of a pair of side frames and axle boxes from a tramcar truck that had become surplus to requirements.

The tramcars

Some years before, Richard had been shown a photograph of a 2ft gauge scaled-down Birney Safety Car at the Rock River Railroad near Chicago in the USA, and had been inspired by the wish to build one for himself one day. Returning to his home in Australia, he put his ideas into practice by constructing a 2ft gauge single truck tram modelled on the Birney design, of which several full sized ones are still in use in Bendigo and one is on display in Melbourne. The Seaton side frames were used, suitably lengthened. The two axles were powered by motors converted from CAV 7-inch generators from scrapped buses, using new field coils which Richard wound himself. A relay Former battery locomotive 26, trolley number 1 and Birney car 2 at Bulli. Richard Youl

board was constructed and this allowed the motors to be run in Series and Parallel with acceleration controlled via resistances, as occurs on nearly all traditional tramcars.

The controllers were from Sydney O class tram 1359. Transmission was by single reduction gear drive at a ratio of approximately 5:1, the motors being axle hung also as per prototype. Two trolley poles were fitted. The beautifully built tram, numbered 2, entered service in late 1978, painted Sydney green and cream with black line and maroon skirting, and carried an ornate BTC (Bulli Tramway Co.) crest. It had air brakes and air-operated doors and footsteps while the passenger accommodation was side bench seating. It was easily able to negotiate the sharp curves of the garden tramway which were around 20ft radius.



Cars 2 and 3 ready for duty at the Illawarra Light Railway Museum at Albion Park. Courtesy Richard Youl

Following the construction and successful operation of the Birney car, the original trolley, now number 1, received a similar motor and gear arrangement in 1978, although it remained powered on one axle only. The double reduction gearing had always caused problems. Air brakes had been fitted to number 1 in the early 1970s at Bulli using a belt style refrigerator compressor. Later, this was replaced by one from a Bedford truck. Lucas or Bosch generators found new duties as compressor motors and continue to be used for that purpose.

The founder of the Seaton Electric Tramway, Claude Lane, had designed his original equipment to be portable and it had been found to be popular giving rides at fetes and other events. Richard was encouraged to try the same concept, and in 1978, number 2 had its first outing at the Wollongong Model Railway Show at Wollongong High School, running on 100 metres of portable straight track. Seven portable overhead arches were made from square section tubing, and if nothing better was available, the anchor points at each end of the line were 44 gallon drums full of water. Overhead wire was similar to old type stranded copper earth wire, but thicker. This was easily transported on a hose reel.

At Bulli the trolley voltage had been increased to 60 volts, but for exhibitions the battery pack was made up of six car batteries with a charger connected to the mains supply. Experience showed that operations required about 1 kilowatt per hour, about the same as a bar radiator.

Barry Neilsen saw the tram under construction at Bulli and became very enthusiastic about joining Richard. At his home at Kings Langley, Barry built a single truck toastrack car using design concepts which would allow it to work in multiple with number 2. The car was modelled on a tiny original that had operated in Los Angeles on 3ft 6ins gauge, and it entered service in August 1980, also at the Wollongong Model Railway show. It was numbered 3 in the fleet. Fitted with controllers from Sydney red electric single-deck suburban trains, it had a single reversible trolley pole. The coupled set provided a total capacity of about 35 passengers. A short garden line for number 3 was built at Kings Langley.

Shows and excursions

The Wollongong High School event was the first of many appearances by the trams at shows, model railway exhibitions, Christmas parties and other events in the Wollongong and Sydney regions. The rides were very popular with children and adults alike. The operation was semi-commercial in nature with costs including transport, maintenance and casual staff to be covered, as well as public liability insurance which even in those days was about \$600 per year. After number 3 entered traffic, shows were judged to require either one or two trams. For the one-tram shows, trams alternated at each venue from one year to the next.

Not surprisingly, children formed the majority of passengers, so adults were charged the same fare. This led to occasional grumbles that kids had to pay the same price as adults. The difficulty was easily fixed. At the next show, an adult ticket was introduced that cost 10c more than the kids' fare, and everyone was now happy, especially the operators!

A 90 degree curve in the track was first used at a Blacktown school and it was soon realised that having the tram running to a destination out of sight from where the run began increased the popularity of rides. A simple, if un-prototypical method was devised for bringing the overhead around this curve. Then a portable point was provided to allow both trams to operate singly on a later occasion at Blacktown. Two tram operation allowed one tram to load while the other was on its run. An interesting discovery was that if people had the chance to ride in two different trams, traffic receipts would increase by about 30 percent. The record passenger figures were at an AMRA exhibition at the Sydney Showground when over 5,000 paid to ride in three days. The last such event attended was the Leichhardt Festa in 1987, and it was virtually rained out!

During this period the Illawarra Light Railway Museum Society was setting up its Albion Park museum site, and it was decided that an electric tramway would be a nice attraction. Operations commenced around the end of 1978 and at least one of the trams was usually transported to the site for each open day, approximately monthly. Permanent overhead was installed and a substation provided power at about 60 volts. After the society's electric locomotive moved to Albion Park from Bulli in 1983, it and number 2 provided a two-tram service most running days, at least when number 3 was not also present. The loco hauled an ex-Excelsior Colliery man-riding car, and an ex-Army flatcar fitted with two bench seats. Richard and Barry retained half the fares they collected as a contribution towards their expenses, with the other half going to ILRMS. Over time, this caused some tension and eventually it was decided that the locomotivehauled train would provide the service alone. The last occasion the trams ran at Albion Park was in February 1985.

An entertaining diversion in July 1986 was at a disused Lilyvale Mushrooms site near Helensburgh, where about 100 metres of 2ft gauge track ran into and within the ex-NSWGR No.5 railway tunnel, close to Metropolitan Colliery. A Friday was spent clearing and repairing the track, with the scrubber car being

pushed by hand to clean the rails. The following Sunday a small group of friends enjoyed the rides on number 1 until its batteries went flat.

At Kings Langley in 1986-7, Barry Neilsen built number 4, a trolley similar to number 1. Its chassis came from a brick furnace car and unlike the other vehicles it uses chain drive rather than a single reduction gear.

Shortly after, Barry decided to try his luck in becoming a Melbourne tram driver, and by the end of 1987, Richard had also moved to Melbourne for the same reason, fulfilling compulsory service as a conductor before graduating to driving. They each found tram driving a wonderful job although they say that it eventually was ruined by politicians and inept management!

Victoria

Barry moved his number 4 to Melbourne (in the back of a station wagon), and number 3 followed within about a year. He decided to have a garden tramway at his home at Taylors Lakes, which was built around 1990 but lasted only about a year before he moved to Williamstown. In the meantime, the one and only dispute with a neighbour took place when the owner of an adjoining vacant block decided that his land would sell for the right price if the tramway was

Richard Youl moves to lower the pole on Birney 2 at South Melbourne Depot.



removed. Council intervention followed, and determined that there was no regulation against the domestic operation of a tramway!

Richard moved number 1 from Bulli to the Yangardook Tramway at Toolern Vale near Melton, a line owned by Jim Baines and built in delightful bushland. Here the trolley operated as a battery-electric, loaded with the exhibition batteries, and giving some extraordinarily fast rides. Speeds of 45km/h were calculated, increasing to close to terrifying on the steep downgrade, quoted as 1 in 18 but almost certainly steeper at the worst point. Number 2 remained in New South Wales until the occasion of a five-week strike over the proposed introduction of one man trams in 1990. The roster was complete with the arrival of Barry's trams when he left Taylors Lakes.

It had been decided to have a proper electric tramway at Toolern Vale, and this required the electrification of the main line, almost one kilometre in length. It took more than two years to complete the task, mostly on days when Richard was rostered off work. Three battery houses were required, one at the depot, one at the intermediate station, and one at the foot of the steep grade. The power supply was 100 volts, and no drop in voltage was noticeable between battery houses, but there was a drop off beyond the last battery house towards each terminus. Overhead wire included a section of genuine new grooved tramway trolley wire and former railway telephone wire which at 3mm diameter was barely up to the job when heavy current was required. Some feeder cables were also used. At Toolern Vale the trams were able to get a decent run and could reach an impressive speed compared to the internal-combustion engine locomotives that continued to operate there.

It had been decided not to continue the use of the trams at shows and exhibitions in Victoria, partly because regulatory authorities were imposing more restrictions on such activities and partly because the effort of moving two tons of rail each time was becoming arduous. However, as tramway employees, Richard and Barry did have the opportunity to operate Number 2 at Open Days at the South Melbourne and Kew tram depots during 1991. With the PTC installing heavy track and providing the overhead line, these events were very successful and enjoyable, with even hardened workshops staff impressed.

For some time Jim Baines had been losing interest in his railway. Richard's decision to retire to Queensland in 1994 unfortunately tipped the scales in favour of closure. This took place not long after a 'last tram day', disrupted by particularly vile Victorian weather including strong winds, but nevertheless attended by a busload of people, many of them from South Melbourne Tram Depot. Prototype and scaled down Birneys at South Melbourne Depot in 1991. Richard Youl



Queensland

When Richard moved to Woodridge in Brisbane, behind the car was the Birney on its trailer, with batteries, wire and all sorts of other equipment transported on the two vehicles. Numbers 1 and 4 moved north in the pantechnicon along with house furniture while a special trip was made south in 1995 to retrieve Number 3. By this time all of the remaining rolling stock at Toolern Vale was gone, as was the trackwork. A few remnants of overhead span wires strung from the trees remained above the obvious traces of the track formation.

Over the years many people had said they were going to build another 2ft gauge tram, but only one, keen modeller and Brunswick tram driver John Murdoch, actually did anything. He was well on the way with a model of a Melbourne X1 class tram, (not unlike a Birney) but when he learned that Richard was planning to leave Melbourne, he abandoned the project and sold the incomplete tram to another interested person. Unfortunately it is believed that work did not progress, and the vehicle was stored at Laverton in Victoria before being acquired by The Bendigo Trust in 2005.

The Bulli house was ultimately sold, complete with the tram line still embedded in the yard. The former exhibition track was laid around the yard in Woodridge in 1995, initially just sitting on the grass, but over the years it tended to assume a street appearance as the tracks sank and the grass grew up.

The garage under the house formed the shed for Richard's and Barry's trams and trolleys. The two



Numbers 2 and 3 in the Yangardook tram depot at Toolern Vale in June 1994. Michael Costello Numbers 1, 2, 4 and 3 at the tram depot, Yangardook Tramway, Toolern Vale. Richard Youl



depot tracks joined to run up the driveway to a headshunt. From there the line curved around the short distance to the rear of the house. For a time, some interest was taken in the possibility of establishing a permanent line in a public space close by. This did not eventuate, and in hindsight was probably a blessing in view of the future rigours of rail accreditation and the insurance crisis.

Like Richard, Barry had also become dissatisfied with driving trams in Melbourne and briefly lived with his wife, Dianne, at the Gold Coast before returning to Melbourne, where he resumed tram driving at the first opportunity. Unfortunately in May 2002 Dianne succumbed to unexpected illness. By this time Barry had found tram driving totally frustrating to someone who could see how the system could be run effectively when more and more it was going in the opposite direction. He resigned a second time, and purchased a house six doors away from Richard, largely because of very similar hobby interests which include telegraphy (and that's another story ...).

The lack of opportunity to give the toastrack tram a decent run in Brisbane, and the knowledge that there was another 2ft gauge tram project being developed in the Bendigo area of Victoria prompted Barry to move number 3 south in 2001. It was followed in January 2005 by numbers 1, 2 and the scrubber car. It is intended that number 4 will follow eventually. The trams are now in the hands of someone young and very capable of keeping them running for many years to come.



Barry Neilsen with trolley numbers 1 and 4 at the end of the line in Woodridge, 8 January 2005. John Browning

Number 2's charm is easily seen here as Richard winds the destination roll, 8 January 2005. John Browning



Dedication

This article is dedicated to the memory of Graham Beller, who passed away on 29 January 2005 after a battle with cancer. Graham shared Richard's enthusiasm for the 2ft gauge. His lathe and his expertise in using it made the construction of the trolley possible back in 1966, and their friendship was the stimulus for building that first 2ft gauge railway at Kirrawee.

- 1. Trolley Wire, February 1974
- 2. ILRMS Museum Guide, 2000
- 3. Dogspike Spring 1974
- For further reading see *Eastbourne Tramways* by Lionel J Boylett, Ian Allan c.1965, and *Seaton & Eastbourne Tramways* by Robert J Harley, Middleton Press, 1996.
- Light Railway News numbers 15 and 109, which refer mostly to the by then main Lilyvale Mushrooms site at No.2 (Cawley) tunnel, and ARHS Bulletin 343, May 1966.
- 6. Light Railway News numbers 4, 16, 30, 31, 57, 86 and 98.



New Book - 'Last Tram at 11'

The story of Victoria's provincial tramway systems at Ballarat, Bendigo and Geelong has never been told before in such detail in one book. It is the largest and most extensively researched work ever produced on the subject. *Last Tram at 11* tells the histories of the several companies that provided tramway services with battery, steam and electric power, and their bringing together with the transfer of the three systems to the State Electricity Commission of Victoria.

Researched and written by William F. Scott, *Last Tram at 11* is a quality 208 page hard cover book, printed on quality art paper and complete with dust jacket. It has many colour and black and white photographs, excellent route maps and very detailed information about tramway fleets.

Due for release in September 2008, this book is available at a pre-publication price of \$35.00, plus postage of \$9.30 for up to two books in Australia. Overseas orders are welcome. For details contact the publisher, Richard Gilbert at acre@alphalink.com.au, phone 0418 535 291, or write to 66 Service Street, Clunes Victoria 3370.

EMERGENCY VEHICLE FOR NSW TRAMWAY BREAKDOWNS

By Ian Saxon

An article appeared in *The Staff* magazine in March 1928 about a new tramway breakdown wagon. The article describes the new wagon as follows:

An important addition to the emergency equipment of the Tramways Department has been added in the form of a breakdown wagon, specially designed for that purpose in the Chief Electrical Engineer's Branch, and built in the Departmental workshops at Randwick.

The new apparatus was introduced because it has been recognised for a long time past that the method of re-railing derailed vehicles, or, as sometimes necessary, releasing persons pinned underneath the cars, was unsatisfactory. The practice was to have a breakdown repair car at each depot throughout the system, these cars being fitted with all accessories in the way of lifting jacks, ropes, blocks, skids, etc., and to despatch these to the point required as quickly as possible upon receipt of information as to the breakdown. Frequently, however, great difficulty was experienced in getting this vehicle (an electric box car of special design) along the tram rails to the scene of the breakdown. When the breakdown vehicles and crew arrived at the scene, the fitting in places of the lifting jacks, wedges, etc., was sometimes a lengthy process owing to the irregular configuration of the ground, the condition of the accident, and so forth. Moreover, in the case of a casualty, operations were sometimes impeded by the surrounding crowd of onlookers, in a mistaken endeavour to assist in freeing the person affected. In some cases, the lifting jacks could not be

advantageously placed on account of the position of the casualty.

The new device is designed on quite different lines. It consists of a petrol engine-driven lorry, independent of rails, with a special lifting crane fitted at the rear, and containing on the body of the lorry all the necessary auxiliary appliances required for various classes of casualty or breakdown. The vehicle has a special shackle at the rear for attaching a steel wire rope for re-railing purposes. In addition, arrangements have been made to provide for the inclusion of two hydraulic jacks (power operated), connected with flexible hosing to the hydraulic pump system used for the operation of the crane, constitute what are believed to be two quite novel features in the way of lifting appliances for heavy vehicles.

Photograph No. 1 shows a three-quarter rear view of the vehicle and crane; and No. 2 shows the apparatus in action with the car lifted at one end. It will be noted that the load upon the breakdown vehicle during lifting operations is comparatively small, as the reaction due to the lift is taken through the upright legs of the crane direct on to the ground alongside the vehicle, special easily detachable metallic slippers being fitted to the steel balls at the foot of the crane supports in order to secure a firm hold on the ground and to spread the weight as required. These slippers are of various types for various classes of ground, and are held in place by clips; the whole operation of attaching the clips to the crane feet takes a matter of seconds only. Various types



This is Photograph No. 1 showing the rear three quarter view of the new vehicle and crane. It carries the vehicle fleet number 112. The photo is dated 29 March 1928, which may be a print date.

V.C. Solomons collection

Photograph No. 2, also dated 29 March 1928, shows the crane lifting the side of P class car 1589.

G. Travers collection



of specially designed lifting hooks, also, have been made for attaching to the bogies or underframes of the different types of car used in the service, according to whether these are four-wheel or double bogie cars, etc. The slippers and lifting hooks and all other special appliances are, of course normally carried in the body of the vehicle, specially labelled and marked for the various conditions encountered.

The third photograph shows how the vehicle is used for re-railing motors by means of the steel hawser, using the special drawbar shackle already mentioned.

Electric lighting facilities are provided at the rear of the vehicle for use at night, and two warning flags are fitted at the rear whilst traversing the streets.

The crane is designed for a working load of 5 tons, with a 6 feet clear lift of hook, but is only required to

The breakdown lifting wagon demonstrated its tramcar towing ability with P class car 1665. The Staff, March 1928

lift 9 inches maximum on a tramcar. Vibrac steel was chosen for the lifting hook material on account of its high tensile strength and high impact resistance, in order to economise weight and facilitate handling. On tests made with the appliance in service, it has been found that the vehicle can be manoeuvred into position, a car lifted to the full extent and replaced ready for traffic, in less than two minutes. With the use of ordinary lifting jacks on irregular ground, as long as ten to twelve minutes may easily be taken in fitting jacks in position, and more serious delays were occasioned by the length of time taken in getting the breakdown vehicle to the scene of accident. With the present equipment a speed of 12 to 13 miles per hour can be obtained from the depot, which, for the present vehicle, is situated in the vicinity of Sydney Station. Provided that the experiment meets all requirements, it is intended to have a number of vehicles of similar character situated at convenient centres throughout the tramway system.

The lorry used for this equipment is the normal K5 6-ton 'Karrier' standard chassis, the only alteration required being the rear chassis cross tie, which was removed and double channel cross towing bars



substituted. The hydraulic ram has a maximum stroke of piston of 1 foot 63/4 inches in the cylinder, the internal length of which is 2 feet by 91/8 inch bore, the cylinder walls being 11/4 inches thick. The weight of the hydraulic ram complete is approximately 1,100lb., and the cylinder operates at 750 lb. working pressure, with 1,500lb. Test pressure. The fixed sheaves for the lifting rope, which is 23/4 inch circumference extra special flexible S.W.R., are supported on the back head of the cylinder, and the piston, which is connected to the travelling sheaves, pushes apart the two sets of sheaves, in order to raise the load. The lifting rope, which is passed over two fixed travelling sheaves with the end anchored to the ram seating gives a four to one purchase. It will be noted that the shear-leg frame revolves, with its centre on a universal ball joint, round a special slewing track which is provided with a detachable trigger to enable the shear-legs to be lowered to the ground. The 6-inch ball joint provides freedom for vertical motion of the shear-legs from 9 inches below to 12 inches above normal ground level, together with a rocking motion 8 degrees on either side of the vertical. Trunnions provide for 180 degrees slewing motion in the horizontal plane. The ball foot pads or slippers provide 30 degrees adjustable bearing surfaces in any direction between both feet. The controlling handles for the lifting operations are on both sides of the rear of the vehicle. The hydraulic pump for operating the ram is of the submerged plunger type consisting of two plungers operating in an oil bath. The pump has a direct drive from the power take-off on the gear box, by a shaft connected through a small dog clutch to a spur gear on the hydraulic pump tank. The plungers are driven by eccentric sheaves, and the clutch is operated from the driver's seat. The hydraulic piping throughout is of copper 1/2 inch internal diameter, No. 10 gauge, with soft copper joint rings. The 13/4-inch shackle provided at the rear of the vehicle is suitable for a 10-ton drawbar pull, and also can take a standard tramway

towing gear, with a 3-ton pull. This tackle, or if need be the lifting crane, can also be used for clearing the tracks of disabled vehicles of any type. Heavy medium oil is used as the hydraulic fluid.

The overall length of the chassis with the shear-legs in the stowed position is 25 feet 3 inches, the height of the van above road level, loaded, is approximately 10 feet 10 inches, the width of the lorry is 7 feet 3 inches. The tare is 7 tons 3 cwt.

It is believed that the principles adopted in this vehicle will be utilised in other directions than for lifting tramcars, particularly as there is no applicable unbalanced lifting movement on the vehicle, as the reaction of the crane is taken on the ground itself.

The vehicle was based at the Ultimo tram depot. It carried the fleet number 112 and registration L42.296. To improve efficiency, the van-like timber body was removed and replaced with a series of side-opening lockers in the 1930s. It is presumed this modification was made to allow for better vision when backing up to an accident. The modification reduced the vehicle's tare from 7 tons 3 cwt 1 qtr to 6 tons 12 cwt 2 qtrs.

The date of 1936 for the body alteration is shown in official files. However, a photo appeared in a newspaper in 1934 showing the Karrier with modified superstructure attending a derailment at Redfern.

From 25 February 1938 the Department of Road Transport & Tramways issued 'CT' series registration

The Karrier tram lifting wagon with new R1 class tram 1983 on 'The Lizard'.

V.C. Solomons collection



A rear view showing the crane and ancillary lifting gear fitted to the back of the Karrier. G. Travers collection

The Karrier tram lifting wagon passes the Harbour Bridge toll booths returning O class car 847 to North Sydney after completion of an overhaul at Randwick Workshops in early August 1938.

V.C. Solomons collection



LIFTING WAGGON

plates to its own vehicles. The Karrier became CT.090, and it was renumbered as No. 24 in the Mains Section fleet by 10 May 1944. It is uncertain how long the vehicle remained as the heavy recovery vehicle. By 11 October 1946 at least, another vehicle, a Kenworth, CT.195 was in use on these duties.

The Karrier was also the first to tow the 'Lizard' tramcar carrying trailer when moving trams around the Sydney system.

As well as being photographed in 1928, the action was also captured on film. The operation of the hydraulic jacks and the crane, as well as the vehicle's towing capability were filmed outside the entrance to Randwick Workshops and these scenes are included on the Sydney Tramway Museum's video and DVD, Shooting Through.



A front three quarter detail view of the Karrier tram lifting wagon. The letters NSWGT previously under the fleet number have been replaced by Dpt RT & T.

V.C. Solomons collection





MORE TRAMS AND TRAM LINES FOR ADELAIDE

From Colin Seymour

Overview

During his Budget speech on 5 June 2008, South Australia's Treasurer, Kevin Foley, announced a \$2 billion allocation over the next 10 years for rail and other transport infrastructure.

The majority of the funding would be used to electrify most of the suburban rail network and to build new tram lines to the Adelaide Entertainment Centre at Hindmarsh, West Lakes and Semaphore via Port Adelaide. The Government's overall plan for improvements to the city's public transport network is shown in the accompanying map and photo obtained from Adelaide Metro's website www.adelaidemetro.com.au/general/budgetannounce ment.html.

The existing City West tram line will be extended in a westerly direction along North Terrace after which it will turn right onto Port Road. The line will then proceed about 2km along Port Road to a new 2,500-person Entertainment Centre planned for Hindmarsh. It will then join the Outer Harbor railway line where trams and trains will operate on the same track. Two new light rail branch lines will be built from the Outer Harbor line: one from Port Adelaide to Semaphore; and another from Woodville to the AAMI Stadium and West Lakes retail area. New high-density housing projects will be developed at major precincts along the rail corridors. The project will involve the purchase of 15 new, dual-voltage trams. When completed, the light rail network will connect Glenelg, the city and historic Port Adelaide.

The Budget also provided funds for the electrification and conversion to standard gauge of the suburban railways to Noarlunga, Outer Harbor and Gawler, and the purchase of 50 new electric rail carriages.

The Belair railway line will not be electrified at this stage, but it will be resleepered. The Federal Government has committed \$3m to a study into the possible re-routing of the existing standard gauge line which runs alongside the Belair passenger line through the Adelaide Hills. No decision will be made on electrifying the Belair line until that work is completed.

Rolling stock

The 15 new, dual-voltage trams will operate on both the new line to the Entertainment Centre tram line and the electrified Outer Harbor railway. During electrification of the rail lines, the track will be changed from broad gauge to standard gauge, and stops will be modified to accommodate the new low-floor trams. However the new trams will not be able to use Adelaide Railway Station.

CONSTRUCTION TIMETABLE

Construction will begin next year with completion planned by 2016.

Tram line extension to new Adelaide Entertainment Centre at Hindmarsh	Construction to begin in 2009; completion in 2010
Grange and Outer Harbor railway line	Construction to begin in 2010-11; completion in 2013
West Lakes tram line	Construction to begin in 2013; completion in 2015
Port Adelaide to Semaphore tram line	Construction to begin in 2015; completion in 2018
Noarlunga railway line	Electrification to begin in 2009; completion in 2014



Fifty new electric cars will be purchased for the rail lines. Fifty-eight of the existing seventy 3000 class diesel railcars will be converted to electric traction and the remaining twelve will be used in their present form for services on the Belair line.

Glenelg – City West tram line

In June 2008 the Adelaide City Council and the Royal Australian Institute of Architects awarded their Adelaide Prize 2008 to the Glenelg tram line extension as an outstanding project of great public significance for Adelaide. It was viewed as a catalyst for future urban regeneration, a finely executed and managed project and a positive addition to the city. Transport Minister Patrick Conlon also recently endorsed the value of the project. During Budget Estimates hearings he said that future tram line extensions will include loops through the city 'because they add such value'.

Additional trams

On 25 June, the Government announced that it would buy four more Flexity Classic trams to alleviate the chronic overcrowding on the Glenelg – City West line. The trams would be delivered during 2010.

On 5 July the Tranport Minister, Patrick Conlan, announced that a worldwide search for readily available trams to boost capacity on Adelaide's light rail network had begun. He said that the State Government has written to around 200 potential tram owners and suppliers to advise them of its Request for Proposal process.

The Government is looking to procure up to six trams as soon as possible, either by lease or purchase, and would like to have them in service this year. It is planned to use the trams for two to five years.

Comment

Although there are still some questions to be answered, the announcements made as part of the Budget and afterwards mean that Adelaide's trams and trains are about to enter an exciting period. We await with interest to hear where the new tram line to the new Entertainment Centre will join the existing railway to Outer Harbor, and whether trains on the Outer Harbor line will be multiple-unit trams or heavier type suburban rail vehicles. Unfortunately, the state Opposition has said already that it will abandon some of the initiatives if it wins the next State election, scheduled for 2010.

New General Manager for TransAdelaide

Bob Stobbe will succeed Bill Watson as General Manager of TransAdelaide, Adelaide's government train and tram operator. Mr Stobbe was CEO of Sydney-based Spark Infrastructure, but hails from Adelaide having previously worked in the SA electricity industry.



THE NAMING OF MELBOURNE'S 'PORT JUNCTION'

From 1988 to 1994, Richard Youl was a driver at South Melbourne Depot, having first served his 'apprenticeship' as a conductor at Brunswick and later South Melbourne. In this article he explains the practical importance of naming this significant junction on Melbourne's tram network, and how it came to be officially called 'Port Junction'.

Background

The light rail lines to St Kilda and Port Melbourne were created by regauging the former broad gauge suburban railway lines to standard gauge. At the city end, the railway alignment between Flinders Street Station and the location where the lines diverged was abandoned. In its place, a new tramway junction was laid at the intersection of Clarendon and Whiteman Streets, South Melbourne. About 150 metres along Whiteman Street the two light rail lines part company. Both junctions are fitted with 'automatic' points which are operated by drivers using a switch on their control panels.

In the evenings, drivers of trams running to St Kilda and Port Melbourne were issued with two-way radios to improve safety at the junction of the St Kilda and Port Melbourne lines. However there was confusion at times between drivers and the Fleet Operations radio room as to whether a problem was at the junction in Clarendon Street or the junction further along in Whiteman Street. It would therefore be helpful if the second junction had a distinctive name. Naming it could also be fun.

I mentioned the project to Barry Neilsen, long-time friend, fellow tram driver and enthusiast. He suggested the name 'Port Junction'. This sounded great. It was short, unique and to the point – no pun intended! The name 'St Kilda Junction' was inappropriate as it had long been in use elsewhere.

Preparation

Occasionally I visited the Spotswood railway scrap yard looking for old telephone or signals batteries suitable for use on a 2-foot gauge tramway. On one visit there was an old 'No Standing' metal sign. Paint stripper removed the old paint revealing a good sheet of galvanised steel. Each depot kept a small stock of green and yellow paint that was used to patch up minor damage on trams. One day I took empty two bottles to work and got a small amount of each colour. The sign was painted yellow with a broad green band top and bottom. A friend in Bendigo knew a sign writer and he applied 'PORT JUNCTION' in green. As the sign was to be mounted horizontally rather than in its original vertical format. there was a hole at each end. These were filled with white bicycle reflectors.

Official signs are mounted on poles using stainless steel straps passing through a pair of brackets bolted to the back of the sign. I didn't think there was much chance of borrowing a strap-crimping tool even if I knew who had one. However, a visit to an auto accessories shop resulted in my finding a set of wormdrive type hose clamps, similar to those used on garden hoses or car radiators, but very much longer.

Fitting the sign

When all was ready, I took to work a step ladder, battery drill with screwdriver bit and a few other tools. My shift ended around 9:00pm so in company with conductor James, we drove to Port Junction. I was familiar with tram movements at the location, and every 20 minutes there was a ten minute gap. After two such gaps, the sign was in place, mounted on a span pole. This was 26 May, 1992. At that time I wondered



The name board erected at Port Junction in 1992. Mal Rowe

how long it would be before an official noticed the sign and had it removed, but 16 years later it is still there even if a little faded after many sunrises.

A few days after the installation I met Paul, a driver from North Fitzroy Depot which also rosters trams on the light rail lines. He had been working on the St Kilda line that night and could barely believe his eyes: how had that sign appeared between one trip south and the next?

To help ensure that the new sign stayed in place, I removed an obsolete staff notice from the depot notice board and photocopied it to produce a blank form with the official letterhead. Text was added to create the following:

NOTICE TO EMPLOYEES TRAM AND BUS

NAMING OF PORT JUNCTION

Enquiries have revealed that confusion exists distinguishing between the two tramway junctions at Whiteman St.

It has thus been decided that the junction where Light Rail Route 111 to Port Melbourne separates from Route 96 to St. Kilda Beach shall henceforth be known as 'Port Junction'.

The Junction in Clarendon St at Whiteman St shall continue to be known as 'Clarendon & Whiteman'.

(Sgd) Richard P. Moncrief SUPERVISOR 29 May 1992

Richard Moncrief is an American friend who spent his working life with the New York subway and buses. He was happy to be included in the exercise.

I attached a copy of the notice to the notice board at South Melbourne Depot, where it remained for a few weeks, and Paul did the same at North Fitzroy, while Doug did the honours at the Fleet Operations centre.

A few nights later the installation District Inspector Peter, who would be well known to Ballarat Tramway Museum members, visited South Melbourne Depot. I took a chance and told him what had been done. He just smiled and went on his way.

Subsequently ...

It was pleasing to occasionally hear Port Junction mentioned on the two-way radio. I cannot recall any confusion about its location.

South Melbourne Depot closed in 1997 and was replaced by Southbank Depot, located about 300 metres from Port Junction on the Port Melbourne line. Several years later, a crossover was installed between Port Junction and Clarendon Street. This crossover is used by trams on the St Kilda line when leaving or returning to Southbank Depot. It is also used by late-running trams that are short shunted to get back on time as well as the Restaurant trams that operate from Southbank.

On a visit to Melbourne a few years ago I was amazed to hear from driver Paul that Port Junction had been added as a destination on B2 class trams. Since then it has been added to the destination inventory of the Z3 class, A series, Citadis and Combino trams, all of which have electronic indicators. It is also slowly being added to the destination rolls of City Circle W series cars, which operate from Southbank Depot.

There is no doubt that Southbank Depot has made Port Junction a more important location. One can only wonder what, if anything, it might have been called had it left been left to management. However should someone with influence be reading this story, perhaps you could arrange for the sign to be given a facelift so that it might perform its duties for another 16 years. At present, I am not in a position to make a nocturnal sortie to do the deed and, after all, it is possibly the only tramway junction in Melbourne to have its very own name board.

TABLI week Last	67 SOUTHBANK days Update on 27/03/00	Side B Driver
Rte	Depot	1342
96	<pre>## Run S035 ## Take 33 at 1347 St Kilda Beach Port Junction Melbourne Convention Centre Spencer & Collins Spencer & Bourta</pre>	**** 1347 1350 1352q 1355

The top portion of a Weekdays Table Card from Southbank Depot displaying Port Junction for a St Kilda Beach to East Brunswick service leaving the depot to take up traffic. Richard Youl

C class 3027 negotiates Port Junction on a Route 109 service to Port Melbourne. Mal Rowe



Tramway enthusiasts have been known to remove official signs in the dead of night to add to their collections, but there cannot be too many who install an official-looking sign under the cover of darkness, only to find it later being officially recognised at all levels.

I extend my thanks to drivers Kerry and John for their help, as well as those personalities mentioned in the text. Surnames have been omitted to protect the complicit!

96	Russell & Bourke Spencer & Bourke Melbourne Convention St Kilda (Grey & Fit St Kilda Beach (Luna St Kilda Beach St Kilda Beach (Luna St Kilda Beach (Luna St Kilda Grey & Fit Port Junction East Brunswick	15514 155259 155259 155259 155259 155259 15536 15536 155467 15562 15555 15555 15555 22roy St 1602 15555 22roy St 1602 1602 1601 15555 1602 1602 1602 1602 1602 1602 1602 1602	
	By 30 at 1610 Depot	1615	
	Meal Break (Southbank Depot)	1615 - 1713	



The bottom portion of a Saturdays Table Card from Southbank Depot displaying Port Junction for a St Kilda Beach to East Brunswick service where the tram runs in for crew's meal break. Richard Youl

B class 2001 runs through Port Junction on a Route 96 service to St Kilda. This is a compulsory stop for Port Melbourne trams which must give way to St Kilda trams. Mal Rowe



Sydney: possible Leichhardt connection for trams

The *Sydney Morning Herald* has reported that a light rail line running for 2.3km along Leichhardt's bustling cafe strip has been investigated by the NSW Government. While extensions to Circular Quay and Summer Hill continue to be possibilities, the Government has also examined the feasibility of the city's Little Italy becoming a light rail destination.

A feasibility study commissioned by the Ministry of Transport nominates a preferred route that would transport commuters from Lilyfield to near the corner of Norton Street and Parramatta Road in just eight minutes.

If built, the route would reinstate part of the former tram line to Leichhardt which closed in November 1958.

Undertaken in 1999, the study coincided with comprehensive patronage mapping of the Summer Hill extension. Almost 10 years later, the Government has not yet acted on that proposal. A report by Sinclair Knight Merz found the western loop, which is proposed to terminate at the Allied Mills flour mill at Summer Hill, would be heavily used.

With more than three million passengers on the network between Central and Lilyfield already, the report estimated the Summer Hill extension would generate an extra one million passengers a year. This would include 64,000 new passengers who would otherwise not use public transport. "[It] will generate an estimated \$1.7 million a year of additional revenue," the Sinclair Knight Merz report says.

But although the Summer Hill/Ashfield link was always part of a potential light rail network, the Government also commissioned research into a Leichhardt route, which was found to have "overall good patronage potential".

"As either an alternative or complement to the extension to Ashfield, proposals have been suggested to link the LRT to the cafe strip of Norton Street, Leichhardt," says the Ove Arup & Partners/TMG International report.

At present the line ends at Catherine Street. Under the new plan it would continue up a ramp to an elevated structure above the disused freight rail tracks. A tunnel would take it under the City West Link Road and the Balmain Road overbridge. The line would surface in Leichhardt bus depot, formerly a tram facility, and run south along Norton Street.

At the time the proposal was costed at \$46.2 million, including \$10.9 million for structures and tunnels and \$7 million for new trams. It would require the removal of roundabouts and the installation new traffic lights about half way between Parramatta Road and Marion Street, where the proposed new terminus would be located.

- with acknowledgement to Linton Besser, Transport Reporter, *Sydney Morning Herald*

Melbourne: track enhancements in St Kilda Road

The opening of a new platform tram stop on 23 June 2008 marked the completion of stage one of Melbourne's St Kilda Road tram improvement strategy.

The twin platforms have been built midway between the Victorian Arts Centre and the National Gallery of Victoria as part of a \$9.5 million upgrade of tram infrastructure on St Kilda Road south of Princes Bridge.

A section of centre track was constructed immediately to the north of the new platforms to allow trams to terminate without disrupting other services. Connected at both ends, this will assist operations during special events when services terminate at the Arts Centre. A section of third track has been provided in St Kilda Road north of Southbank Boulevard to allow outbound trams on Route 1 to turn without delaying other services.

Yarra Trams Chief Executive Officer Dennis Cliche said: "This is a very important step in the renewal of the most critical part of our network. It serves as another example of the modernisation of Melbourne's tram system. Yarra Trams is proud to have delivered

this project right on schedule as part of our vision to improve the efficiency of services along the spine of the tram system – St Kilda Road."

Yarra Trams' media release provided the following facts about the project:

- The new sections of double and triple track are the equivalent of 1.3km of single tram track.
- Two 10 tonne sections of prefabricated turnout and crossover tracks were installed together with 70m of curved track at Southbank Boulevard.
- Two additional 15 tonne sections of prefabricated turnout and crossover tracks were installed in the triple track section north of the platform stop.
- The track is laid on 1600 sleepers and encased in 100 cubic metres of concrete and 800 tonnes of asphalt.
- 3000 tonnes of excavated concrete and 300 tonnes of steel rail will be recycled.
- 700 metres of new overhead wiring were installed.
- The project included associated road works, asphalting, footpath works and traffic signal works.
- Each platform is 64m long and approximately 3m wide, with bluestone kerbing and paving, stainless steel railings and clear glass shelters; information is provided for passengers.
- Two pedestrian crossings link the platform stops with either side of St Kilda Road.
- More than 6600 passengers board and alight from trams in the Arts Precinct on an average weekday. This is expected to increase because of the improved accessibility provided by the platform stops.

Melbourne: Mulhouse trams

The first of five trams leased from Mulhouse in France entered service on Route 96 St Kilda to East Brunswick on 11 July.

Classified as C2 class and numbered in the 51xx series, this first car was originally numbered 5101 but has been renumbered 5123. The cars will retain the last two digits of their Soléa numbers for ease of reporting to their owners the maintenance carried out on the cars during their three year stay in Melbourne.

Yarra Trams CEO Dennis Cliche who launched a driver training program on 26 May said: "Because the C2 Class trams are very similar to our Citadis (C Class) fleet most drivers are familiar with this type of tram. However, we will be putting all 120 drivers at our Southbank depot through a conversion course which will also include on road driving experience in this new model."

"Since the first C2 Class tram was shipped into Melbourne it has undergone significant modifications, testing and accreditation. This has included boosting its air conditioning to make it suitable for Melbourne's conditions," Mr Cliche said. Yarra Trams has added some local design features to the original yellow livery of the tram and the phrase 'step into the future' is displayed on both sides.

On 30 April Yarra Trams launched a Name the Tram competition, which closed on 14 May.

To commemorate the introduction of the first C2 Class tram, Public Transport Minister Ms Lynne Kosky announced the results of the competition to



The truck carrying portion of Mulhouse 2013 is seen leaving Webb Dock for Preston on 13 June. Ian Green

AUGUST 2008



Car 5103 (Soléa 2003) being prepared for service at Preston Workshops on 31 July 2008. Ian Green

name the five new trams. "We invited Victorians to come up with innovative names for the new trams, in order to give these French vehicles a uniquely Australian twist," Ms Kosky said. "As such, we have selected the most popular name that reflects the colour and vibrancy of these trams. The new tram will be named 'Bumblebee 1', with the other trams named up to 'Bumblebee 5'. This was the most popular nomination from the many people who entered the competition."

The second tram, Soléa 2013 arrived in Melbourne and was trucked from Webb Dock to Preston on 13 June. It was launched into service as 'Bumblebee 2' on 14 July. The Bumblebee theme has been taken to greater heights on this car. Lettering on the roof line reads: "Get on board Bumblebee 2 on route 96 from Brunswick to St Kilda" and on the centre of the tram: "Buzzing along route 96".

The third tram, Soléa 2003 was ready to be trucked to Preston on 4 July and the fourth tram, Soléa 2006 was unloaded from the ship on 14 July, ready for trucking to Preston on 15 July. The truck carrying the tram portions leaves the wharf and if required waits in Dockside Road, Port Melbourne, until the appropriate departure time for arrival at Preston. The last car, Soléa 2011 is due in late August.

The travelling public's response to the new cars has been very positive.



Car 5113 arrives at the stop at the top of Bourke Street on its way to St Kilda on 24 July 2008. Mal Rowe

More on Sydney's Differential cars

Ross Willson has supplied some additional details on the two NSWGT Differential dump cars described in the May 2008 issue of this magazine. Ross obtained the information from official tramway records held at Randwick Workshops.

Capacity: 20 tons Motors: MV102 (50 h.p.) Controllers: General Electric cj129d Trucks: No. 11 (2.631 tons) The Sydney No. 11 truck is illustrated below.



Cost: £5,473

Shown as non-coupling type. (The cars were fitted with multiple unit connections but there may have been an incompatibility with other equipment.)

A Differential Steel Dump Car Co. drawing of the dump car. The drawing has been photocopied many times and has lost considerable detail, and the right hand end has been cropped in the photocopying process. D. Rawlings collection Date in service:

- 123u: 5 March 1925 (Car record card) 25 May 1925 (Electrical Branch card)
- 124u: 27 March 1925 (Car record card) 1 June 1925 (Electrical Branch card)

Both cars were stored at Randwick Workshops between 24 March 1933 and 25 February 1937, and officially written off on 16 August 1939.

DVD Review: 'The Geelong Tramways'

This fascinating DVD brings to life the operations of one of Australia's most interesting small tram systems.

Geelong's trams ran from 1912 to 1956, over a network of some seven lines which served most areas of the city. Distinctive four-wheel trams including Birney cars were later joined by bogie trams from Melbourne.

The DVD is exceptionally comprehensive in its coverage of all aspects of the system. Movie footage is supplemented by numerous still photographs. Some of the many highlights include assembly of the Birney cars on a then-disconnected track in the depot; scenes of busy traffic in 1929; newsreel footage of the loading of No. 40 for transfer to Ballarat; and 'then and now' scenes showing present-day views of Geelong, intercut with the same locations in the days of trams. Coverage of cars 2 and 28, currently being restored privately, is a cheering inclusion.

Picture quality is good, having regard to the limitations of the film material which was the main



Geelong 3 in Moorabool Street in the mid 1930s. Two other trams can be seen further along the street.

R. Merchant collection



source. Shots have been well selected, and camera work is steady. The commentary is very informative but tends to be somewhat incessant and repetitive. The DVD is accompanied by a map of the tramways, drawn by Ken McCarthy.

The Geelong Tramways runs for 80 minutes. Its production is an impressive achievement, and it is recommended to all those interested in Geelong and its tramways. It is available from Efftech Pty Ltd, PO Box 4034 Doncaster Heights Victoria 3109, for \$46.95 including postage; or from numerous retailers catering to railway and tramway enthusiasts.

- reviewed by Dale Budd

Melbourne, Porto and Warsaw win international light rail awards

Almost 300 participants from over 30 countries attended the biannual light rail conference held by the International Association of Public Transport (UITP) in Istanbul, Turkey in June 2008. During the conference, entitled 'Keep the world cool with light rail transit: global solutions for a changing environment', the UITP handed out three awards for light rail projects.

The criteria for selecting the winners were innovation in the project's conception and design, excellence in its implementation, and a measurable positive impact on the mobility and lifestyle of citizens. The jury was made up of the members of UITP's Light Rail Committee.

Late News: SW6 893 left Melbourne by ship on 20 July and arrived in Auckland on 29 July after weathering three storms. The car arrived at MOTAT on 1 August.

The awards went to:

Metro do Porto, Porto, Portugal, for Best New Light Rail Realisation

Porto, with its 1.3 million inhabitants, is the second largest city in Portugal as well as one of its most industrialised and culturally significant. The light rail network, introduced between 2003 and 2006, covers around 60km, with 5 lines and 69 stations connecting Porto and surrounding areas. It transports some 200,000 people a day and has brought almost 1 million new customers to public transport. The customer satisfaction rate is at 75%.

Tramwaje Warszawskie, Warsaw, Poland, for the Best Modernisation Achievement

Part of Warsaw's tram network is currently being upgraded. This project involves modernising tracks and the power supply system, replacing the older trams with new ones, introducing a number of low-floor articulated trams, installing an electronic passenger information system, and modernising platforms. The project will be complemented by traffic light priorities for trams to ensure a good commercial speed. After completion the number of passenger per peak hour in a single direction is estimated at 8,000.

Yarra Trams, Melbourne, Australia, for the Best Accessibility Improvement Project

Melbourne's public transport system must comply with the national Disability Discrimination Act by 2022. By the end of 2006, however, only 112 of a total 1,776 tram stops had been upgraded to provide access to low floor trams for people with disabilities. To improve the situation, Yarra Trams built more accessible platform stops in the single year of 2007

(116) than between 1999 and 2006 (112). As a result average boarding time was reduced by 45% and running time on major streets was reduced by 25%.

Videos presenting the three winning projects can be viewed at

http://www.uitp.org/events/2008/istanbul/en/awards.cfm

UITP's next light rail conference will be held in Madrid, Spain, in October 2010.

There are some 400 light rail systems currently in operation worldwide, with construction under way in some 60 further cities and planning in progress in well above 200.

UITP is the international network for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry. It is a platform for worldwide cooperation, business development and the sharing of know-how between its 3,100 members from 90 countries. UITP is the global advocate for public transport and sustainable mobility, and the promoter of innovation in the sector. For more information on UITP and public transport, visit www.uitp.org

COTMA COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA PO Box 61, Carlton South, Victoria 3053 www.cotma.org.au

From Warren Doubleday

One of the agenda items to be discussed at the COTMA conference in Launceston in August will be the ramifications of the commitment by the Council of Australian Governments (COAG) to implement national rail safety legislation and a nationally consistent rail safety regulatory framework.

For those COTMA members who operate trams, implementation of the COAG commitment would mean existing safety documentation systems could change again unless they are accommodated essentially in their present form within any new framework. COTMA hopes that museums with satisfactory systems in place should not be required to change them.

In a discussion paper released in June 2008, the Association of Tourist and Heritage Rail Australia (ATHRA) identified various problems associated with the current regulatory system as well as a move to a single national rail safety regulator. The paper considered the current system to be oppressive. It impedes development and, because it relates primarily to heavy railways, has little relevance to heritage operators. There are also problems with regulatory staff understanding conditions existing in the heritage sector. In many heritage railways, finding people willing to prepare paperwork or with the necessary technical skills is a significant problem. We are already seeing this within COTMA, with organisations such as the Glenreagh Mountain Railway ceasing operations, temporarily, we hope.

Central to the problem currently being faced by museums is that we have been caught up in deliberations on the regulation of transport at the national level. Heritage railways and museum tramways are not part of the national transport scene; rather, we are part of the tourism sector.

What would implementation of the changes proposed by COAG mean for our small sector? Some museums may have to become static displays while others could be faced with closure. Unfortunately, the enjoyment of the preserving of an important community heritage asset appears to be at risk because of the onerous nature of current and future regulatory arrangements.

COTMA will work closely with ATHRA to try and find an appropriate solution, but there are no guarantees. In the words of one COTMA museum president: "It is difficult to get bureaucrats to let go of anything."

In March 2008, Colin Sevmour photographed an Adelaide city shuttle tram at the South Terrace terminus from Optus House, on the corner of King William Street and South Terrace. weekdav off-peak, During generally every second tram is a shuttle tram to maintain a 7.5-minute frequency on Adelaide's City Free tramline. The alternate trams run the fare paving service to Glenelg (i.e. every 15 minutes). This view looks south. The shuttle tram has left the siding to the east (left) of the down line to Glenelg and is crossing over to the up line to begin its trip to City West. The South Terrace stop and platforms are just out of view, being at the north (bottom) of this view Colin Seymour



BALLARAT BALLARAT TRAMWAY MUSEUM PO Box 632, Ballarat, Victoria 3353 www.btm.org.au

From Dave Macartney

Work continues on a spare time basis on the restoration of ESCo No. 12. Most of the roof slats have been secured, particularly over the end canopies, while the trucks obtained from a Melbourne bogie cable trailer have been repainted. The trucks will remain under the body for some years although they will not be part of the completed vehicle.

A telephone call was recently received from a lady in Perth, who turned out to be from the family that had previously owned No. 12 on a property at Nerrina, near Ballarat. She had moved from Ballarat to Townsville, then to Perth. She still had a conductor's bell from No. 12 in her possession. As she now lives just five minutes from Whiteman Park, she delivered the bell there for Gavin Young to bring back to Ballarat. A much travelled bell, it seems!



One of the conductor's bells from No. 12 received by the Museum in July 2008. The bell may prompt discussion of the tram's Melbourne Tramway and Omnibus (MT&O) Company origins. Did the Electric Supply Co. obtain a job lot from the MT&O Company in 1906? Warren Doubleday

No. 33 has had a spell in the workshops with some problems with one of its controllers. While this was being rectified, the opportunity was taken to replace a set of worn resistance grids. It is now back in service.

Because of delays in carrying out motor repairs to No. 14, we have decided to place the body back on the truck without re-installing the motors. This will free the body jacks for other work. No. 14 has had the tyres turned and flanges reprofiled. The jacks were required to lift No. 28 which had suffered damage to a field coil. These repairs have now been carried out, with the opportunity being taken to change the compressor. This tram has also been returned to traffic. Our hard-working jacks (and their equally hard-working operators) were then used to lift No. 38 so that its trucks could undergo a full overhaul including wheel lathe turning. The body has been placed on blocks to enable the jacks to be used for the return of No. 14's motors. Phew!

Work has not yet commenced on the shed repairs caused by an incident involving an errant motorist (see previous issue of Trolley Wire). The temporary change room is still in use at the end of the Museum Display Area, while junk which had accumulated in No. 38 over the years has been placed elsewhere in the shed. A spare Westinghouse 225 armature has been received from Bendigo and is now stored in a case made from a couple of spare pallets. In exchange, a pair of MV102 motors, which had been stored for decades on the off chance that a use could be found for them, were shipped to Bendigo. A second armature was sent from Bendigo several months ago to replace a suspect one in No. 14.

A small government grant received several months ago was used to buy a portable generator for use out on

the track, a powerful vacuum cleaner for cleaning dusty trams and, at last, a decent lawn mower.

In mid May two track joints in Wendouree Parade south of Depot Junction were replaced, while the internal telephone exchange, once an integral part of tramway operations, was disposed of to a telephone enthusiast. Its practicability as a communications system had long been superseded by simpler and more reliable methods.

The Ballarat Heritage Festival was staged throughout the town and surrounds over the weekend of 10 and 11 May. Horse Tram No.1 was made ready for a day's operation on the Sunday. Clydesdales Princess and D'Arcy, both used previously, were provided, and ten trips were run in two sessions during the day. They operated between the Loop and St Aidans Drive, while the electric service was restricted to the southern half of the line. Care had to be taken that the horse and electric cars were not approaching one another at the Loop, as the horses seemed to take a dislike to No. 27 bearing down on them. Some 132 passengers at a \$10 special fare rode the horse tram. Given that it was Mothers' Day and that the temperature did not rise above 13 degrees all day, the figures would probably have been better at a different time of year .It was a day for the SEC Inspectors uniforms to be broken out, although two Inspectors and a Traffic Superintendent just to supervise two trams did seem a bit like overkill.

A new bus timetable came into use in Ballarat from 16 June. Additional services are provided from the Ballarat railway station to Gillies Street with bus stops at the back of depot. It is now possible to visit the Museum by train and connecting bus throughout the week and weekends.



Nos. 28 and 33, seen on the depot fan in June 2008, are two trams repaired recently. Alastair Reither

Electric Supply Co. No. 12 sees the light of day on 2 April while being repositioned in the depot. Alastair Reither







Work has commenced on the overhaul of No. 38's trucks and components. One of the trucks before the removal of years of accumulated grease and dirt, photographed on 28 June 2008. Alastair Reither



Crew and supervisors chat while waiting for the next run of the horse tram, on 11 May 2008. Austin Brehaut

BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550 www.bendigotramways.com

From Len Millar

Passengers and trips

Our trams and crews and the tram servicing staff had a busy year, ending on 30 June. We carried a total of 38,175 passengers, down only 1,278 from the previous year. In 2007-08 we carried 29,143 people on the Talking Tram Tours, 6,423 on chartered trams, and 2,609 on our special event shuttles from the centre of the city to Lake Weeroona and the Central Deborah Gold Mine.

The tram fleet ran 2,622.5 round trips for the Talking Tram Tours, 224.5 for charters and the equivalent of 201.25 round trips for the shuttles.

Interestingly, the average number of passengers per trip comes out at about 11.5 passengers per Tram Tour trip, 28.7 per chartered tram trip and 13 for the shuttles.

Given the continuing climb in the price of petrol we are proud of our vital statistics, and we are fairly sure that there were a lot of happy passengers who stepped down off our trams after a ride back through history.

In the workshops

Melbourne Y1 class car 610 is almost ready for traffic. This MMTB green and cream car has had most

of the low voltage wiring and equipment installed. The inverter, which will obviate the necessity to use an extension cord at night to re-charge the on-board batteries, is in the process of being installed underneath. The destination boxes are being checked over, and a few Bendigo Tramways destinations added.

Maximum traction car No. 25, one of our First Fleet to run on our opening day, is getting its finishing touches from the Work-for-the-Dole group. Supervisor Damien Steel is now standing back and admiring the final gloss top-coats of paint.

Sydney C car 33 has had its spiral staircase installed and tested, new step treads and hand rails have been installed and the car has been jacked up to receive its Brill 21E truck.

World Youth Day pilgrims

Saturday, 12 July will be long-remembered by our crews. On this day, some 550 people were carried in just an hour and a half from the Gold Mine terminus (after Mass at the Sacred Heart Cathedral), up to Lake Weeroona, and then back to the Charing Cross



Trams at the back of the depot where the low voltage system is being installed. Bendigo Tramways



Repairs being made to the roof of our Administration Building. Bendigo Tramways

stop in the centre of the city for lunch. To cope with the onslaught, and the half hour tour service, all but one of our operating trams were pressed in to service.

Five special trams (30, 33, 34, 369 and 808), ran out at 11:00am, to pick up at the Gold Mine. The



Dennis Rhodda displays one of the side destination boxes for J car 675. Bendigo Tramways

instructions for the day advised the one person crews to operate with the doors shut, for the protection of standees, and to use the commentary tape. The two service trams inter-weaved amongst the specials, and crossing locations were timed to the minute. It would be very nice to have more double track for occasions like this event. The seven cars taxed the power system to the extent that trams operated in the series notches only.



World Youth Day pilgrims board trams at Central Deborah Gold Mine. Trevor Lamb

Pantographs

Until recently pantograph-equipped cars 9, 34, 369 and 976 have not been able to run into the shed, because the trolley wire in the City depot building is located inside timber troughing. Each car had to have its pantograph lowered, and a wheel-equipped trolley pole used to get the car in and out of the shed. No more! We received advice from Heritage Victoria that we did not need to obtain a permit to modify the overhead fittings at the entrance or down each of the four roads that are used by these cars. So in just two days the necessary modifications were made - a job well done.

Time-tabling

Our normal timetabled departures from the mine are at 09:15, 10:27, 11:39, 12:51, 14:03 and 15:15. We trialled a 30 minute schedule for the school holidays, with cars leaving the Gold Mine on the hour and half-hour. Passengers had the option of staying on the tram after it arrived at the depot, to continue their tour after a five minute wait, or they could step down and have a leisurely half hour guided tour and meander around the precinct.

Our archives

Glen Carter is supervising a keen group of 'conservation volunteers', who have been making good progress sifting through our mountains of archive material. John Penhall has been called upon from time to time to help identify former staff and volunteers in the many photographs. The former Board Room is the location of all the activity and government-funded computers and archiving kits are in active use.



Alterations to accept pantographs are being made to the overhead at the front of City Depot. Bendigo Tramways

Single trucker No. 16 was bumped from its front-of-house berth on the top of 6 Road, to make way for a new display of posters, photos, models and an operational set of driver's controls from a Melbourne Z1 tram.

Television

Local channel WIN TV is always ready to assist in keeping our profile high in the local collective mind. It recently covered the Talking Trams 35th anniversary. Then we had a visit from Channel 7's 'Coxy's Big Break' production crew. The big man himself experienced a tram tour, and a look around the workshop. Coxy is indeed a big man. He even dwarfed our Manager, Darren Hutchesson in the mandatory end-of-visit photo for the archives.



Volunteers working with our archives in the former Board Room.

Bendigo Tramways



Birney 302 at the Gasworks Depot is being prepared to return to City Depot. Bendigo Tramways

Building and track repairs

The roof of our heritage listed administration building is being repaired by a local contractor. This work has been generously funded by the City of Greater Bendigo.

We took the opportunity to use the quieter time of the year to do some minor track repairs, in particular at the bottom of the Thunder Street hill.

Tram re-location

Several cars have been relocated between the City and Weeroona Avenue depots. Birney 302 is now back at the City Depot, and we hope to restore it for the Centenary of Electric Trams in Adelaide on 9 March 2009. Car 880 has made the same move.

BYLANDS

TRAMWAY MUSEUM SOCIETY OF VICTORIA 38 Piccadilly Crescent, Keysborough Victoria 3137 www.tmsv.org.au

From Running Journal

Museum works

The working bee held on 19 April 2008 concentrated on upgrading the main line near One Tree Hill. Five members, Andrew Hall. Graham Jordan, John Whiting, Harry Twining and long-time supporter Lindsay Walker replaced 13 sleepers with new ones, that were then lifted and packed. The following day Graham and John replaced a further three sleepers. There is still more work required to the track in this section and this will continue as time and labour allows. Our tireless volunteers once again enjoyed the customary barbecue lunch provided by Aileen Jordan.

Our recent order for an additional 50 new red gum sleepers was delivered from the Merbein Saw Mills early in April. We now have enough new sleepers on hand to complete our sleeper replacement program for the next few years. A nearby local resident offered to remove a number of our old sleepers for use as firewood. As well as clearing up the site for us, we received a generous donation. In other developments, our excavation contractor was engaged recently to undertake some small earthworks. The area between the house and the existing carports, where the Cyprus trees once stood, was filled and levelled to create a future hard surface for vehicles. The remnants of the spoil from the main line trackwork adjacent to No. 2 shed were levelled and spread to improve that part of the roadway. Several mounds of spoil on the western side of the depot fan were removed and used as fill on low-lying ground between the depot fan and the main line opposite the toilet block. It is intended to use the remaining spoil from the main line works near the kiosk to resurface the main entrance and caretaker's roadways.

Work continues on the restoration of Q 199 and to a lesser extent on X2 680. In the case of 199, internal fit-out is proceeding with the refurbished seats and panelling now mostly in place. Many of the fittings being used in this car were originally from car No 200 and fit perfectly. The Colorflek on the ceiling and other panels of 199 has been meticulously and

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TROLLEY WIRE

Q class tram No. 199 is currently being restored to its original passenger condition in the workshop which is located in the Exhibition shed. This tram was converted in the late 1950s to works car No. 16 (later 16W) by the MMTB.

Stephen Cleverdon



painstakingly removed by Sawako Prosser and the final result is amazing. John Whiting is also assisting Doug and Sawako with works on both trams. X2 680 now looks the best it has for decades, probably since it last ran in Footscray.

New replacement builder's plates have been installed in Adelaide H 373. These were copied by the Bendigo Tramways from an original plate in Bendigo's H 369.

Member Jeff Stocco recently donated and delivered to Bylands a quantity of tools and equipment which belonged to his late father. This equipment will be of great benefit in the workshop and will assist with our tramcar restoration projects. We wish to record our appreciation to Jeff for his thoughtfulness. William Fedor has continued to develop and update our new website and can be justly proud of his achievements. The most recent addition is a link to the music video *Feeling is Gone* by The Panics which was filmed at Bylands earlier this year.

Special visitors

Sixteen members and friends of the local Kilmore Historical Society visited our Bylands museum on 16 February 2008. The group were given a warm welcome by Graham Jordan and John Walker before undertaking a detailed guided tour and several tram rides. A special bonus was a trip on Adelaide H class No. 373, and this resulted in some very complimentary comments from those present. The visit ended with afternoon tea being served.



Adelaide H tram No. 373 waits at the southern terminus at Bylands for its next load of passengers.

Stephen Cleverdon

HADDON

MELBOURNE TRAMCAR PRESERVATION ASSOCIATION PO Box 324, Prahran, Victoria 3181 www.railpage.org.au/mpta

From Kym Smith

SW5 843

Jacqui Smith has commenced the task of preparing the exterior of 843 for refinishing by undertaking the removal of all of the previous pinstripe lining and numbers. An initial assessment has also been carried out to determine requirements for filling and sanding the exterior prior to repainting.

L 103

Restoration of this tram was completed recently with the fitting of new bell cords and original metal plate signs to the interior.

VR 41

One of the projects not completed on VR 41 during its restoration was the installation of weather blinds. New blinds were manufactured during 2007 but these could not be installed because suitable rollers were not available at that time. Since then, a local supplier has sourced a replacement roller, and it is being trialled prior to fitting the other seven. While VR 41 does not see much inclement weather in its retirement, the weather blinds will keep dust from the tram's interior while it is stored in the carbarn. This will help us to keep the tram in pristine condition for operating days.

Annual servicing

Anthony Smith and Daniel Edwards carried out the annual service of the fleet during March and April. This year particular attention was given to ensuring that the sanding equipment on the trams was operating effectively and efficiently. Several trams were refitted with overhauled sander valves and new sander hoses. In some cases sand hoppers were cleaned out fully to remove dirt and other material.

Spare parts

Work on dismantling SW5 809 has almost finished. Two more trams, SW5 849 and SW6 947, were delivered to Haddon on 8 and 9 July for dismantling. Components from 849 will be used in the restoration of 843, while 947 will provide body components and additional electrical parts. These will be used at Haddon and by other museums. Three No.15 trucks were also received during June. These will enable us to make up an overhauled set of trucks for 843. We thank VicTrack for its assistance in securing the trams and the three sets of trucks.

Door engines

The overhaul of the four door engines from Y1 612 for the TMSV at Bylands was completed in late June,



Jacqui Smith removes the pin-striping and numbers from SW5 843. Anthony Smith



The trial weather blind prior to test fitting in VR 41. Anthony Smith

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The three trucks which will provide the components for an overhauled set of trucks for SW5 843. Anthony Smith



The jigsaw puzzle of components that makes up a Peters door engine for Y1 612. Jacqui Smith

with the final engine being installed in 612 on 6 July. Chalked dates in some of the door engine boxes suggested that the engines were last overhauled in 1962, and the poor condition of some of the piston leather cups was consistent with this. New neoprene cups should see the doors on 612 operate for at least another 46 years, possibly longer!

Accreditation and documentation

Minor changes are being made to our safety management system to further improve documentation and the completion of forms. Work has also continued on entering information into various registers to ensure these are maintained in accordance with legislative requirements.

Revisions have also been made to our museum brochure and to our membership form. As well, we have reviewed and updated our membership register. These documents and forms have been added to the document register to ensure current versions are readily available. Contractors level the floor of the tower wagon shed prior to concreting. Anthony Smith



Site works

During May, contractors laid a concrete floor in the tower wagon shed, which will provide improved storage for the tower wagon and a surface suitable for the erection of shelving. Additional blue metal screenings were also delivered to level the areas around the shed and the storage containers. This will assist drainage and water runoff in the area.

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY PO Box 94, Ferny Hills, Queensland 4055 www.brisbanetramwaymuseum.org

From Peter Hyde

Unfortunately, the main news to report falls into the 'bad news' category. For many years now the Museum has been working on proposals for extending the operating track from the current site to the Ferny Grove railway station. Extensive consultations have taken place with the Brisbane City Council and other concerned authorities into the many alternative variations to the route.

A formal Development Application pre-lodgement package comprising 78 pages plus 20 A3 drawings of technical details was prepared and presented to the BCC. At the formal pre-lodgement meeting on 5 June 2008, the BCC requested further extensive engineering studies and reports including a full hydraulic study of the proposed creek crossing. They advised that with the development of extensive housing estates in the Upper Kedron area, a significant increase is expected in flood levels in the vicinity of Tramway Street and Arbor Street. There are several houses in Arbor Street where the flood regulation line is situated right at their front doors and any increase in flood levels caused by a tram line creek crossing could inundate these residences. BCC advised that any proposed tram line crossing must in no way affect the hydraulics of Cedar Creek.

With a highly likely negative result expected from a very expensive hydraulics study, together with the increasing cost estimates of the project, the board has decided to shelve indefinitely the current proposals, and to re-activate the original 1980s dormant proposal for a tram line in the open space parkland adjacent to the museum.

Some engineering challenges are likely to be encountered here also as the proposed route crosses a section of landfill which is classified as contaminated



The completed Brill 39E1 bogie for Dreadnought 136 (nearest the camera), the second bogie with wheelsets and motor in place, and FM 400 in the background. Peter Hyde land. Further reports will be presented here as matters progress.

In the meantime, progress continues at the site. Restoration work continues on FM class-leader No. 400 with extensive sanding, undercoating and painting taking place. Renovation of the second Brill 39E1 bogie for Dreadnought 136 has reached the stage where the wheel sets and motor were re-installed in mid July.

A grant was received from the Brisbane City Council for the installation of rainwater tanks totalling about 18,000 litres, and these have duly arrived and merely await rain! The current Level 6 water restrictions have prevented the washing of trams for over a year now and they are beginning to look decidedly shabby. The large roof area available for rainwater collection at the Museum should allow adequate rainwater to be harvested from even moderate rain.

Establishment of a trolleybus display alongside the trolleybuses in the 'old' workshops is now near completion with the installation of the sliding glass into the display cabinets.



The newly completed display cases for the trolleybus exhibition, with TB No. 1 reflected in the glass.

Peter Hyde

GIFNRFAGH

GLENREAGH MOUNTAIN RAILWAY PO Box 104, Glenreagh, NSW 2450 www.gmr.org.au

From Gregory Wilson

Progress towards accreditation

Glenreagh Mountain Railway is working steadily towards its accreditation application. The necessary documentation is slowly coming together. It is hoped that limited operations will shortly resume using W2 392.

Meanwhile, concrete has been mixed for the floor

of our new tram shed and equipment has been moved into it.

W5 792 arrives at Glenreagh

W5 792 arrived at Glenreagh from Cessnock on the evening of 4 July. On the following morning the tram was unloaded using a temporary ramp. It was rolled into our tram shed where it joined W2 447.

In conjunction with this transfer, three Sydney suburban electric train carriages were removed from a local Grafton school. One of these cars has been donated to Glenreagh.

W2 car 392

With our accreditation still pending, the Thursday workers have concentrated their efforts on 392. Ron Swadling has done a magnificent job on the painting of this tram, and recently applied the finishing coat of green paint to the number 2 end apron. He has also been working on other painting including the painting of the driver's cabs.

On completion of a hydrostatic boiler test on our 19 class steam locomotive, No. 392 will be put over our inspection pit to allow a thorough mechanical and



electrical inspection prior to certification for its accreditation..

VR car 40

As reported previously, this car came to Glenreagh from Canberra as a stripped body. It became surplus to GMR's requirements and its future was in question, because of the need for very extensive restoration work.

A local café showed an interest in obtaining the car, and after necessary arrangements were made, GMR was able to transfer it on lease. Over following months the café started restoration of the car, including fitting a protective roof and panelling of the body and interior. The tram has been repainted in green.

A history of No. 40 and of GMR's trams will be displayed inside the car when it is completed.

Preparing to unload W5 class car 792 at Glenreagh on 5 July. Greg Wilson



Victorian Railways tram 40 in use at a café in Kookaburra on 5 June. Greg Wilson

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) Inc PO Box 213, Salisbury, South Australia 5108 www.tramwaymuseumadelaide.com.au

From Colin Seymour

Bib and Bub project

The body of A type tram 14 was lowered onto the replica Brill 21E truck fabricated by Bendigo Tramways in May 2008. John Pennack connected the wiring to the motors and Mike Bosworth had the privilege of cutting the first notch on 23 May. The two MV101 motors from W3 668 sprang to life, and by luck both axles rotated in the same direction and correct for the reversing key. An extra resistance was added to curb the tendency for wheel spin on first notch, after which A 14 ran a number of trial trips to Mangrove Loop.

This is the first time car 14 has operated under its own power since being withdrawn from MTT traffic by 30 November 1950. Minor overheating of two axle boxes occurred and after the end play keys were given more clearance, the tram ran freely, reaching 36km/h (according to Jack's GPS). After completing 60km of running-in without incident, car 14 has returned to the body shop for further fitting out.

E type tram No. 118

On 27 June, Bruce Lock, Mike Crabb, John Pennack and Mike Bosworth raised the body of E 118 on jacks to enable installation of the brake rigging and positioning of two refurbished Brill 22E trucks. Ian Seymour is machining new motor suspension bearings to be used on 118.

Museum displays

Work on this major project is proceeding, with six story-telling panels in place in the Northern Depot in time for the 2008 AGM on 24 May 2008. The panels can also be viewed on the Museum's website under Things to see and do, then the Learn more about the history of trams in Adelaide box.



The recently installed crossbench seats in E car 118 now give the tram its half saloon/ half open combination appearance. Chris Summers



Bruce Lock and Michael Crabb install brake equipment under

Chris Summers

car 118.

Car 14 being towed from the Bodyshop on 23 May 2008 to test the motors. Preparing the tram are Bruce Lock, Michael Crabb and John Pennack. Chris Summers



Annual General Meeting

The 51st Annual General Meeting was held at the Museum on Saturday, 24 May 2008 at 4:00pm. The following committee positions were filled:

President:
Vice President:
Treasurer:
General Manager:
Operations Manager:
Rollingstock Manager:
Track & O'head Manager:
Site & Safety Manager:

Colin Seymour Chris Andrews Barry Fox Ian Seymour Mark Jordan Michael Bosworth Andrew Hall John Pennack

Andrew Hall (TMSV) moved recently to Adelaide in connection with his employment in public transport, and now works for Southlink buses - Victoria's loss and South Australia's gain, it would seem! After the meeting, members watched as car 14 moved a few metres under its own power. They also enjoyed two rides on restaurant tram 378 after which an evening barbecue was held. A DVD presentation was shown which included footage of the opening of the City West tram line.

Workshop activities

A new, longer boring bar has been made for our vertical borer. The modified borer will be used to machine the motor suspension bearings for car 118. A quote has also been obtained for two extra pairs of motor suspension bearings.

Three truck loads of COTMA spares items have arrived from TransAdelaide and small items are being stored for future use.



New display panels in the Northern Depot were fitted prior to the AGM on 24 May 2008.

David Williams

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Another view of the new crossbench seats in 118. Chris Summers

LOFTUS SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY PO Box 103, Sutherland, NSW 1499 www.sydneytramway.museum.com.au

From SPER News

Trackwork

Two prefabricated Sydney style track drain panels have been installed across the western track just inside the front gate. Concreting of the western track has now reached some 13 metres past the point blades of the crossover.

Steel Poles

A start was made on 5 May to repaint all the Museum's street furniture and other items. Greg Sutherland, Tom Tramby and Ian Hanson spent the whole day repainting span poles. This project has seen some 14 Mannesman poles plus a few street light posts repainted. A contractor will start work soon to repair and repaint the various small structures such as waiting shelters, starter's cabins, etc. The whole of Tramway Street will look better than ever!

A very welcome donation

The inevitable slow deterioration of sleepers in our track, particularly on the National Park line, is a continuing cause for concern. Over the next few years all the timber sleepers on this line will require replacement. In December 2006, 250 concrete sleepers were placed in the track but it was recognised that more would soon be required.

During May this year we were very pleased indeed to receive the welcome donation of 400 concrete sleepers, manufactured by Austrak in Wagga. They were delivered and placed adjacent to the National Park line. Fastenings for the sleepers were donated by Pandrol.

Our special thanks are extended to Bill Killinger of Laing O'Rourke, Austrak's parent company, who coordinated the donation which extended to free transport from Wagga to Loftus, and free unloading by John Holland. We are grateful to all the companies involved for their generosity.

Melbourne Z2 car 111

The two dot matrix hard drives for the destination

Ballast motor 42s is now having its decking installed by our Wednesday team.

Martin Pinches



signs have been removed from this tram and have been sent to Southport Engineering at Dandenong, Victoria.

The equipment is being upgraded. It will have the same Melbourne destination signs, but a number of local ones are also being installed, required for our own museum workings.

The Museum is grateful for the generosity of Southport Engineering in this matter. Thanks go to Maurie De Candia and Robert Kuang for their assistance and support.

Sydney ballast motor 42s

Re-wiring of the car continues on Tuesday nights. Deck boards have been measured, cut and fitted, and the car is finally gaining a more complete appearance.

Sydney OP car 1089

Ian Hanson is preparing to undertake the laborious job of completing the paint and interior varnish work on this tram. On 12 July it was placed at the back of Road 8, with Ballarat 37, to enable Ian to commence preparatory work on the painting of both these cars.

Melbourne W2 car 249

Side destinations have been fitted to this car (albeit fixed ones!) plus samples of early MMTB signs. Thanks to Shane Moore from Melbourne who provided some of the material and tracings.

Brisbane Phoenix car 548

Following the motor failure on 13 April, car 548 was lifted and the No. 2 truck was removed from under the car. The No. 3 motor was taken out for replacement of the burnt out armature. It was swapped with a spare from stock. The replacement was tested and installed after being given a good clean. The pinions were also swapped as 548 has DH gears, and the repaired motor was put back into the truck.

The brake rigging and bolster were stripped, cleaned and lubricated whilst the truck was out. The pins and bushes were found to be in good condition. The brake blocks were checked and one very worn one was replaced. The car's other truck and bolster were lubricated, after which the trucks were placed under the car and the motor leads and brake rigging were reconnected. Around six members worked on returning 548 to service in a fine team effort.

Car 548 was tested on Saturday 24 May, It passed, and went into traffic next day. Our traffic crews report it is very quiet and smooth in operation.

Berlin car 5133

Our friends in the Berlin Tramway Museum came to our rescue by donating front apron components and a coupler to facilitate repairs to this car. We are grateful to DB Schenker for sponsoring the transport of these parts from Berlin.

5133 was removed to the workshop on 12 July to enable its repair, and by the afternoon the damaged

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The side ribs of D117's body are now being fitted. The roof is suspended on pallet racking supports above the body so the fitting of ribbing can be checked. Martin Pinches

apron had been removed ready for our Wednesday workers to carry on with the work.

Sydney D car 117

The completed underframe for this car was used as an oversized work bench for the extensive and highly skilled work done by Geoff Spaulding on the roof framing repairs.

The roof frame, on completion of its reassembly, was lifted by our overhead cranes and suspended about

Mick Duncan puts the final coat of paint on an overhauled wheelset for D117. Martin Pinches



two metres above the underframe on a pair of steel pallet racking frames.

Geoff has been cutting and splicing new timber into the various body posts. These all have tenoned ends top and bottom and the suspended roof allows each post to be trial fitted into the new sill timbers in the reconstructed underframe. Once this phase is complete the roof frame will be lowered onto the posts and bulkheads.

The re-profiled wheelsets were collected from Zig Zag Railway enabling the reassembly of the car's Brill 21E truck to commence. The frames have been painted with cold galvanising, worn motor suspension holes have been welded up and the frame has been bolted together to ensure it is square. Brake beams, suspension bearing caps and post stays have been cleaned and straightened. Brake parts, the wooden end transoms and the gear cases have all been undercoated. Four new bolts were shortened for the motor suspension beams, and threaded in the big lathe. At least a dozen members have worked on these tasks.

Sydney J car 675

Final fit out works are nearing completion. Altered lifeguard trays, sanding gear and bell circuits are all in hand, together with the fitting and connection of hand brakes. Visitors on the Bendigo trip on the 5-6 July weekend were delighted to see the progress achieved.

We have discovered that the second front destination roll for the car has had the 'Clarence Street' and 'Erskine Street' signs cut from the roll. We appeal to

PR1 1517 on its way to Bendigo. It was photographed at a truck stop in Yass on 5 June. Kevin Taig



any member or friend who may be able to assist by donating an authentic 'J' era roll to contact us.

Sydney C car 33

The staircases have been fitted and Dennis Rodda has fitted step treads to one end. Volunteer, George has been fitting hand rails at one end, which have been bent to shape by Masfields Engineering.

Launceston car 14

On 1 July our chief sponsor for this car, Hugh Ballment and Howard Clark visited Bendigo to assess restoration plans with Bendigo Tramways. The truck is in the final stages of re-assembly, and following refurbishment a CP27 compressor (one of the components recovered from W2 577) will be fitted to it. Various parts including driver's window sashes were removed for transport to Sydney for replacements to be made by our joiner, Ross Traeger.

Sydney PR1 car 1517

The Board had agreed to the de-accessioning of this car body as a source of spare parts for P 1501, already in Bendigo. On 3 June it was collected from HPOTS, Cessnock and, after an enforced Roads & Traffic Authority stay overnight at Hawkesbury River, was delivered to Bendigo on 6 June. Short work was made of dismantling and recovery, before it was collected by scrap merchants on 13 June.

Melbourne W5 car 792

As part of an agreement with Glenreagh Mountain Railway for a long term loan of this car, it left HPOTS, Cessnock on 4 July. It arrived at Glenreagh next day, along with a replacement front apron removed from a dismantled car in Bendigo and a pair of motored trucks from Newport, supplied courtesy of Victrack.

Bus news

A replacement fuel tank for Leyland half-cab bus 275 has been fabricated by outside suppliers and fitted by Craig Parkinson.

The underframe of Albion double-deck bus 1615 was sent to Parkes on 2 May. Phil Dixon will undertake a shot blast clean up and coat it in silver at no charge. He will also remove the tyres from the wheels, clean and paint the rims, and refit newer tyres.

Brisbane Tramway Museum

In an example of COTMA Museum co-operation the Board has agreed to donate our four screw jacks for their use. In addition we are to exchange a pair of K35 controllers for a pair of Brisbane Clyde type, which will enable our Brisbane colleagues to fit the original K35 type to prototype car 400 as part of its restoration.

A well-deserved award

At the 2008 Sutherland Shire Tourism Annual Awards night, Peter Kahn received a Highly Commended Award for an "outstanding contribution from an individual" on behalf of the Museum. Well done, Peter!

'TramsDownUnder' members visit

Saturday, 21 June was an event-filled day at the Museum as a special opening for members of the 'TramsDownUnder' Internet Chat Room preceded our annual 'Trams After Dark'. Both events proved to be very popular and very successful for the Museum.

Some 22 TDU members (with another six or so dropping in for short periods during the afternoon and evening), from as far afield as Melbourne, Geelong, Wodonga, Wollongong, Wagga and Orange responded



Twenty of the 'TramsDownUnder' internet news group pose for a photo in front of Melbourne 111 and Brisbane 548 on 21 June. Mal Rowe

to the invitation and from 2:00pm the Museum opened for tram rides, photo opportunities and behind the scenes guided tours.

Trams After Dark

As the sun set on the TDU visit, our attention turned to the second event for the day, our annual 'Trams After Dark' festival. This year, two obstacles challenged us: the Illawarra rail line was shut down for maintenance and Rawson Avenue was cut at the railway bridge while a second bridge was positioned as part the Sutherland-Cronulla railway duplication. Our visitor numbers were down but boosted by the many TDU members who stayed for the second event, the Museum still recorded a successful night.

The smaller visitor figures changed the format of the night, with fewer trams run and more emphasis on photographic set pieces. Again, the illuminated YMCA façade proved a popular backdrop for the Sydney trams, and Tony Buckland's handsomely restored 1964 Ford Falcon was the perfect prop alongside Brisbane Phoenix 548 in a mid-1960s reenactment.

Special mention must be made of Geoff Olsen's work in bring the traditional Sydney nightscape to life. Geoff and his team's efforts bought high praise from visitors and members alike. One visitor, looking at the traditional streetlights illuminating the Museum line, grabbed David Critchley's arm and said "Now that is how I remember Sydney". Well done, Geoff!

Encouraged by TDU visitors, a wide variety of trams ran during the evening, including 1740, 1111, 249, 1014 and 358 on its first after dark adventure. Hungry tummies were again satisfied by the Rovers of Engadine Scout Group who put on a classic Scout sausage sizzle and hot chocolate.

Although the Museum officially closed at 9:00pm, visitors were still taking rides as the last trams were being put away an hour later. Well done everyone.

Bendigo break

Nine Museum members enjoyed a terrific weekend away at Bendigo over the first weekend in July. The group departed Loftus by mini-bus early on Saturday morning. There was a brief stop in the Southern Highlands for morning tea and then it was on to Yass for lunch.

At Yass, we visited the Yass Railway Museum, based at the former Yass Railway Station. The Museum put on a barbecue lunch for us. Many thanks to the volunteers at Yass, particularly Bill and Con, who showed us wonderful country hospitality during our visit.

From Yass we continued south. After an afternoon break at Cootamundra it was on to Bendigo where we arrived at 9:00pm.

Sunday morning was cold but fine. We walked around to Bendigo's City Depot to find our J 675 on the depot fan for photographs. What a mighty fine sight! The paintwork glistened in the sunshine and the destination roll displayed Rose Bay! It has yet to be accredited for operation outside the depot, but just the sight of this restored tram, 'lost' for over 70 years, is enough to excite any tram enthusiast.

Our crew and guides for the day, Bill Jolly and John Penall then took us on a tour around the heritage 1903 depot and workshops where we viewed progress on a number of Bendigo and Sydney projects, including C 33 under reconstruction as a double-decker. After more photos, we were taken by tram to the Gasworks Depot where we saw the other STM trams awaiting their turn in the workshops, Sydney P 1501 and Launceston 14. Hobart 20 was under wraps there also, having been moved out to make way for some depot

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Single truck 21 in regular service, crosses our tour car, bogie 26 in Bridge Street on the 'D' loop, the only asymmetrical loop on the Bendigo system. Car 21 was used for our night tour of the tramway.

Bob Merchant

displays over the school holidays. We also had an opportunity to look around the former gasworks, which is a great piece of industrial archaeology and a heritage attraction in its own right.

We returned to Bendigo Depot by tram then switched to our mini-bus. Following lunch, John Penall guided us around the former SECV Bendigo system, starting at the site of the original battery tram depot in Mollison Street and travelling, in turn, over the four Bendigo routes. John has an extensive knowledge of the Bendigo system and we appreciated his insights as we travelled along the various routes.

Back at the depot we transferred to Bendigo bogie tram No. 26, the last tram to Eaglehawk, and one of the few trams in the current fleet in the final SECV livery. We trundled back and forth between the Mine and North Bendigo all afternoon between the service cars. As evening came and the lights went on the service trams returned to the depot, giving us free range over the tramway. We took a short break for dinner, enjoyed in the original depot meal-room and then it was back on the trams. This time we chose Bendigo 21, a single trucker, for some chilly night rides along the tramway... and the perfect end to a great day.

Monday started early with a 7:00am departure for the return journey, retracing our route to Loftus where, with plenty of rest stops along the way, we arrived at around 8:30pm. The whole group agreed that it had been an enjoyable and worthwhile trip.

To our friends in Bendigo, particularly Darren, Anita, John and Bill, many thanks for taking care of us and making our stay a most enjoyable one.



Our Bendigo tour group pose with bogie car 26 at North Bendigo terminus. From the left are Geoff Olsen, Bob Merchant, Danny Adamopoulos, John Penall (Bendigo), Andy MacDonald, David Bennett, Col Rhodes, Chris Olsen, Bill Jolly (Bendigo) and Wayne Dempsey. David Critchley is behind the camera.

WHITEMAN PARK Perth electric tramway society (inc)

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From Michael Stukely

Tram restoration

Under-floor wiring of WAGT (Perth) E class No. 66 has been completed by Roy Kingsbury, Bill Blain and Gareth Watts. Lifeguards and new timbers for the entrance steps are being prepared for installation. We await news on the status of the original compressor from the engineering contractor. A quote has been accepted for installing the vinyl floor covering and moisture barrier for the saloon floor. With the body now sitting high on the support dollies, a set of wooden access stairs was constructed by Bryan Adcock and placed at the west end, giving members a safe means of gaining entry for the continuing interior restoration work.

Progress with the restoration of the body of Perth B class No. 15 (single truck car) for static display by the City of South Perth Historical Society has continued at a rapid pace. Bryan Adcock and his team have been busy with the complex carpentry involved in the replacement of the main under-floor longitudinal side beam on the south side, and the installation of the new roof support pillars on this side is progressing well. Rebuilding of the western end platform, and the structure supporting the apron and windscreens, has been completed. The rebuilding of the eastern end platform is progressing.

Infrastructure works

Major work has been carried out on the main line overhead, with the replacement of nine old wooden traction poles with steel poles formerly used on the Perth trolleybus system. On 30 April, positions were pegged for the placement of the new poles on the straight section of track from the Mussel Pool East tram stop to Horse Swamp Curve, and from Horse Swamp Curve to the Triangle. Steel poles have already been installed on Horse Swamp Curve itself. Variation in the spacing of the old poles was adjusted to give a standard 30m spacing.

Over the next two Wednesdays, a very efficient system was developed whereby steel poles were loaded onto the Albion truck in pairs and base plates were welded onto each; the poles were then transported to the site, and using the Society's post-hole auger and crane, holes were drilled at the pre-pegged positions and the poles erected. This was fine-tuned so that the work on site was taking three members just 30 minutes per pole. Seven poles were erected between the Triangle and Horse Swamp Curve, and two more between the curve and Mussel Pool East, to replace the wooden poles that were in the worst condition.



Drilling holes for spacer-block bolts in the new lengths of check rail on Village Junction Curve on 29 March. The modified rail-drill bracket, securing both the check and running rails for drilling in one operation, is clearly visible. Trevor Dennhardt operates the drill, assisted by John Davies (left) and Frank Edwards (right).

Lindsay Richardson

The newly installed check rail on Village Junction Curve on 9 April, with W7 1017. Steel sleepers have been installed at a ratio of at least one-in-two around the whole curve. Lindsay Richardson

Shane Parsons greases the track at Village JunctionCurve on 8 April.Lindsay Richardson

The overhead bracket arms from the wooden poles are receiving a full re-fit before their installation on the steel poles. Significant corrosion had affected the span wires and some steel fittings, and these are being replaced. Siemens insulators are also being added at each ear to provide double insulation. This is now standard practice on all poles that carry electricity.

Another batch of 20 steel poles has been selected for sand-blasting and painting prior to being used in our timber pole replacement program. The war on Whiteman Park's wood-rot and termites continues. Adjustment to the spacing of the poles has meant that an extra pole will be added near Mussel Pool East. This means an extra alpha character will be introduced into our long-established pole numbering system. David Secker has made good progress in renewing all painted pole numbers between the Carbarn and the Triangle.

Another three lengths of rail have been cut and prepared for transport and installation as additional check rail towards the northern end of Village Junction Curve. On 24 May, eight rotted timber sleepers were replaced with steel sleepers on the north-to-east and north-to-west curves on the Triangle.

General

Patronage during autumn was generally good, but with Perth experiencing its wettest April on record, that month was quieter than usual. Traffic Manager Les Hunt has arranged for new portable A-frame 'Tram Stop' signs to be made for display during operating hours at all four stops, giving details of our tram fares. New PETS uniform shirts, and newly redesigned badges featuring Perth I class car No. 63, are being issued free to our traffic crew members.

The Bennett Brook Railway's 'Friends of Thomas the Tank Engine' day was held on 25 May. Our monthly Carbarn Tour day fell on the same day (the fourth Sunday of the month), and a good number of visitors attended. Tony and Beth Kelly report that the monthly tour days generally are attracting steady numbers, and sales continue.

PETS again provided a display and promotional stand at the Australian Model Railway Association's annual exhibition at Claremont Showgrounds on the June long weekend, and sales were brisk as usual. Laurie Ahearn's hand-built models of Perth trolleybuses were again on static display and attracted a lot of interest.

The Society's annual safety compliance audit was carried out by Chris Green from the WA Office of Rail Safety on 28 April, and we again passed with flying colours. The result is a great credit to all PETS members involved in all aspects of our rail safety work.

The overhauled motor has been returned from the engineering works ready for installation in W2 441.

Ballarat Tramway Museum's horse tram No. 1 ran on 11 May for the Ballarat Heritage Festival. Clydesdales Princess and D'Arcy did the honours, running ten trips between the Loop and St Aidens Drive. Austin Brehaut

Adelaide H 358 and Sydney R 1740 wait their turn to take on passengers during the Sydney Tramway Museum's 'Trams After Dark' event on 21 June. Some of the newly erected street lighting is visible in this view. Martin Pinches