

# TROLLEY WIRE



No.288

FEBRUARY 2002

\$8.25\*

Print Post Approved PP245358/00021

## 50th ANNIVERSARY EDITION



### A TRAMWAY REVIEW FROM 50 YEARS AGO

# TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM  
MAGAZINE

FEBRUARY 2002

No. 288 Vol. 43 No. 1 - ISSN 0155-1264

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Published by the South Pacific Electric Railway  
Co-operative Society Limited,  
PO Box 103, Sutherland, NSW 1499

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Randall Wilson

\*Cover price \$7.50 plus \$0.75 GST

Subscription Rates (for four issues per year) to expire  
in December.

Australia .....	\$A30.00
New Zealand/Asia.....	\$A36.00
Elsewhere.....	\$A40.00

All correspondence in relation to TROLLEY WIRE  
and other publishing and sales matters should be  
forwarded to:

PO Box 103, Sutherland, NSW 1499  
Phone: (02) 9542 3646 Fax: (02) 9545 3390

The opinions expressed in this publication are those of the  
authors and not necessarily those of the publishers or the  
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Typesetting and finished art by National Advertising & Design  
Studios - Canberra Tel: (02) 6239 6287 Fax: (02) 6239 6693  
email: pritch4711@austarmetro.com.au

Printed by National Capital Printing - Canberra  
Tel: (02) 6280 7477 Fax: (02) 6280 7817

## Front Cover:

*In the heart of Perth and with the handsome verandah of the Hotel Perth in the background, A class car 115 turns from Barrack Street into Murray Street, bound for the carbarn in 1952.*

Arthur Perry

## Back Page Top:

*Melbourne SW6 class 957 was decorated as 'The Christmas Tram' and started running on 19 November 2001 on the City Circle. The stops were decorated with an angel, and a circular sign advised passengers to 'Catch The Christmas Tram Here'. Here the car is posing in Whiteman Street, South Melbourne.*

Ray Marsh

## Back Page Bottom:

*Melbourne B2 class 2119 is seen in Bourke Street Mall in an advertising livery for Luna Park. Is this the first time Luna Park advertising livery has appeared on a tram since W2 class 249 was painted silver for the Park's Silver Jubilee in 1938?*



*Rockhampton's Purrey steam tram runs along Denison Street on Sunday, 5 August 2001. The tram has been fitted with a flashing light on the bumper and an air horn for use when running in the street.*

Andy Plunkett

# A TRAMWAY REVIEW FROM 50 YEARS AGO

Compiled by Dale Budd

This issue marks 50 years of publication of *Trolley Wire*, Australia's tramway museum magazine. In February 1952 the first issue was being prepared when news reached Australia of the death of King George VI. From a humble beginning as a three page publication produced by the spirit duplication process, the journal has grown and prospered, just as the tramway museum movement has grown and prospered over the past half century.

The history of the magazine is detailed in the *Trolley Wire Twentieth Century Index*, published in August 2000. In February 1952 it had a limited scope, reporting news of the Sydney tramway system and of the Sydney branch of the Australian Electric Traction Association, including its embryonic preservation activities. Reproduction of photos was not possible with the resources then available. Fifty years later, *Trolley Wire* reports on museums in all states and the ACT, with occasional articles on overseas topics, and pictorial coverage is an important feature of the magazine.

For this anniversary issue, we will imagine that in February 1952 *Trolley Wire* had the broad area of coverage and the ability to print photos that it has today. We will suppose that in that month the magazine published a pictorial review of the tramway scene in Australia over the preceding calendar year, including January 1952. Twelve systems were in operation at that time, providing a fertile field for photographers.

Thanks are expressed to those who have made this review possible: to Hugh Ballment, Doug Colquhoun, Keith Kings, Arthur Perry and Noel Reed for contributing photos; to Martin Pinches for providing photos taken by John Burgess and the late Norm Boxall; and to Vic Solomons for providing pictures from the Sydney Tramway Museum's collection. Almost all the pictures were taken in 1951 or January 1952: in a few cases photos from other periods have been substituted.

On following pages we therefore present a review of the Australian tramway scene, 50 years ago. We hope you enjoy this passing parade from a bygone era.

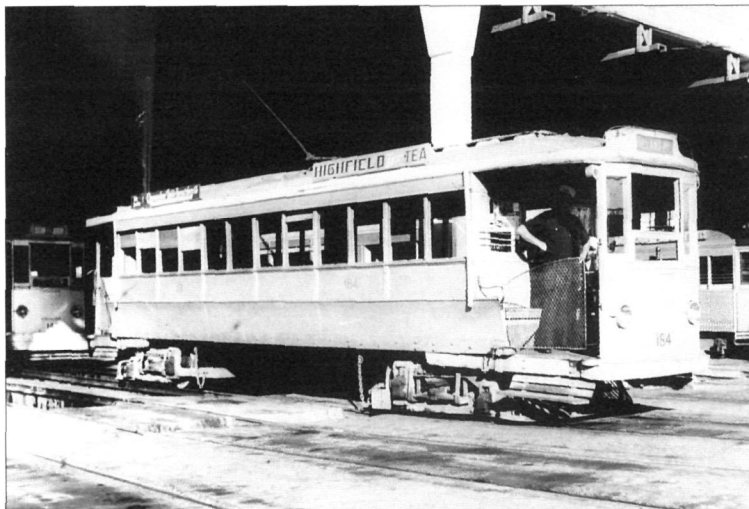


*Commuting was definitely more fun in 1952, if you lived in Brisbane and could travel to work on an open tramcar. On 9 January of that year, ten-bench car 87 crosses North Quay, bound for Cavendish Road; Dreadnought car 126 is about to follow.*

Noel Reed



Twelve-bench open car 170 swings from Stanley Street into Melbourne Street, South Brisbane, heading back to Light Street Depot at the end of the day. The date: 9 January 1952.  
Noel Reed



Dreadnought (centre-aisle saloon) No 184 at Light Street Depot, about to begin an afternoon peak trip on 5 January 1951. Keith Kings



The Silver Jubilee of Australia's Federation was celebrated in Sydney with a spectacular procession on 29 January 1951. Public transport vehicles were prominent in the parade. Delivered less than five months previously, No. 1988, the first post-war tram, is seen passing the Sydney Town Hall on the Lizard, heavily disguised with elaborate skirting.

Official photo/Vic Solomons



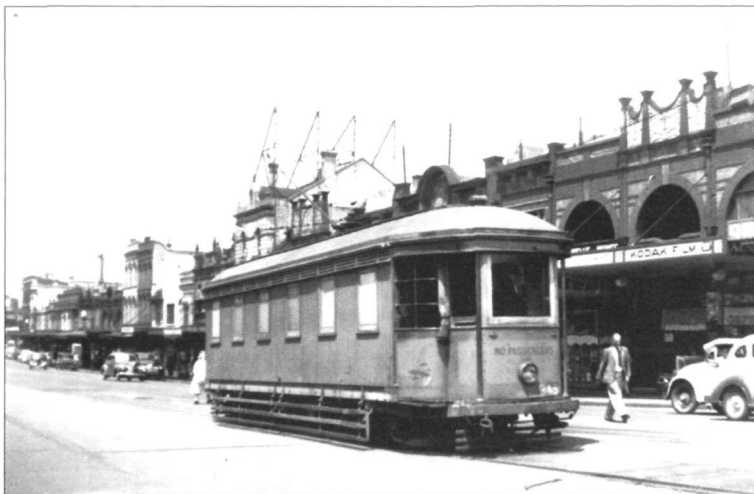
Above: Before the start of the Silver Jubilee procession, the transport exhibits were assembled outside Fort Macquarie Depot. Prominent were the rubber-tyred steam tram and its replica double-deck trailer, and a double-deck bus, all with suitably costumed passengers. The back of R1 car 1988 can just be seen at lower left.

Noel Reed

Right: An innovation for Sydney in 1951 was the introduction of numbered tram stops on steel poles. K car 1296 pauses at stop No. 9 on the Neutral Bay line on 27 September 1951. Many of the new stops carried advertising promoting 'Greys is Great'; at this stop a wit has changed the panel to read 'Gravy is Great'.

Noel Reed





Prison car 948 was withdrawn from service in 1950 and was donated for preservation on 17 January 1951. In this picture the unique vehicle has shunted in Oxford Street near Taylor Square, and is about to run onto the court house siding. Note the point hook lying on the road.

Norm Boxall



All 626 members of the O and O/P classes were still in stock in 1951. Here O car 1453 leaves Iron Cove Bridge on its way to Drummoyne. The word 'NO!' on the wall is urging a vote against the referendum to ban the Communist Party, which was put to the people (and defeated) on 22 September 1951.

Hugh Ballment



Overhead line car L 707, formerly tramcar 42u and nicknamed 'Gentle Annie', was not confined to the City Railway underground tracks, nor did it operate only at night. In this picture taken on 27 September 1951, the car and its crew are at work between Banksia and Rockdale.

Noel Reed

*The year 1951 saw the last use of the L/P cars, a number of which had been repainted less than three years previously when the delivery of new R1s was delayed. Car 257 leads a coupled set in Loftus Street at Circular Quay, about make a trip to Canterbury.*

Norm Boxall



*The only occasion on which coupled corridor cars carried passengers in Sydney was on an AETA tour on 1 December 1951. Nos 1582 and 1562 are seen at Gap Loop on the Watsons Bay line. Later in the tour car 1562 became defective and was replaced by 1517; as a result three-quarters of the P/R1 class took part in the tour.*

Noel Reed



*By the end of 1951 delivery of new R1 class cars was becoming more regular. With the Lizard tramcar-carrying trailer out of service at the time, the bodies of the new trams were transported separately from their bogies. The last tram delivered in 1951 was No. 2001, seen on arrival at Randwick Workshops on 28 December.*

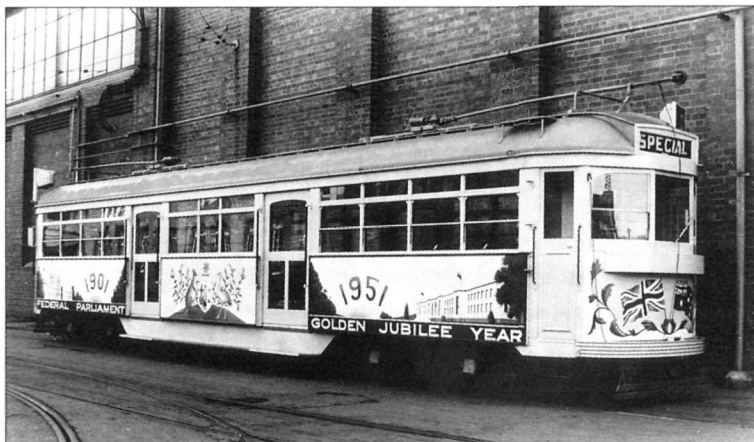
John Burgess





*In December 1951 and January 1952, the North Sydney Lines received their first postwar R1s. In the absence of the Lizard they were placed on their bogies at Taronga Zoo terminus. The last of the four cars (Nos 1999, 2000, 2002 and 2003) is seen being delivered on 11 January 1952: it was then towed to North Sydney Depot by R car 1824, although photos of the occasion show that breakdown car 125s was also on hand.*

*Norm Boxall/John Burgess*



*In Melbourne the Golden Jubilee of Federation and of Federal Parliament was marked by the decoration of SW6 No. 915, seen here at Preston Workshops on 21 May 1951.*

*Keith Kings*



*Just as Melbourne's tramways have undergone major changes over the past 50 years, so has the city's electric railway system. Half a century ago, steeple-cab loco 1100 is seen heading a suburban goods into Flinders Street. Hugh Ballment*

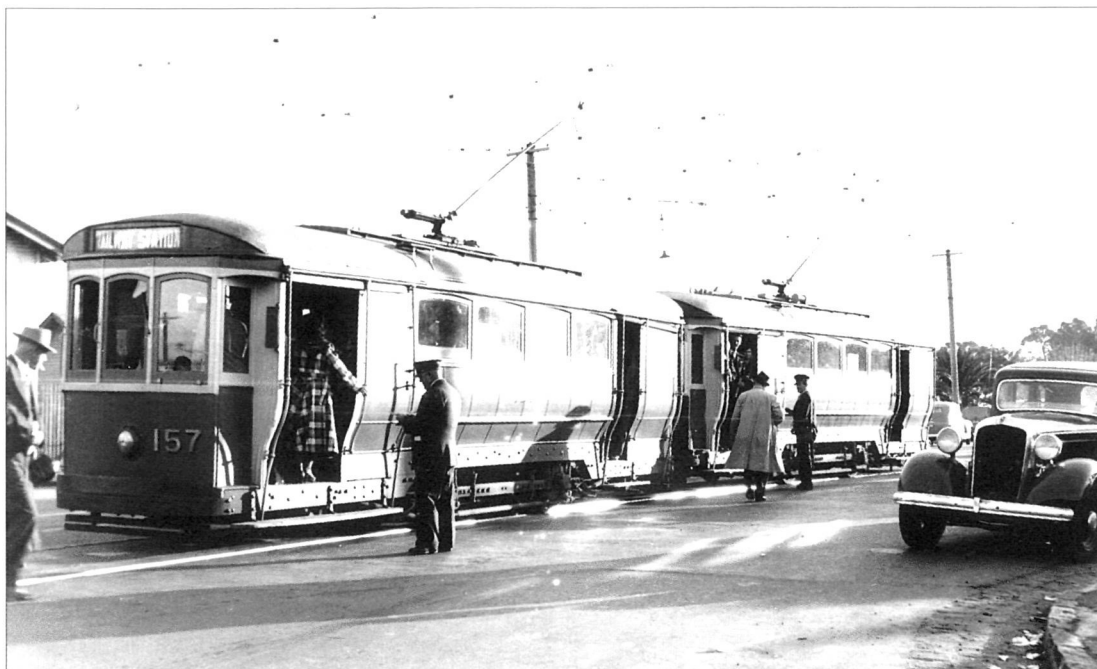


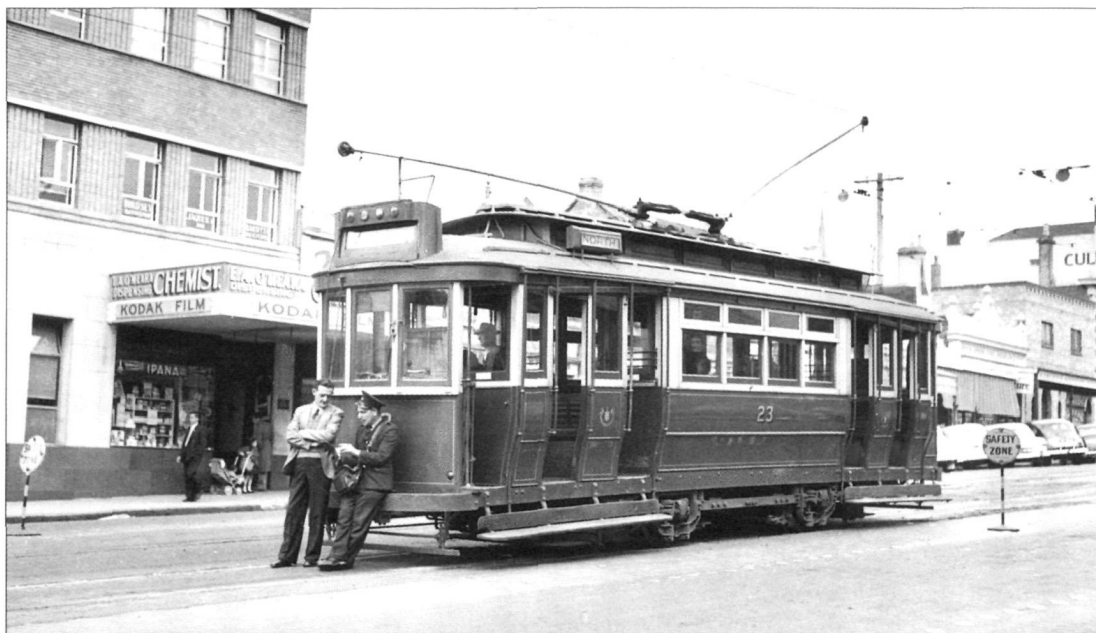
*On New Year's Day 1951, VR bogie car 36 clumps across the Point Ormond line at Elwood as it swings from Ormond Road into Broadway, with not a motor vehicle in sight. The car is bound for St Kilda, but perhaps because of the excitement of New Year's Eve, the destination sign has not been reset from the previous outbound trip.*

Noel Reed

*A variety of four-wheel trams could still be seen in Melbourne in 1951. Veteran S class cars 157 and 158 are loading football patrons in Barkly Street, Footscray, at Gordon Street, on 28 April of that year, after a VFL match at the nearby ground.*

Keith Kings





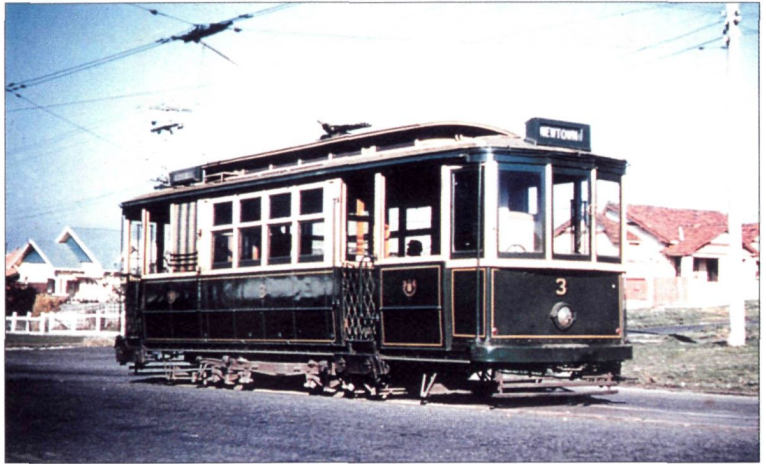
*The crew of Geelong car 23 pass the time of day as they wait for departure time, in Moorabool Street at Ryrie Street, on 26 April 1954.* Douglas A. Colquhoun

*No. 18 turns north from Ryrie Street into Moorabool Street, en route to Beach on 13 January 1955.*

Noel Reed

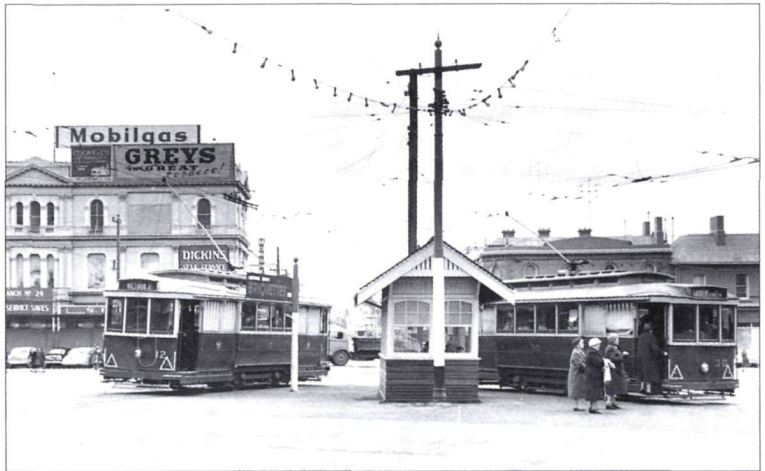


*Geelong No. 3 presents a trim appearance as it stands at Eastern Park terminus, ready to begin a trip to Newtown.*



*Right: Single-truckers 12 and 30 at Ballarat's city terminal point, where Bridge Street meets Sturt Street, on 26 April 1960.*

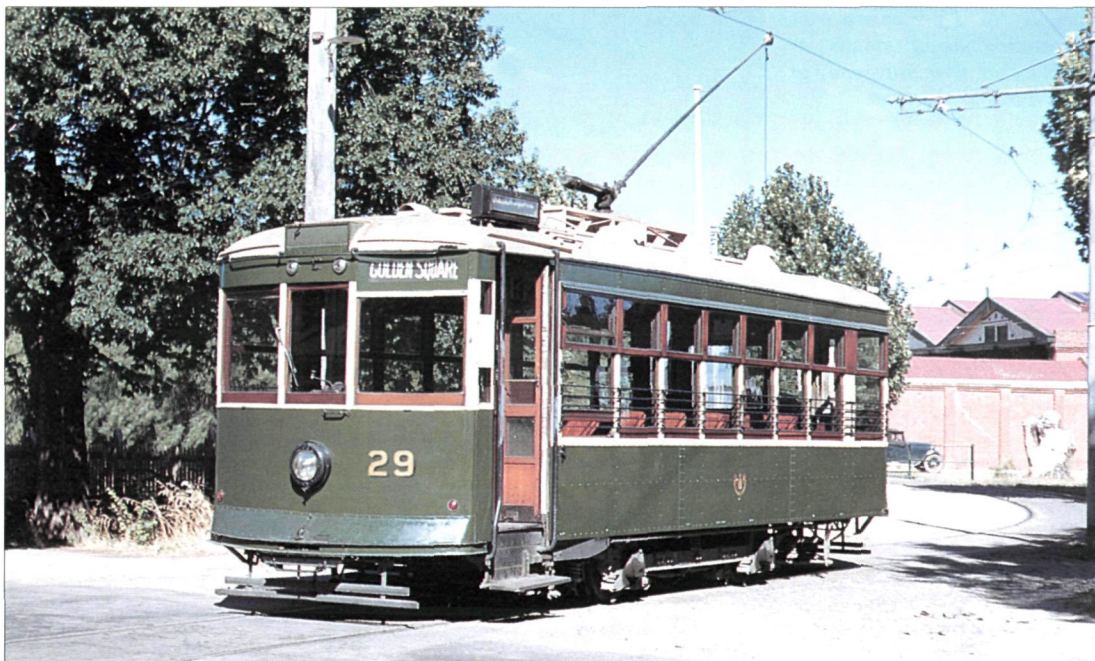
Douglas A. Colquhoun



*Below: Ballarat 12 crests the grade in Sturt Street at Lydiard Street, bound for View Point on 23 March 1959. The handsome Commonwealth Bank building on the corner was unfortunately later replaced by a structure of much less architectural merit.*

Douglas A. Colquhoun





*Spruce Bendigo Birney Safety Car 29 poses at the entrance to the depot, on 20 January 1953.*

Noel Reed

*Car 6 is about to shunt and leave Charing Cross for Eaglehawk on 3 October 1954, while a Birney car on an AETA tour waits in Pall Mall.*

Noel Reed





*An intending passenger chats to the crew of Launceston 12, as it awaits departure from Newstead terminus in January 1952. Tramway operation in Launceston ended 50 years ago, in 1952, as it did in Kalgoorlie and Fremantle.*

Arthur Perry

*In the heart of Launceston, bogie car 28 turns out of Brisbane Street bound for Mowbray Heights, at Easter 1952.*

Arthur Perry





*We are in Hobart on Boxing Day, 1951, at Sandy Bay terminus. Cars 116, 137 and 135 are waiting for return holiday traffic. Hobart was the only Australian tramway to use Bow Collector current collection for the full life of the system.*

Keith Kings

*Headed for Enfield, Adelaide F class 220 passes along the wide expanse of King William Street near Wakefield Street on 2 January 1951. Note the motor cars at left, products of the 1920s as were the F class trams.*

Noel Reed





*E1 class car 103 is inbound in Glen Osmond Road near Bevington Road, Glenunga on 2 January 1951.*  
Noel Reed

*City-bound from Boulder City, this Kalgoorlie tram is outside the carbarn early in 1950.*  
Arthur Perry





At Perth's picturesque Subiaco terminus at Rokeby Road, cut back from the longer route to Nedlands, car 126 awaits departure time in 1950. Kings Park is in the background. This car was the first of the K class, also known as the second A class. The roof mounted advertising sign for Penfolds Wines incorporated neon tubes.

Arthur Perry



Four wheeler (second) B class 52 is near the end of its career as it makes its way along Murray Street near Pier Street, on 9 January 1951. The motor vehicle at left is double-parked, an unlikely sight in a city street today.

Noel Reed



Closure is only months away as Fremantle combination car 21 arrives at the railway station on 19 January 1952. The destination sign is set for the Marmion Street line, also indicated by the route letter M.

Arthur Perry

# MILAN AND ITS PETER WITT CARS

By Dale Budd

## Introduction

Tuesday 9 October 2001 saw the arrival in Melbourne of the Sydney Tramway Museum's latest acquisition: Peter Witt tramcar No. 1692, from the Italian city of Milan.

The arrival of this tram in Australia was the most recent stage of a project which began more than five years ago. It will be complete when No. 1692 is brought to fully operational condition at the workshop of the Bendigo Tramways.

A full account of the exceptional saga of the acquisition of this car and its conversion from single-ended to double-ended configuration, will be published in a future edition of *Trolley Wire*. In the meantime, this article will provide background information on the tramway system of Milan and its large fleet of Peter Witt trams, many of which are still in service.

Milan is Italy's second largest city, with a population of about two million people. Its tramway system is comparable with that of Melbourne. Milan has around 370 trams on 199km of route, compared with Melbourne's current fleet of about 440 operational trams on 241km of route. However the frequency of

service is higher in Milan, particularly in off-peak periods.

The public transport operator in Milan is Azienda Trasporti Milanese (ATM). The name was Azienda Tranviaria Municipale until 1964, then Azienda Trasporti Municipali until late 1998. In addition to tramway and metro systems, ATM has a fleet of around 195 trolleybuses and more than 1200 diesel buses.

It would not be possible to give a comprehensive description of such a large and complex tramway system in anything less than a substantial book. However this article will provide brief information on the Milan tramways and their Peter Witt cars.

## Milan's Tramway System

Public transport has a high priority in Milan. The tramways have contracted in recent years, because of the progressive development of the metro system. Conversely, extensions to the tramway network have been opened as recently as 1996, and more are planned. Tracks have been lifted on many closed lines, but on others they remain in place, sometimes complete with overhead wiring. Some closed lines have remained intact for decades after the ending of



*The highest-numbered Peter Witt car is seen in Foro Buonaparte in 1997. The tracks separate at this location to pass around a statue, to the right of the picture..* Howard Clark



*Double-articulated car 4801 turns from via Mazzini into via Orefici, in the heart of Milan, in 1996. The first of its class, No. 4801 was rebuilt from three older cars. Subsequent 4800s used only two of the older cars, with the centre sections being newly constructed.*

Dale Budd

*The 4900 series cars are unique in having an asymmetrical taper at their front ends. Its purpose was to enable the right side of the cars to be straight, allowing them to avoid creating a tapered gap at platforms. But the platforms were never built, and the cars were modified to include a normal taper at the rear end following fatal accidents caused by excessive outswing. Car 4926 is seen beside via Legnano in 1996.*

Dale Budd

services. Line closures have resulted in two depots, Baggio and Leoncavallo, and the workshop at Teodosio, being reached by tracks used only for depot/workshop operations. In addition the track to Ticinese depot was formerly used in part by a route closed in 1957.

An apparent oddity is that the track gauge in Milan is slightly non-standard: it is 1445mm, whereas standard gauge is 1435mm. However this is common to all 'standard' (as opposed to narrow) gauge tramways in Italy, except for Naples which was regauged from 1445mm to 1435mm in the 1930s.

Milan has two interurban lines to the north of the city, with a mixture of on-street and roadside operation. These are under threat of closure in their current form, but it is possible they may be redeveloped in a new form of rapid transit service.

A feature of the Milan tramway system is its enormous variety. In the central city area trams operate in narrow streets with cobbled surfaces. There are however numerous sections of reserved track, and on the Roserio line trams use a very substantial dedicated bridge to cross multiple railway tracks.

Track layouts are varied and complex. At one junction where narrow streets intersect, gauntlet track is used to provide an adequate turning radius. There used to be many similar examples, all laid in the early 1930s to allow Peter Witt cars to pass: four wheelers had been able to pass on these curves without



*Articulated car 4805 on newly-relaid track beside via Palizzi, nearing Roserio terminus in January 2001. Peter Witt cars also use this section of line.*

Dale Budd

*No. 1552 displays the uncluttered appearance of the off-side of a Milan Peter Witt car, in via Grossi in 1997. The handsome building at the rear is the Galleria Vittorio. As in many streets in central Milan, there is sufficient width for two tram tracks and no more - certainly no parking.*

Howard Clark



clearance problems. On the Corso di Porta Ticinese, gauntlet tracks take trams through archways dating from the Roman era. At piazza della Repubblica there was formerly a full grand union with the turnouts set well back from the intersection, which was therefore approached by six parallel tracks from each direction. Few of these tracks remain in use at what is now a 'T' junction, with lay-by loops for cars on the two circular routes around the city, 29 and 30. There is still a complete grand union, at piazzale 24 Maggio (Porta Ticinese). As all trams are single-ended, all terminals have balloon loops, and depots are laid out for run-through operation.

Services are frequent at all times of the day, extending into the evening. Stops in the central area have indicators showing the interval before the arrival of the next trams on all routes using that stop.

The present composition of the tram fleet is approximately as shown in the accompanying table. Trams are currently being delivered from two manufacturers. Bombardier (formerly ADtranz) is delivering 26 Eurotrams, similar to those in Strasbourg, numbered from 7001. Each car has 7 sections of which 4 are powered. In addition 93 Sirio trams are on order from AnsaldoBreda, with deliveries recently started. Of these 58 will have 7 sections of which 4 will be powered, and 35 will have 5 sections of which 3 will be powered. These current orders are insufficient to replace the remaining Peter Witt cars. A new green-based colour scheme is being used on the new cars, departing from the orange applied to the older cars (and to buses and trolley-buses).

There is a substantial fleet of 19 works trams, used for general transport and for sanding the track. These are former 700 class four-wheel cars dating from 1947, steel-bodied rebuilds of 600 series wooden cars of 1924-27, damaged in air raids in 1943. They are often seen hauling trailers, both four-wheeled and bogie, the latter used for carrying lengths of rail. These trailers are the longest non-articulated items of equipment in Milan. To allow cars to pass on sharp curves, their left side is tapered inwards at the centre.

Each line has only one type of tram allocated to it. A line operated by Peter Witt cars, for example, is served by them at all times. This is in contrast to the alternative practice of using older cars only at peak hours. Obviously this is varied on lines on which new cars are being introduced, and many tracks are shared by two or more routes, leading to a variety of cars using them. 'Linee di forza' – 'main lines' – with heavier traffic, are served by 4800s, 4900s and 7000s. Peter Witts are operated on the remainder, except for the circular routes run by 4600s/4700s. The 4900 series cars are restricted from operation on certain lines because of their asymmetrically tapered fronts – see photo.

Services are operated from four depots: Messina, Baggio, Leoncavallo and Ticinese. Interurban cars are operated from depots at Desio and Varedo. Desio was formerly used as a place for the scrapping of obsolete cars, but it is currently isolated from the main network. A number of unused interurban cars are currently stored at Desio. Some are in good condition, while others are derelict, having stood abandoned for decades in the open.

TYPE	BUILT	NO. IN SERVICE
Peter Witt, also known as type 1928 or 1500 series	1929–30 (prototypes in 1927)	170 (approximately)
4600/4700 series single articulated	1955–60	33
4800 series double articulated 'Jumbo-trams'	1971–77 (built from former 5200/5300 series with new centre sections added)	44 (includes some set aside for scrapping)
4900 series double articulated 'Jumbo-trams'	1976–78	100
7000 series Eurotrams	2000 onwards	19 of an order of 26
Sirio cars	First delivery January 2002	93 on order, of two types – see text

Interurban cars are not included in the above table, but their number is small. There were 38 interurban motor cars and 73 trailers in 1995, but the fleet has been reduced since that time.



The orange paint scheme on Milan's trams and buses is an asset in gloomy weather. At dusk on a wet winter afternoon in January 2001, a line of Peter Witt cars approaches piazza della Repubblica, while at left a 4700 series articulated car waits in a loop before beginning another trip on the route 29 circular service. Dale Budd



In via Cantù, a quiet back street near the centre of Milan, car 1704 waits to depart for piazza Cacciatori delle Alpi in 1997. Howard Clark



Standing unused in the yard at Desio early in 2001, and retaining the old green colours, is interurban 45, built in 1924 and one of the oldest cars remaining in Milan. These cars are known as the 'Desio' type by ATM, because they were initially built for this line. Dale Budd

## The Peter Witt Cars

'Peter Witt' cars are named after the originator of their design, who was commissioner of the transit organisation in Cleveland, USA. Developed around 1915, they were among the first public transport vehicles to adopt passenger flow, whereby travellers enter by one door, move through the vehicle and alight from a different door, thus minimising conflict between those boarding and those leaving.

Until the mid 1920s, operation of bogie cars on Milan's urban routes had been ruled out because of the many narrow streets and close track centres. In 1926 Milan changed from left hand to right hand driving on its roads. Previously, some cities in Italy drove on the left and others on the right: 1926 was the year of standardisation on right hand drive throughout Italy. In 1927 experiments were carried out on Milan's city lines with two bogie cars borrowed from one of the interurban routes, and these trials were successful. This led to a decision to adopt bogie cars, of the Peter Witt layout. Two prototype cars, Nos 1501 and 1502, were built within five months of being ordered and put into service in December 1927. They were so successful that 500 identical cars were ordered in mid 1928, from six manufacturers. All of them were delivered within three years. Their introduction on some routes was delayed until tracks were relaid with wider centres. The cars were not only longer and wider (2350mm compared with 2172mm) than earlier cars, but they introduced 'pay as you pass' fare collection with registers instead of tickets. Simultaneously flat fares replaced a zonal system.

The production cars were numbered from 1503 to 2002. The Peter Witt cars replaced a huge fleet of old four-wheelers, more than 500 motor cars and 250 trailers. Linked with this re-equipment program was a change in 1926 from radial lines all terminating at piazza del Duomo in the city centre, to a cross-city route pattern. Congestion at the previous central terminus was so severe that Prime Minister Mussolini, no less, instructed the city manager to make the change within two months, and this was achieved.

The prototypes are believed to have been delivered in a brown or khaki and cream livery. Later, there were experiments, perhaps, with a yellow livery. Soon, however, the cars were painted in two shades of green, a colour scheme made mandatory by the Italian Government for all cities. (Interestingly, this rule was valid only for municipally owned systems. Privately owned ones could retain their colours. Interurban trams were to be white, while in the same period the



*Passengers board Peter Witt car 1570 on reserved track beside via Legnano in 1996. This car is one of those since purchased and dismantled by Gomaco.*

Dale Budd

Italian State Railways changed their colours from green to two tone brown. Interurban buses had to be painted two tone blue, hired buses two tone red.)

The Peter Witt cars underwent numerous modifications over the years. Originally there was no rear door. The first step, from 1931, was the introduction of a single-width door at the rear. After being applied to a small number of cars, a change was made to a full double-width door, eventually adopted on the entire fleet. This later change was first applied in 1938, then in earnest in 1939 and 1940. At the same time the conductor's desk was relocated to the back of the car. Entry was then by the rear door while the centre and front doors became exits. With a 'pay as you enter' configuration, the Peter Witt version of passenger flow was abandoned.

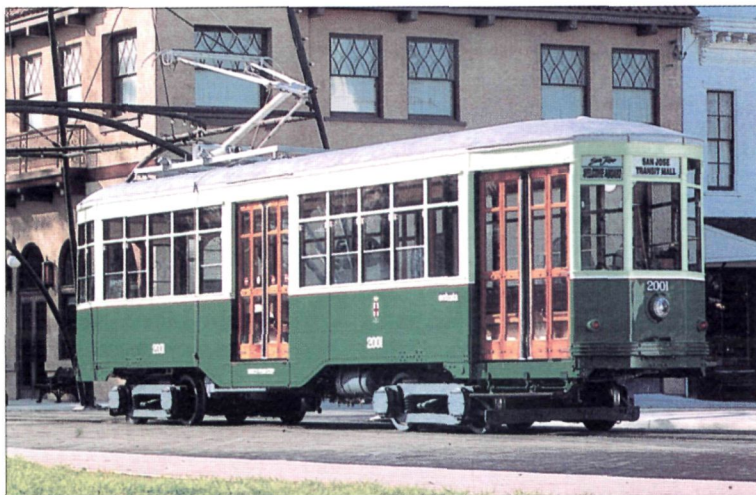
The interior layout was modified several times over the years, initially by the removal of transverse seats in the rear compartment. Eventually one-person operation was introduced, leading to removal of the conductor's station.

Milan suffered very heavy damage from bombing in the Second World War. Depots and trams were gutted by fire, with many Peter Witt cars being reduced to



*The first of the 500 production cars, 1503, was restored in 1996, to near-original condition, with its rear door removed but with its pantograph retained. The car's yellow and white colour scheme is seen to advantage in this picture taken on a tour in 1997 – although it is questionable if the colours, particularly the white, are historically accurate.*

Ambrogio Mortarino



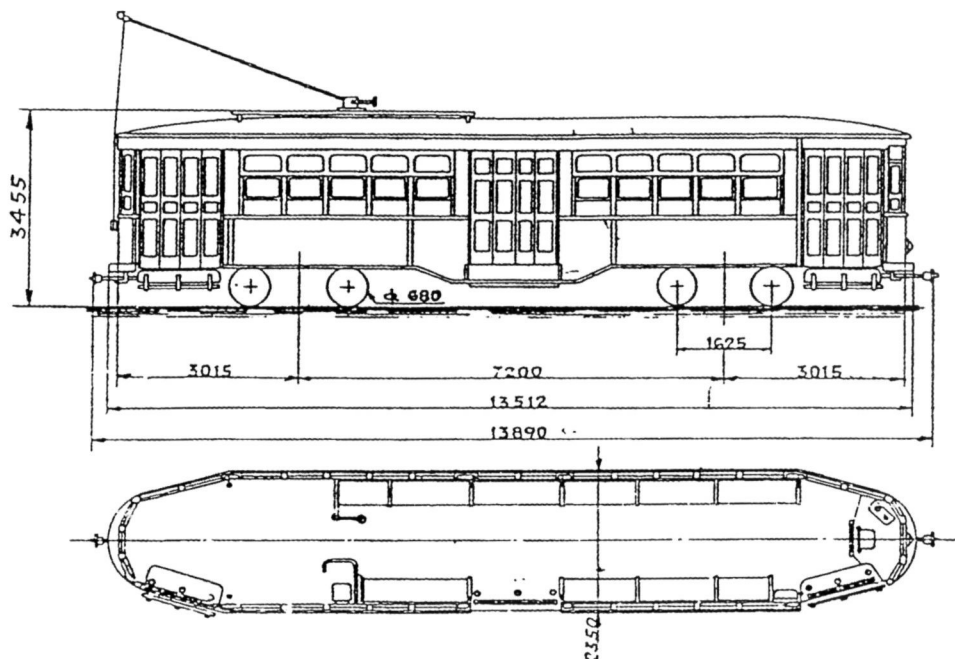
*Car 2001 in San Jose, California. Using major components from sister car 1943, this car was rebuilt to full symmetrical double-ended configuration. It displays a close approximation of the two tone green livery previously carried by these cars in Milan.*

Allan J Greenburg/  
San Jose Historical Museum



*Running on San Francisco's F line. Peter Witt car 1818 is seen on the Embarcadero in 2000. The Municipal Railway has equipped these cars with two trolley poles (one for back-up moves only, since the cars retain their single-ended condition) and trolley receivers.*

Howard Clark



*Outline diagram of a Milan Peter Witt car, showing main dimensions and the current seating arrangement with longitudinal seats only. The diagram represents the car in about 1939, before the replacement of the trolley pole by a pantograph, before removal of the conductor's position and before changes to window frames.*

ATM

burnt out shells. All but one, No. 1624, were rebuilt. In a number of cases, damage was so severe that the original identity of the car was uncertain. 24 cars operated briefly as trailers from 1944, before being later re-equipped with motors.

Also after the war, 94 trams were fitted with automatic acceleration equipment, resilient wheels and electro-pneumatic braking. Regrettably, the added complexity of these cars led to their relatively early withdrawal, from the late 1970s, leaving cars with the original K35 controllers and solid wheels in service. Indeed the simplicity and reliability of the Peter Witt cars led to them outlasting several classes of newer cars, some introduced as recently as 1950. However none of these newer classes had been built in large numbers.

From around 1970, the two-tone green colour scheme gave way to orange, another Italian standard. Developments at about the same time were conversions to one-person operation, and to pantographs. All vestiges of trolley poles were removed from the roofs of the cars.

In the late 1980s about 350 Peter Witt cars remained in service, and it was expected that they would continue only for another three years. However, despite metro extensions there has been little opportunity to reduce their numbers, and in addition there has been a shortage of funds for new cars. Currently around 170 Peter Witt cars remain in use. None have been overhauled since 1992. There have been periodic suggestions of the resumption of overhauls, with one such proposal for the overhaul of 50-60 cars being current.

A number of Peter Witt cars have been converted for special uses. One is fitted with a snow plough, but has never been used for this purpose. Two cars are used on a tourist service, and two are equipped for use by schools, with transverse seats and a whiteboard or screen. One car is painted white for charter use. Two cars are retained for historic purposes. They are No. 1503, the first production car, returned to original body condition with a yellow and white paint scheme; and No. 1966, fitted with both a pantograph and trolley pole, as was the case during the changeover to pantographs.

Two cars were combined to form an experimental articulated car. It is retained as a museum piece. No further such conversions were undertaken on Peter Witt cars, although other types were rebuilt into the successful 4800 series articulated cars.

Car 1834 was donated to San Francisco in 1984. Two years later No. 2001 was donated to San Jose, California, together with accident-damaged 1943. The driver's cab from the latter car was used to convert No. 2001 to a full symmetrical double-ended layout.

Car 1612 was purchased by the Tosa Electric Railway, of the city of Kochi, Japan in 1994. It has not yet been placed in service. This operator has acquired several trams from Europe.

Gomaco of Ida Grove, Iowa USA, has purchased a total of 71 Peter Witt cars, 31 in 1996 and 40 cars in 2000. The great majority of these were dismantled in Milan, with their electrical and mechanical equipment being retained for use in the construction of new cars. The first use of this equipment is in the trams currently being built by Gomaco for Tampa, Florida. Six cars of those purchased in 1996 were shipped complete to the USA, where they are held for re-sale.

The Municipal Railway of San Francisco bought eleven cars in 1998, for use on the extension of the F Line to Fishermen's Wharf. Of these, nine were intended for service, with two as a source of spares. However, one of the latter was found to be in such good condition that it is being included in the operational fleet. At the time of writing eight of these cars had entered service in San Francisco. They currently retain their orange livery, but it has been suggested that they will later be painted in the colour schemes of various US cities which operated Peter Witt cars.

All of the Peter Witt cars currently operating in Milan are among 250 cars which underwent overhauls between 1988 and 1992. One of the modifications at that time was the conversion of the doors from straight air to electro-pneumatic operation.

Now more than 70 years old, the remaining Peter Witt cars are still the most numerous class of tram in Milan. It appears that some will continue in service for several years yet, the oldest trams in fleet service in any city in the world.

Readers interested in a map of Milan's tramways are referred to the September 1996 issue of *Light Rail and Modern Tramway*.

In a future issue of *Trolley Wire*, the story will be told of how a Milan Peter Witt was acquired by the Sydney Tramway Museum for preservation in Australia.

Thanks are expressed to Guido Boreani for his very substantial contributions to this article, and to Arthur Perry and Ross Willson for supplying additional information.

### References:

Marquis Ferdinando C. Cusani: 'Milan Adopts Pay-as-You-Pass Cars', *Electric Railway Journal*, Vol. 72 No.1, May 7, 1928

Carlo Marzorati (translation by Geoffrey Baddeley): 'The Peter Witt cars of Milano: 60 years of service', *Modern Tramway and Light Rail Transit*, July 1989

Giovanni Cornolò and Giuseppe Severi: 'Tram e Tramvie a Milano', Azienda Trasporti Municipali – Milano, Fourth Edition, 1994

Guido Boreani: 'Un tram che si chiama Milano', Calosci-Cortona, 1995

Items posted on the Yahoo! Milan trams news group website:

<http://groups.yahoo.com/group/MilanoTrams/messages>



*The new era on Milan's tramways is represented by this view of Eurotram 7006 on line 14, turning from via Mercato to via Tivoli, close to the city centre. Note disconnected track at lower left, a common sight in Milan.*  
Dale Budd

# HERE AND THERE

## NEWS ITEMS OF INTEREST FROM ALL OVER

### Hobart

Planning approval for the proposed \$3.47 million Sullivans Cove tramway is to be sought early this year – before funding is secured. Tecton Projects Group, a division of Hobart City Council, will lodge a development application with the Council and it is possible that approval will be received by early March. Gaining planning approval early in the year would make it easier to win government, business and community support, and would expose any hurdles the project might face in the planning process.

The Hobart City Council has so far spent or allocated \$400,000 restoring two trams, with double deck car 17 being completed recently.

The Council's push for development of the tramway has received important help from the State Government. The Council and the Government have agreed under a partnership agreement for the Department of State Development to help the Council to prepare a business plan and source development funds. However, the State Government has not undertaken to provide any funding at this stage.

*The Mercury*, Hobart

### Adelaide – new trams

The South Australian Government sought Expressions of Interest on Saturday, 12 January calling for private sector companies to register an interest in working with TransAdelaide to upgrade Adelaide's tram services between Victoria Square and Glenelg. Minister of Transport and Urban Planning, Diana Laidlaw, said the Government's goal is for tram services to operate with a mix of the best – new and heritage trams, plus public and private sector expertise.

"Adelaide's trams are an icon. However, they are now 71 years old and require expensive ongoing maintenance and periodic refurbishment. They are difficult to access and often draughty, hot in summer and cold in winter", Mrs Laidlaw said. "Five of the trams are currently being refurbished at a cost of \$5 million, and will be retained for off peak and tourism operations."

Eight and possibly nine new trams are required; all operating as double consists. All the new trams will be air-conditioned with low floors, providing much easier access for people with disabilities, mobility concerns generally or people using pushers and shopping



*The restored body of Hobart Municipal Tramways double-deck car 17 was placed on display in Mawson Place in early December 2001.*

Dick Helm



*Double-deck car 17 and single-deck car 39 stand on the proposed right-of-way through Mawson Place, Hobart in December 2001.*  
Dick Helm

trolleys. They will also offer a much quieter ride – which will be a bonus for everyone living alongside the track.

The use of private sector capital to purchase the new trams – and upgrade the track and all stations along the line – will fast track these investments and release State funds for other important capital works projects.

The request for Expressions of Interest confirm that the trams will continue to operate with the same ticketing system and fare structure used across the integrated Adelaide metro network, with the Government (through the Passenger Transport Board) retaining control of ticket prices.

Mrs Laidlaw said that overall, the vision conveyed in the call for Expressions of Interest complements the major new tourism and commercial developments in the Glenelg precinct, and the Adelaide City Council's master planning process for Victoria Square.

Companies have been asked to lodge their Expressions of Interest by mid February 2002.

The South Australian Government's decision to call for Expressions of Interest follows a Budget announcement by the Treasurer in May 2001 that the upgrading of the tram corridor and the purchase of new trams would be the subject of an investigation as a public/private partnership investment strategy. The

investigation identified the value to be gained by state taxpayers and the travelling public through the use of private sector capital in purchasing new trams and refurbishing both the track and all stations along the line. Already unsolicited proposals have been received from the private sector.

The call for Expressions of Interest, while only for the existing corridor, notes that any prospective private sector partner would be placed in a strong position to test the market and develop a case for extensions beyond Victoria Square which would require support from both the Government and the Adelaide City Council.

The process will enable the Government to gauge the extent of interest among light rail companies and financiers to purchase the new trams and to operate the system in partnership with TransAdelaide. The responses received will be used to finalise tender specifications and shortlist companies invited to tender.

Trams on the Glenelg line currently transport more than 3,500 people each day and close to 2 million each year.

## **Tram plan for Rockingham, WA**

By Trevor Robb

Rockingham has plans for a high-frequency transit system linking the waterfront near Churchill Park with the town's Murdoch University campus, its central hub and the planned Perth to Mandurah rail line.

The plans were unveiled on 25 January by Alannah MacTiernan, Western Australia's Minister for Planning and Infrastructure. Ms MacTiernan called for public comment on the preliminary plan which proposes a streetcar link to ensure easy and frequent access to the main rail line.

The proposal was drafted in consultation with a community task force chaired jointly by the MLA for Rockingham, Mark McGowan, and the MLA for Peel, Norm Marlborough.

Ms MacTiernan said the system would feature a fixed-route streetcar system, with low-floor vehicles running from the city centre and foreshore to the railway station that is planned for the corner of Ennis Avenue and Rae Road. No final decision has been made on the type of vehicle to be used but those suggested are "tram-like carriages electrically powered from overhead cables and run on metal tracks".

The proposed route starts from the Rockingham railway station, south of the city centre. The line would run westwards alongside existing residential areas in Rae Road before turning north in Kitson Street and into the Rockingham transit mall.

The line will then head to the Murdoch University campus parallel with Dixon Road before heading into bush behind existing residential properties meeting Patterson Road at Wanliss Street. Although a number of options for the exact route are being considered, the line will terminate near, or at, Churchill Park.

"This proposal will provide Rockingham residents with a high-frequency service, easily identifiable route, frequent stops and vehicles that are unique, easy to access and comfortable", Ms MacTiernan said.

Plans for the system are on display in the foyer of the Rockingham City Council offices, the Rockingham Library and at the Murdoch University campus. An information evening will be held at the Council's offices on 13 February. Public comment on the plans is required by 22 February.

### **Adelaide car re-positioned in Canberra**

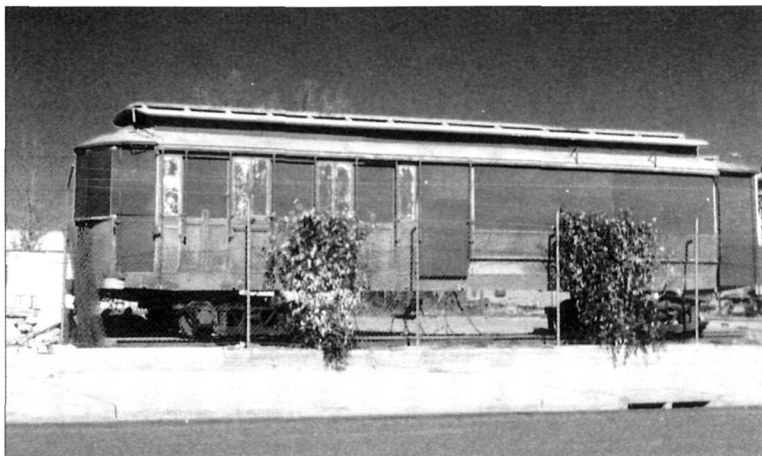
Adelaide D Car 156 has moved to a new location at the Canberra Tradesmen's Union Club.

As part of a major extension of the club, the tram has been placed in a new covered courtyard. 'Rails' are depicted on the floor by lines of small lights, similar to those on the floors of aircraft.

The Sydney Tramway Museum became aware some time ago of plans to move this car. Building requirements in its new location meant that bogies beneath it would need to be substantially modified, making them unusable if ever required for operation.

Rather than sacrifice a pair of complete bogies for this purpose, the Museum offered to arrange the fabrication of dummy bogies. These were assembled at Bendigo, using discarded Melbourne No 15 frames. The tyres on the dummy bogies are from worn Z series wheels from Melbourne, while the wheel centres are of plywood!

The sight of Melbourne No 15 trucks beneath an Adelaide D class may be a challenge for enthusiasts but the tram and its bogies have been well received by the Club. Secretary/Manager Rod Driver has reported many good comments from members and visitors about the tram and its wheels.



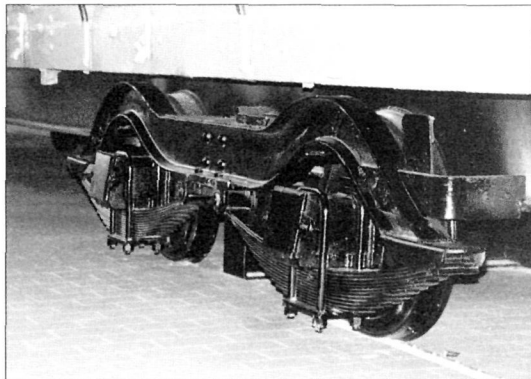
*Flashback to 1983: Adelaide D car 156 in its original position at the Tradesmen's Union Club. Shortly after this picture was taken, the tram was enclosed by the Club's building.*

Dale Budd



Left: Interior of D 156 at the Canberra Tradesmen's Union Club.  
Dale Budd

Below: Dummy bogies beneath D 156 at the Tradesmen's Union Club.  
Dale Budd



## Melbourne

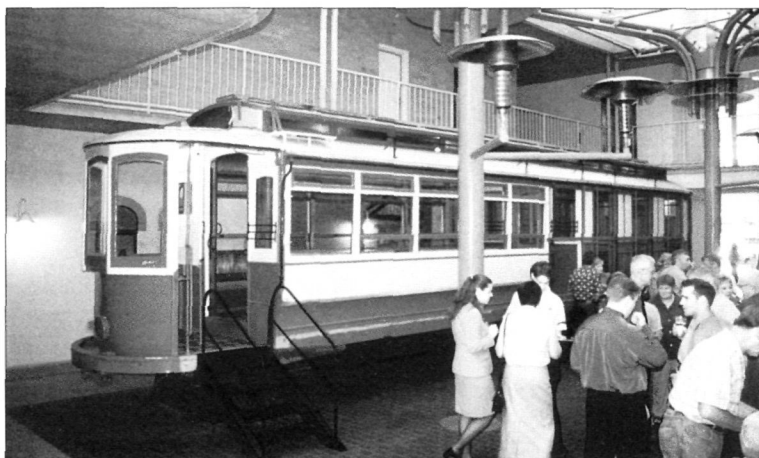
On Sunday afternoon, 18 November 2001, Bundoora RMIT bound B2 class tram 2057 in green livery collided with the side of St Kilda bound B2 class 2059 in advertising livery for Renault cars at the corner of Nicholson Street and Victoria Parade. Both trams were considerably damaged and several people were injured.

The cars were inspected at Preston Workshops where it was realised that the No.1 end on one car and the No. 2 end on the other car were undamaged. As the two trams would be out of service for up to five

The club has decided not to build a platform or footboards alongside the tram for access, because the bogies "look so good it would be a pity to cover them up". Accordingly access to the tram is by steps to the platform at the saloon end.

D 156 in its new location at the Club, seen on 19 December 2001, the evening on which the new facilities were launched.

Dale Budd





Another view of D 156 on the evening of its launch. The 'tracks' on the floor, with their lines of lights, can be seen.

Dale Budd



Melbourne's Hawthorn Depot redevelopment as it appeared on 27 December 2001. The remaining depot bay can be seen at left.

Steven Altham

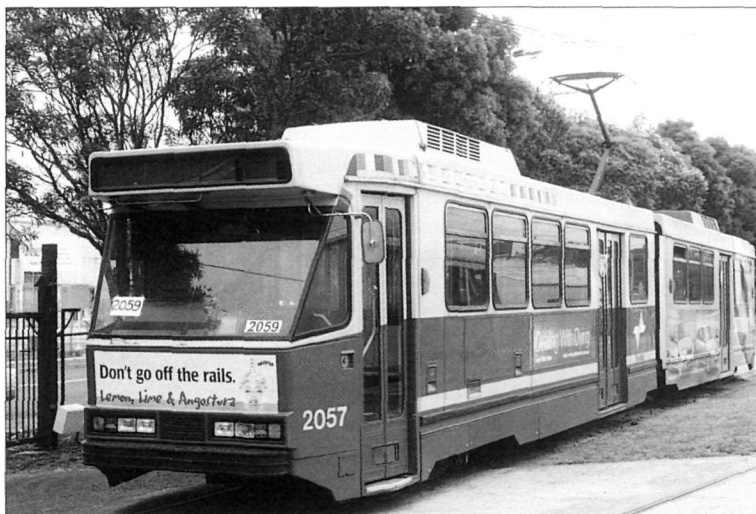


A view of Citadis 3003 and the super tram stop in Collins Street at Swanson Street.

Rod Atkins

The undamaged ends of B2 class cars 2057 and 2059 were mated at Preston Workshops. In this view, the end of 2057 displays its new number, 2059, on the windscreen before the 'new' tram was repainted in an advertising livery for Lead Finger Hot Wheels.

Norm Cross



months, it was suggested that the undamaged ends be mated to enable one complete tram to be returned to service.

The undamaged body sections were subsequently mated and successfully tested at the workshops. The 'new' car is numbered 2059 and re-entered service in a new advertising livery.

The damaged sections are to be totally rebuilt and will be mated with the number 2057. This car is expected to re-enter service in mid 2002 in Yarra Trams corporate livery.

## Geelong

The City of Greater Geelong hired Bendigo's Birney car 15 for the Geelong Waterfront Festival held over the Australia Day weekend, 26 to 28 January 2002. Car 15, which was restored during the mid 1980s in the red livery of the Melbourne Electric Supply Company, was placed on display in the 'Steampacket Garden' as Geelong 15.

Bendigo Birney 15 on display in the Steampacket Garden, Geelong. It operated in Geelong from 1924 to 1948, before being transferred to the Bendigo system.

Clayton Giles



## Whittlesea, Victoria

Horse tram No. 9 of the Sorrento-Portsea Beach horse steam tramway was running in Whittlesea before Christmas. The tram, which was found derelict at Rosebud, was retrieved and restored to run on rubber tyres. The body of the restored car is green with varnished timber. It is close to original condition the main differences relating to the car's seat ends and footboards.

### There is nothing new...

The introduction of the 'Lizard' in 1937 was heralded as a major innovation in Sydney, obviating the need to transfer trams over railway lines between various sections of the system.

However this was not the first time that road transport had been used for this purpose.

In the February 1962 issue of the Australian Railway Historical Society *Bulletin*, a letter from Mr L S Lane included the following:

"In connection with the isolated Ashfield to Enfield system, I remember a steam motor from that system arriving on a horse-drawn road vehicle at Five Dock, with steam up. Ramps were affixed and the motor transferred to the rails at Lyons Road under its own steam, took on water, then proceeded light towards Sydney and, presumably, Randwick Shops for overhaul.

"This same vehicle, which consisted essentially of two steel girders, low slung, was owned by Thomas Cook & Sons, the Sydney carriers (I think that was the name of the owner), drawn by four horses and was used to transfer railway rolling stock, built by Tulloch's Phoenix Ironworks in Pyrmont Bridge Road, to Darling Harbour Yard, where they were delivered and railed."

Ross Willson has pointed out that initially the Ashfield to Enfield line had no railway connection at Ashfield. The line was opened in 1891 but the railway connection was not provided until 1899. Presumably the absence of a railway connection necessitated the use of this early form of road transport of a rail vehicle. David Keenan's book *The Rockdale & Enfield Lines of the Sydney Tramway System* refers to the delivery of the first two motors to the line by a conveyance hauled by 14 (not 4) horses. Perhaps the road transport system was refined during the period before provision of the railway connection, to reduce the demand for horses!

## Disposal of Geelong trams

Does any reader have information on the scrapping dates of Geelong trams 1-10, 16-23, 24, 26, 28, 31, 38 and the scrubber car?

Photos are sought of Geelong 31 at Morongo Girls High School shortly after delivery in 1956. Photos are also sought of other Geelong trams being prepared for sale, and just after sale and removal.

Please contact Mr Robert Lilburn, 4 Mitchell Court, Bacchus Marsh, Vic 3340 or phone (03) 5367 1708 with any information.

## Video Review

### *Trolley Buses in Hobart*

90 minutes PAL VHS

Black & white and colour

Produced by Effteck Pty Ltd

PO Box 4034

Doncaster Heights Vic 3109

RRP \$43.95 plus postage \$4.75, a total of \$48.70 within Australia.

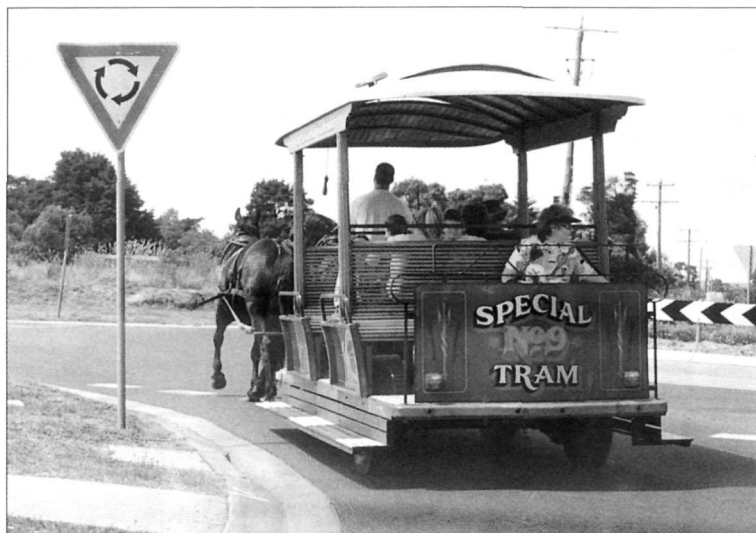
To be released on Friday, 22 March for mail order sales, wholesale distribution will follow.

For 33 years trolleybuses provided a reliable and comfortable form of public transport for the citizens of Hobart. Commencing with one Leyland trolleybus running to Huon Road, these quiet electric vehicles eventually operated over eight routes in Hobart, displacing many of the tram services. Six Australian cities had trolleybus systems, but these were mostly small-scale operations. Only in Hobart and Launceston did the trolleybus become a dominant form of public street transport, and with just 3% of the population, Tasmania operated 28% of Australia's trolleybuses.

To set the scene, all the Australian trolleybus systems are reviewed in this video, but the main focus is on Hobart. The other Australian trolleybus systems reviewed, in order of appearance, are Adelaide 1932-1963, Perth 1933-1969, Sydney 1934-1959, Brisbane 1951-1969, and Launceston 1951-1968. A detailed description of Hobart's trolleybus routes follows the nationwide review. All of the routes are covered, and an A3 sheet of maps drafted by David Jones is provided so viewers can navigate their way around the Hobart trolleybus system. For many viewers, the numerous scenes showing trams will be a delightful bonus.

*Top and centre: ex-Sorrento No. 9 is seen on the outskirts of Whittlesea on 23 December 2001.*

Ray Marsh



*Below right: the Christmas Tram (see back cover) operated in a clockwise direction on the City Circle route. The stops were decorated with a special sign advising 'Catch the Christmas Tram Here' and an angelic herald with a trumpet.*

Steven Altham



Extensive use is made of old film footage to explain the history of the system from its 1935 opening to closure in 1968. Many engineering and operational features are described, together with city depots, bus stops and the overhead wiring. The vehicle fleet (Leyland 3-axle, Leyland 2-axle, Leyland 'Canton', BUT and ex-Launceston BUT) is also well detailed, together with livery and modification details.

The commentary is informative and the use of computer graphics to illustrate the operation of some of the more complicated overhead work enables a clear description to be provided to the viewer.

This video is well produced and will be of considerable interest to the electric transport enthusiast. It is highly recommended and is a very welcome addition to the videos covering Australia's electric street transport.



The distributor provided a pre-production copy of the video for this review.  
—RIM



*CityRail made history on Saturday, 17 November 2001 when the first official electric train ran from Dapto over the newly electrified section of the Illawarra line to Kiama. The official train in its new livery is seen at Kiama during the opening ceremonies.*

Rupert Hughes

## LAUNCESTON

**Launceston Tramway Museum Society**  
PO Box 889, Launceston, Tasmania 7250

From Ralph Proctor

The Launceston Tramway Museum Society has been restoring the body of ex-Launceston Municipal Tramways bogie car No. 29 at the old Inveresk tram depot over the past five years. While the LTMS plans that car 29 be restored to operating condition, acquisition of suitable 3ft 6in gauge trucks has been a problem.

A possible solution was to obtain ex-Melbourne No. 1 trucks for re-gauging to 3ft 6in. Alternatively, the tram could have been converted for standard gauge operation. An impediment to re-gauging the tram, however, is that its existing motors could not be used in re-gauged Melbourne trucks because they were too wide. This meant having to source smaller motors from overseas. As the tracks in the Inveresk rail yards had already been laid to the 3ft 6in gauge, the establishing of dual gauge track would cause significant problems and expense. Using the standard gauge No. 1 trucks would require some structural alterations to No 29's underframe.

A number of attempts were made to obtain 3ft 6in gauge trucks from Japan but were unsuccessful. Eventually, a railfan from Japan, Mr Hiroyuki Tajiri, visited Australia and called at Launceston to see tram No. 29. He was most impressed with the restoration work being carried out and, when told of the bogie

problem, said he would make inquiries on our behalf when he returned to Japan.

A few weeks later he advised us that there were two 3ft 6in gauge bogies available from a tram ex Gifu but we were second on the list as a Japanese railway company had expressed interest in obtaining them. The company was successful and we were disappointed at missing out.

Several months later, Mr Tajiri wrote to us again to inform us that tram 575 from Gifu was coming to Fukui downtown for a festival called 'Transit Mole' to be held in October-November 2001. After this event the bogies from this tram could be made available to us at scrap price plus labour and transport costs. The Society immediately advised Mr Tajiri to proceed on our behalf to obtain the bogies.

His next letter advised that not only were we successful in obtaining the bogies but some other parts were available if required. We had already purchased some equipment from the AETM at St Kilda but decided to go ahead and obtain the available parts from Japan as future spare parts. The parts included two controllers, a compressor motor, resistances, line breaker, brake cylinder, brake rods, motorman's brake valves and some smaller items.

*Launceston bogie car 29 and single truck car 8 in the old Inveresk depot during September 2001.*

Ralph Proctor



A shipping container with all the gear duly arrived at Bell Bay wharf during November and was soon unloaded and placed in the tram depot at Launceston.

The bogies have roller bearing axle boxes and are fitted with a single 50hp motor. The wheels have railway profiles which suit the track laid at the Inveresk rail yards.

Launceston City Council has taken over the site management at Inveresk and certain changes are to be made. It is proposed to move the trams from the historic depot building and place them in a larger shed near the Don River Railway site in the southeastern section of the old rail yards. It is also proposed to cover over the main track laid in the paving bricks down the centre of the site to improve safety.

The present depot will be included in the function

area. There are currently three trams housed in the depot, Nos 29, 8 and 26. As the area is becoming congested, extra space is urgently required.

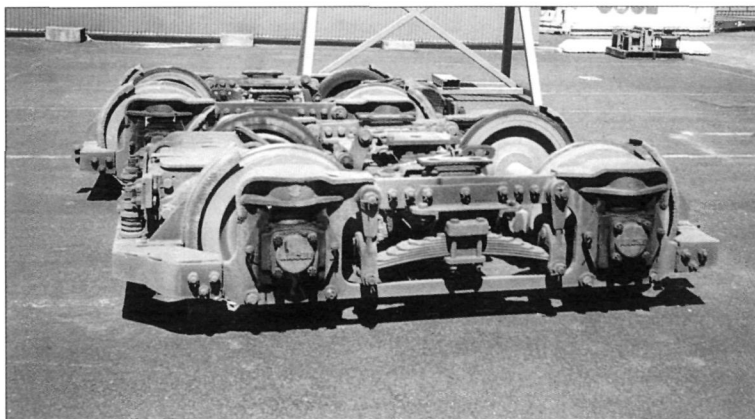
Work continues on California combination No. 8. John Binns has rebuilt one of the front ends and the new sheet metal for the front and sides is being prepared before going to member Len Colgrove for spray painting.

Tram 26 is sitting on the two Melbourne No.1 trucks at the rear of the depot and has a photo display mounted in the saloon.

Our former Secretary, Philip Archer, who passed away recently, has left the Society a generous bequest to enable the restoration work to continue on the Launceston trams.

*The Japanese 3ft 6in gauge bogies are seen on the wharf at Bell Bay in December 2001.*

Ralph Proctor



# LOFTUS

**South Pacific Electric Railway Co-op Society**

PO Box 103, Sutherland, NSW 2232

<http://www.railpage.org.au/tram/loftus>

From Michael Giddey

## YMCA facade

A contract was signed on 27 November for the construction of the four-storey reinforced concrete structure that will support the sandstone façade. It was not expected that work would start until the New Year. However, storage of the sandstone façade on a site at Waterloo had become a problem for Meriton Apartments and a financial contribution was negotiated on the proviso that site work at Loftus be commenced as soon as possible. Site clearing and rock removal commenced in December 2001.

The fire sprinkler system was disconnected from the demountable toilet block and the police box on 12 December. The police call box (ex Grand Parade, Brighton-le-Sands) has been moved into the workshop for some major repair work before being relocated to a new site facing Cross Street where a concrete slab and brick foundation have been prepared for it. The demountable toilet block (actually two units back-to-back) was moved by crane clear of the works site to a location, first on the roadway and finally in its two halves on the footpath. The building contractors will use it for the duration of the project. The trolley wire above the western track in Tramway Avenue has been slewed over next to the eastern wire to be clear of the work area. The remaining span wire, which will foul crane movements, is to be replaced with a temporary wooden bracket arm early in February.

Temporary fencing has been erected between the two tracks in Tramway Avenue from the Pitt Street gates to just south of the demountable toilet block to secure the building site from unauthorised entry. Pier holes were excavated into the rock for the footings of the structure and the elevator shaft in late December. Reinforcing steel was placed and concrete poured early in January and by 18 January, erection of formwork for the first suspended floor slab and its supporting columns was in progress.

## Workshop travelling cranes

The two workshop travelling cranes arrived back at the Museum as an escorted load from Smithfield at 6:00am on Thursday, 22 November 2001. They have

been lengthened by about 4500mm and refurbished by Mannesmann Dematic Pty Ltd, Demag Cranes and Components Division, their original manufacturer. Two mobile cranes were on site to unload them, manoeuvre them into the workshop one at a time and lift them into position on the crane rails. The cranes selected for this job were of the Franna type which pivot in the middle, giving them four-wheel steering. This manoeuvrability was essential as the travelling cranes are now over 18 metres long.

In preparation for this work, Brisbane 180 was towed onto the traverser and pushed onto the new road 4 track, to become the first tram to turn a wheel on this line. Berlin 3008 was then driven from workshop road 10 onto the traverser and the workshop floor was cleared using the forklifts. One of the outside storage containers and some spare bogies also had to be moved.

Demag's manager was on site to supervise the operation. Some problems were encountered manoeuvring the first crane into the workshop and it was not in position until 8:30am. With the experience gained, the second crane was in position on the crane rails at 9:15am.

Demag has generously donated sufficient six-metre lengths of good second hand electrical contact bars to enable the cranes to be made operational. The workshop was again cleared on 18 January to allow our Bedford hydraulic bucket truck to be used for the erection of the special mounting brackets to support the electrical contact bars. Joe Kirchberger TIG-welded the brackets to the steel beams supporting the crane rails. Our electrical staff erected the bars and connected power cabling, most of which was complete by 25 January.

Demag will return to test and commission the two cranes once the electrical installation is complete. A number of members are to be trained in the use of the cranes with a view to them obtaining the necessary permit from the Workcover Authority.

*The Tramway Avenue scene in early December 2001 before construction work commenced.*

Bob Merchant



The cranes look very impressive. We thank FreightCorp for their initial donation, to Demag for their assistance, which went well beyond what was required of them, and to one of our members whose generous donation covered the cost of the modifications and reconditioning. The Museum has gained a very valuable asset, which would cost close to half a million dollars if purchased new.

### Electrical

David Bennett and Geoff and Chris Olsen carried out some rewiring of the Princes Highway level crossing signals and installed new inductive loop detector systems to improve their reliability. Geoff Olsen has

run new cabling from the No.1 substation into the workshop via existing spare underground conduits to supply the travelling cranes and reorganised a number of power points in the workshop meal room.

### Barbecues

The two electric barbecues have been completed and were tested on 25 October and again on 27 October by our Saturday workforce. Their first major use was on Saturday, 24 November when some 280 visitors from the Sutherland Hospital Staff Social Club organised a barbecue lunch as part of their Christmas party at the Museum. A tile-roofed shelter covering the barbecues has still to be erected.

*A view of the construction site as it appeared in early January 2002.*

Bob Merchant



**Brisbane 180**

The repainting of this car was completed on 6 November after which Bill Parkinson carried out some tests on its electrical condition. The verdict was not good as it was found to have a grounded field in one traction motor. The car was moved to the back of road 2 on 18 January and is to be placed in the display hall to await its turn in the workshop for motor repairs.

**Berlin 3008**

The resheathing of this car was completed in late November and Joe Kirchberger then concentrated on cutting out rusted portions of the doors and steps. The windows were reinstalled and the car sprayed in its original all over cream with black band. It has yet to receive the chrome trim and its original number (5133) and signage. Brian Hague has managed to source chrome and black trim very close to the sample supplied by our German enthusiast visitors in October. The car was transferred from road 9 to road 10 in the workshop on 18 January.

**Sydney P 1497**

The first traction motor has been reassembled and tested. The work carried out by Bill Parkinson included complete dismantling, repairing brush holders, thorough cleaning with electrical solvent, baking in the motor oven to dry out any moisture, checking the bearings for wear. Bob McKeever carried out a light machining of the commutator in the large lathe to remove uneven wear. The second motor has been stripped and cleaned and Vic Solomons has externally cleaned the remaining two motors. Bob McKeever has removed their pinions in preparation for dismantling.

**Berlin trailer 3717**

This vehicle was moved to road 4 alongside the workshop. It is to receive an external repaint to halt the deterioration caused by the sea voyage and the strong Australian summer sun.

**Sydney C 29**

This tram was returned to road 10 in the workshop on 18 January. Some brake rigging adjustments are to be carried out to improve clearances under the car. The handbrake bearings are to be replaced with new cast units and the brake chains replaced with a heavier chain.

**Saturday Disney**

Channel 7's children's program 'Saturday Disney' spent most of Tuesday, 6 November 2001 at the Museum shooting segments for a future program. Shelley, one of the three hosts of 'Saturday Disney' hosted the museum segment and carried out interviews with museum member David Critchley. Most of the shooting was done inside the display hall, the remainder being carried out on the Royal National Park line with Brisbane 295. David was interviewed on no less than six of our trams.

The program is to be mainly about the history of trams. The various developments of trams, from horse drawn to cable, steam and electric are discussed. In the opening sequences, Shelley made note that she was at the Sydney Tramway Museum.

David was impressed that Shelley had done some research prior to the visit and had quite a good understanding of the history of tramways. The program is aimed at the under 12 years age group, so the questions asked were relatively simple. The program is expected to go to air early this year.

**General**

The retaining wall between roads 14 (high level) and 15 (low level) at the entrance to the top shed is progressing slowly. To help complete the wall surplus concrete from other jobs is used whenever available.

Work on replacing the pallet racking, moving the dividing wall between 3 and 4 roads and the general clean-up of the running shed / display hall continues as time and labour permit.

The length of the new road 4 has been concreted in the 'four-foot' from the traverser to the Cross Street diamond crossing. This work had to be completed prior to the return of the workshop cranes. The alterations to the road 4 pointwork were been completed following successful testing with various trams on Saturday, 1 December. Final concreting of the points was carried out on Thursday, 9 January, followed by the fitting of tread plate to the steel framework of the point cover two days later.

The weed trailer was used to spray weeds on both the Sutherland and National Park lines on 17 November. The last of the weedicide was sprayed late in December and the tank was filled with water for the duration of the bushfire emergency.

*An undercoat of cream has transformed Berlin 3008. In this view the driver's windows are being refitted.* Bob Merchant



Thunderstorms on 3 December had the Sutherland Shire surrounded by vertical lightning, an awesome sight when viewed from the Museum. One strike hit two of our poles on the grade from the Army crossing to the Sutherland terminus, missing high voltage power line structures and taller trees. Porcelain insulators disintegrated and the cones in the overhead ears were pulverised, dropping the overhead wire from the two bracket arms. This caused a violent shaking of the overhead wiring, which extended to within the museum grounds and depot fan, and alerted members

that we had a problem. The overhead was lifted and temporarily tied later that evening. Repairs were carried out on 4 December.

The bushfires that ringed the Sydney basin before and after Christmas did not affect the northern part of the Royal National Park through which the Museum's tram line runs. Power to the overhead into the Park was disconnected and tram services into the Park cancelled during the emergency. Normal tram services into the Park resumed on 13 January.

*This view of the building site in early January was taken from across Pitt Street at the entrance to the Museum. The steam tram waiting shed from Miranda is not available for use during the construction period. The scene is going to change dramatically over the coming months. Watch this space!* Bob Merchant



# ST KILDA

## Australian Electric Transport Museum

GPO Box 2012, Adelaide, South Australia 5001

From Colin Seymour

### New Tram Depot

Road 10 in the new Northern Depot was brought into use for the storage of trams on Friday 2 November 2001. In the shorter term, Road 10 will be closed to the public and will be used for storage of trams not used for current operations. The main line was cut and temporarily slewed across to join the Road 10 access track to the new depot as the new set of points at this location is still under construction. Cars 381, 192, 282 and 303 were towed into the new depot by the Museum tractor to join horse car 18 on Road 10.

The re-arrangement of rolling stock has resulted in horse tram 15 and cars 1, 42, 111, 186 and 360 being stabled in the Southern Depot (Roads 7 and 8). The only cars remaining in the old depot are cars 21, 34, 264, 294, 354 and 362. The Museum is well on the way to minimising the number of restored cars housed in the old wooden frame depot. Further down the track (no pun intended) when Road 9 is completed, there will be even fewer cars in the old depot. As well as the protection of our heritage assets, the immediate impact will be that the Workshop (Road 2) will be free of operating cars (unless being serviced).

The relocation of cars to the new depot has resulted in a significant change to our traffic operations. The

Southern Depot (Roads 7 and 8) has become a running shed in addition to the old depot. At least two cars need to be taken from the Southern Depot for normal operations in addition to two cars from the old depot. Motormen are now required to shunt cars taken from the Southern Depot for traffic onto the main line and back to the main depot fan. While shunting cars for operations is not new for many museums, AETM motormen have had it easy all these years by simply driving cars straight out of the old depot and onto the fan which is the departure point. The first use of the Southern Depot as a running shed was on Sunday, 4 November 2001.

Contractor Tony Perkins completed the Besser block brick walls for the 8.5 metre by 3.5 metre Archives Vault in the administration end of the building over two days in December 2001.

### Horse Tram 18 Returns

Adelaide and Suburban horse tram 18 of 1878 arrived back at St. Kilda on 26 October 2001. Readers may recall that the tram, which belongs to the National Trust, was previously at St Kilda from 1971 to 1988. It was to be part of a horse-drawn vehicles museum which failed to materialise. Horse tram 18 remains under the ownership of the National Trust and is



*The main line track was slewed (to the right) to enable cars 381, 192, 282 and 303 to be transferred to Road 10 in the Northern Depot on 2 November 2001. The pointwork at main line / Northern Depot junction is in the process of being built.*

Ian Seymour

*Birney 303, the last car to leave the main line for the Northern Depot, is on the left. Works car W2 354 is on the Southern Depot access track. The Southern Depot (Roads 7 & 8) can be seen to the right. Not seen in this photo is the old depot, which is in the centre and further back behind the trams.*

Ian Seymour



currently housed on Road 10 in the new Northern Depot. It will eventually form part of a new horse tram display.

### Car 118

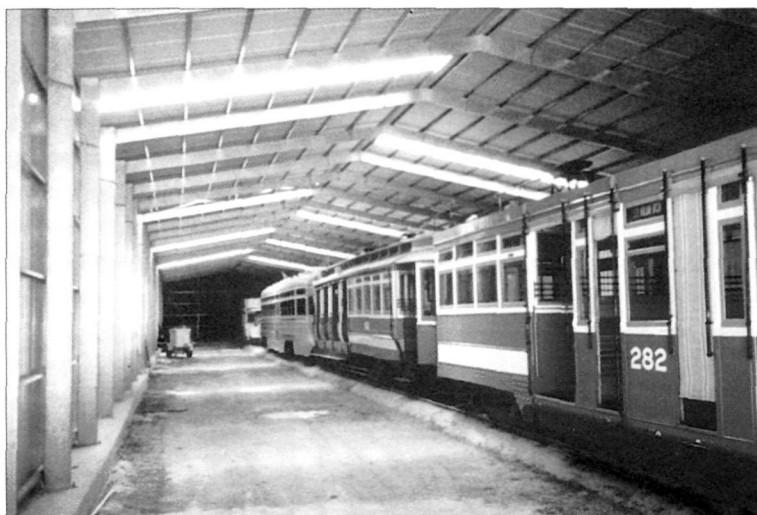
The B23 controllers have been stripped down for cleaning and refurbishing of parts and insulation. The hand brake assembly below the platform at the western end has been installed. The controller and handbrake work will be completed before new cab fronts constructed off site are installed. The new cabs will resemble the removable type window Brill convertible version as originally built. Sister car 108, which exists as a beach shack, still has this type at one end for

copying. Both bogies have had all wheel and axles removed for final cleaning of the frames. One pair of main driver wheels has been turned and the other is under way. The pony wheels will be next, followed by remetalling of the bearings and refurbishing of the journal box hornways.

It is planned to install the bogies under 118 to check the trucks' body bearing plates and do a trial run under tow on the St Kilda town curves. There is a minor variation between the 22E trucks that ran in Adelaide and the SEC version being fitted (ex Ballarat 35). Following this trial the brake rigging refurbishment will be started and motors installed.

*Horse tram 18 and cars 381, 192, 282 and 303 (out of picture behind car 282) are now safely stored in the new Northern Depot.*

Ian Seymour





*Adelaide and Suburban horse tram 18 of 1878 is loaded onto a semi-trailer at the old wool stores at Port Adelaide where it had been in storage for a number of years.*

Ian Seymour

### Glenelg Car 355

The AETM has accepted a proposal by the Tramway Division of Central Deborah Bendigo for the AETM to exchange H type tram 355 (excluding motors) for two complete 21E trucks (including AETM car 42's original truck). The exchange greatly enhances our desire to reconstruct an Adelaide 'Bib and Bub' set. Car 355 was acquired in 1987 to ensure we owned an H car, cars 360 and 362 being leased from the State Transport Authority at that time. The subsequent donation of cars 360 and 362 by the Minister for Transport in 1995 has changed that situation and resulted in car 360, rather than 355 being refurbished to 1929 appearance.

Car 355 was shunted from road 6a in the Tram Storage Shed into the Main Depot on Friday, 7

December 2001 to be prepared for transfer to Bendigo together with car 42's original motorless 21E truck. Bendigo will fully fit out the 21E truck and use it as a pattern to assemble a matching truck.

### Other News

Kym Smith carried out some valuable work on the overhead while in Adelaide on leave from his 'real' tram job in Bendigo. The frog at the Roads 7/8 junction now tracks properly on both tracks. The overhead at the rear of Roads 5 and 6 of the old depot has been shortened. This was necessary because of the deteriorating condition of the rear shed wooden poles supporting the overhead. It has now been tied off to shed poles further inside the depot. The transfer of the operational trams to the new depot has enabled this to happen. The overhead on Roads 7 and 8 has had the



*AETM manpower was used to push horse tram 18 into the new Northern Depot on Road 10 on 26 October 2001.*

Ian Seymour

tension improved following the replacement of a guy wire tied to Pole 5. Six bracket arm fittings were replaced on the lakeside track.

Another set of wheels machined for Ballarat was despatched on 7 December 2001.

## BALLARAT

### Ballarat Tramway Museum

PO Box 632, Ballarat, Victoria 3353

<http://www.btm.org.au>

#### From Dave Macartney

The Annual General Meeting took place on 28 October 2001. As our usual venue at the Robert Clark Centre had a prior booking, we conducted the meeting at the St Aidans Drive terminus in saloon car No. 45. This was followed by afternoon tea on the run in No. 671. As it was the thirtieth year since the SEC tramways' closure and the formation of the Museum, commemorative plaques were awarded to those people who had been active in the project throughout that period.

Horse tram No. 1 made an appearance in Wendouree Parade on 18 November. A test run was necessary ahead of a planned day of operation in January and a possible appearance in the Moomba procession next March. A Clydesdale named Bear provided the motive power, and the operation was carried out to everyone's satisfaction.

Around the depot, work continues on No. 27's motors. The newly turned wheels have returned from Adelaide, and re-assembly of the car should soon commence. The repaint of No. 28 continues between other jobs on the operating cars. Scrubber No. 8 is having its lighting circuits overhauled. No. 671 is being fitted with a battery system to make it more suitable for the charter work that it seems to attract. No. 45 is starting to run more reliably, although it managed a fairly spectacular lighting short circuit, which put it out of action for a while.

The charter season through November and December saw a fair bit of activity, with weddings, school charters, Christmas break-ups and a busy day on 19 November with a 'Kids for Cancer' charter. Patronage generally has been up on last year, the first four months of the financial year yielding some 1150 additional passengers. The last four days of December alone produced 598 passengers, so perhaps a good summer is in store.

Saturday, 17 November was a memorable day all round, as long-term BTM employee, Jacqui Edwards, took the plunge and married Melbourne Tramcar Preservation Association General Manager Tony Smith, after a whirlwind romance lasting some seventeen years. Like the uniting of the great Royal Houses of Europe through marriage over the centuries, the two museums are now stuck with one another! The honeymoon took place in Adelaide (mainly Glenelg and St. Kilda) and at Bendigo (at the usual place). Jacqui is now resident at Haddon, in a house that started life as W3 No. 656. At least she knew what she was in for. Can we expect tip-over seats in the lounge room?

Track repairs in Wendouree Parade were carried out on 17 December. A rail joint of 1905 vintage near the Playground was removed and replaced with a one-metre length of rail welded in. This type of repair is not uncommon on the southern half of the line, as the joints begin to show their age. The northern end of the line was relaid in the 1930s. The joints are generally in better condition but the track north of the loop is on softer ground and is gradually sinking. The road pretty much stays at the original level, so it has been necessary in recent times to raise the lifeguard gates on Nos. 26 and 671, as they were striking high spots on the road. This whole stretch of roadway is due to be completely rebuilt on a higher alignment at some future date, but in the mean time is receiving minimal maintenance.

For Christmas 2001 car No. 45 was decorated and ran most services in the lead up. On 23 December, Roger Salen drove the full shift in a Santa costume. He had saved a bit of money by not having to buy a false beard. Some of the more worldly-wise kids, always on the lookout for a fraud, grabbed hold of Roger's beard in an effort to unmask him, only to find that it was the genuine article. This almost convinced them, though Roger's English Home Counties accent had them completely baffled. Was Santa a Pom?

# WHITEMAN PARK

**Perth Electric Tramway Society**

PO Box 257, Mount Lawley, Western Australia 6929

From Michael Stukely

Patronage on the trams continued at good levels through spring, reflecting the weather conditions in what has been an unusually dry year in Perth. Bennett Brook Railway's Friends of Thomas the Tank Engine Day on 14 October was well attended. W2 class car 329 ran a shuttle service between Village Junction Station (the centre of activities for the day) and Village, while W2 class 393 operated a separate service between Village and Mussel Pool/Bennett Brook. In past years, the trams were hired for the day by the Railway; however, this year a flat fare of \$1 per head (each way) was charged on the Village Junction/Village shuttle, while normal fares were charged on the other car. This trial arrangement was a success, both in terms of the revenue received and acceptance by the public.

Again in recent months, our track-upgrading program (using steel sleepers), and maintenance and repairs to the operational trams, have made heavy demands on members' time. Very good progress has again been made in these areas.

Between September and December, about 70 rotten timber sleepers were replaced with steels between the Bennett Brook cattle grid and Stockmans Triangle.

This work has continued on both weekend workdays and Wednesdays, and is followed by the lifting and packing operation. A new record number of sleepers – 27 – were replaced on Saturday, 17 November by a team of six members: Trevor Dennhardt, Lindsay Richardson, Martin Grant, Terry Verney, Brent Luscombe and Michael Stukely. The previous record for one day was 25 sleepers, replaced by a team of eight, in September 2000. On other workdays, Cliff Norgate, Jim Paton, Garry Barker, Tony Grose and Kim Herne have also assisted Trevor and Lindsay. A total of 324 steel sleepers have now been installed with the complete line between the Car barn fan, Mussel Pool, Bennett Brook and Stockmans Triangle having been treated.

On Tuesday and Wednesday 13-14 November, Trevor and Lindsay commenced another important and long-awaited job – the re-setting of the checkrail on the west-to-north curve at Stockmans Triangle. Four lengths of checkrail, starting from the north end, were dismantled and re-attached using the new aluminium spacers. A gap of 32-40mm was achieved, depending on the level of wear on the checkrail. All of the welded gauge straps were removed. One length of checkrail then remained to be reset. This has greatly improved



*Cliff Norgate in the rebuilt temporary service pit on 7 November.*

Lindsay Richardson

*Trevor Dennhardt dismantles a section of the checkrail on the west-to-north curve at Stockmans Triangle on 13 November. The next length of checkrail behind him has been reset to the correct clearance with new spacer blocks.* Lindsay Richardson



the ride on this curve, and has arrested the excessive rate of wear on the outside rail. It has now been discovered that this rapid wear was largely due to the curve having been under-gauge since it was re-aligned during the reconstruction of the triangle by contractors some years ago.

Our temporary service pit on no.9 road (see photo in Trolley Wire August 2001, page 39) was becoming unsafe due to the earth (sand) walls caving in. It was dug out in October by Lindsay Richardson, Tony Grose and Cliff Norgate, and lined with old sleepers with the track sleepers and rail being re-worked also. The end result is a safe and serviceable facility for the period until the main service pit in the Engineering Shed is finally commissioned for use. Some further preparations for the final concreting of this pit have been carried out.

Noel Blackmore reports that the major maintenance of SW2 class 426 was progressing well by early December. Geoff Morrison, Gareth Watts and Scott Parker have assisted Noel here. The airbrake relay has required a complete overhaul. Eddie Vagg has completed the motor to axle bearing re-assembly on W4 class 674, and the brake-hanger assembly is progressing.

In the overhead department, Noel has arranged for the modification of stay rods that is necessary for our bracket arms to be used on concrete and steel traction poles. David Secker has assisted with the preparation of the section insulator equipment to be installed east of Stockmans Triangle. Termites are still causing problems with our timber traction poles (and sleepers), with another pole requiring treatment recently.

Under Rail Safety Accreditation, and now that our new Electrical Rules have been adopted, it has been necessary for us to obtain a live-line detector and an automatic line test system. The live-line detector is for worker safety and the automatic line test system is to test the integrity of the traction power supply system prior to the start of services each day. Noel has spent quite a large amount of time seeking appropriate equipment and obtaining quotes that fall in the realistic range for our operations.

However, Noel has had the good fortune to locate a local importer of light globes suitable for use in the trams (110V pearl, reinforced construction, ex USA). New stocks of these are required, and this product will now be tested.

A number of improvements have recently been made to the museum buildings, funded by the Oketon Geddes Trust and under the direction of Lindsay Richardson, with the aim of making working conditions there in the warmer weather more bearable for members. First, two industrial ventilators were installed into the roof of the WP Pennenburg Workshop. These have proved to be very successful in keeping temperatures down in that area, which is much appreciated in particular by the motor vehicles maintenance team. Second, 'Insulpaint' (a heat-reflective paint in a rather striking lime-green colour) was applied to the full rear (western) walls of the Workshop and the Oketon Geddes Carbarn. It was also applied to the full north wall of the carbarn and to a 30m x 8m section of its roof from the western end. This covered the members' room/office and 1 and 2 Roads down to the east end of FMT 28 (the dormitory car) and W5 class 766. Third, a used cold water

fountain was purchased through Ray Blackmore and installed in the members' room.

In the motor vehicles department, Vic Sweetlove reports that major repairs have been carried out on the braking system of the Albion – an essential workhorse as it carries the cherry picker used for overhead work.

A further six metres of the fire protection water line has now been laid in a trench dug by Matt Blight and John Stone in front of the western doors of the Engineering Shed.

Two unmotored Melbourne No.1 trucks and two workshop trestles ex Preston Workshops, allocated to

PETS through COTMA, were transported from Bendigo Tramway to Whiteman Park on 31 October. We record our grateful thanks to Darren Hutchesson for his great assistance in locating a trucking contractor for the job.

Eight steel traction poles in very good condition were donated to the Society by the Yokine Bowling Club and arrived on 9 October. Bowling clubs in Perth suburbs have proved to be an excellent source of former tramways traction poles as well as many lengths of grooved rail, which had been used to support the old-style lights suspended above the bowling greens.

## BYLANDS

**Tramway Museum Society of Victoria**  
PO Box 27, Malvern, Victoria 3144

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### From *Running Journal*

Following the successful installation of the new main line pointwork adjacent to the vehicle maintenance building, work commenced almost immediately on the next stage of the trackwork program. The formation was measured and pegged out for the earthworks, which were undertaken in the second week of December by our earthmoving contractor. In the interim, rails and sleepers were sorted prepared or cleaned to evaluate their suitability and two truckloads of ballast were delivered from the Kilmore East Quarry.

On Sunday, 16 December construction commenced in-situ of the next set of points to connect the vehicle maintenance building with the crossover portion of the track between the new main line points and the proposed second track. Some initial work was also undertaken on the crossover connecting track. The remaining intermediate rails between the castings and the crossing piece were cut and positioned the following Sunday and the point castings spiked to the sleepers. The Society's petrol mechanical rail saw, which had not seen use at Bylands for over 15 years, was serviced by Rod Atkins and used to make straight, clean rail cuts.

### Vehicle maintenance building

Our builder, Danesbury Constructions, completed the external cladding of the structure during December. This also included the installation of skylights in the upper section of the side walls, spouting, downpipes and the personnel access door on the western wall. The frames of the large doors to be fitted to each end of the building have been transferred to the site in preparation for modifications to be made prior to fitting.

### Malvern Depot pointwork

In late November 2001, we were advised that M>Tram had contracted Theiss Constructions to replace the depot fan trackwork outside the old No.1 shed at Malvern Depot. Some of this rail is believed to be the original rail installed by the Prahran and Malvern Tramways Trust in 1910. Quick action by member Geoff Dean saw the Society being able to obtain all the point and crossing castings as well as several sections of curved and straight rail. The work was to be spread over a two-week period and we were required to remove the items as soon as they were excavated.

On Monday, 3 December, Graham Jordan and a crane truck from Williamson's Crane Trucks arrived at Malvern Depot to collect the first of the items for transfer to Bylands. The excavator wasted little time removing the castings from their former location and loading them onto the truck. Within an hour, two sets of points and crossings were on their way to their new home.

The following Monday, 10 December, Geoff Dean and the crane truck were at Malvern at 6:30am to pick up the remaining three sets of points. After some difficulty removing several sections, part of new track laid in mass concrete in 1969, the three sets and some

other rail were safely loaded and on their way to Bylands by 11:30am.

The rail and castings have been stacked between the rear of the house boundary and the eastern fence line to the north of the exhibition shed. It is anticipated that most of this material will be used in the construction of the depot fan for that facility and this was the most convenient and logical place to store it.

We wish to record our appreciation to Wayne Harris of Theiss Constructions for his assistance in obtaining this valuable equipment for our museum.

## VALLEY HEIGHTS

**Steam tram and Railway Preservation Society**  
PO Box 3179, Parramatta NSW 2124

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*From Steam Scene*

### 44B destroyed by fire

Late in the afternoon of Christmas Day 2001, our latest acquisition, steam tram trailer 44B was totally destroyed by fire. This was the result of bushfire embers blowing across the Great Western Highway and the adjacent main western railway line into the depot and turntable area.

Despite action by a brigade nearby, the old car was totally burned. It was later reported that this bushfire might have been deliberately lit.

Craig Connelly attended the depot on Boxing Day. Several small smouldering areas around the turntable were extinguished. The embankment adjacent to the railway line was burnt, along with small shrubs and a palm tree.

Car 44B had previously been stored alongside the eastern wall of the roundhouse. Following the recent tragedy at Lithgow State Mine Museum, the decision was made to relocate 44B away from the wall. Accordingly, the car and the Rail Transport Museum's steel guard's van were changed over. This action probably saved the subsequent conflagration from igniting the roundhouse.

On 27 December, our B car 72 and N car 685 were thoroughly doused three times with the fire hose in an attempt to saturate their old timbers. A couple of RTM vehicles, timber stacks, window frames and other items stored within the roundhouse received a similar dousing.

It was found on arrival at the depot that graffitiists had gained access during the night and sprayed the newly painted shop, the railmotors, water tanks and adjacent Youth Club.

### Steam Trailer 44B

Steam trailer 44 was built by Randwick Tramway Workshops as No.22 and entered service in July 1895. It was renumbered 44 at Newcastle. It was withdrawn from service in August 1935 and purchased by Mr Weaver from Hamilton Depot.

Trevor Weaver donated car 44B to the Society on 18 August 2000. It was moved from Lambton to Valley Heights on 10 October 2000, and was destroyed by fire on 25 December 2001.

