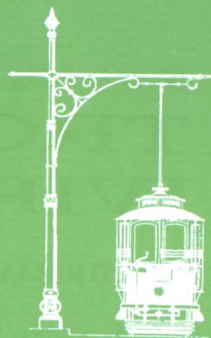


# TROLLEY WIRE



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**GEORGE STREET, SYDNEY 1899-1958**

# TROLLEY WIRE

**AUSTRALIA'S TRAMWAY MUSEUM  
MAGAZINE**

NOVEMBER 1999

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### Front Cover:

*George Street, Sydney, in the early years of the twentieth century. Bound for Pyrmont, F class tram 189 is approaching the GPO on a sunny summer day around 1910.*  
 Vic Solomons collection

### Back Page Top:

*Melbourne heritage ten-bench open car V214 is seen at Brunswick Depot on 29 August 1999. It and L class car 104 ran a shuttle service between Brunswick and Essendon Depots to mark the take-over of Swanston Trams by National Express.*  
 Ray Marsh

### Back Page Bottom:

*The last C class tram to run in George Street, Sydney. In May 1958 former Fort Macquarie breakdown car 56s reverted to its original identity as No. 12, and ran in the city in cream livery with signs advertising the 120th anniversary of retailer David Jones. In this scene it is crossing from the eastern suburbs tracks to the George Street lines at Railway Square.*  
 Bob Merchant



*Outbound Melbourne A2 class 291 departs the National Tennis Centre stop on the new Batman Avenue tramway, 21 June 1999.*  
 Dale Budd



# GEORGE STREET, SYDNEY, 1899-1958

## A PICTORIAL REVIEW

Compiled by Dale Budd, Randall Wilson and Ross Willson

On 8 December 1999 it will be 100 years since the opening of the electric tramway along George Street, Sydney. This was the first electric line in the inner city, and its construction indicated that electric trams would be Sydney's choice - rather than steam or cable - for the busiest services.

The opening of the line along George Street, from Circular Quay to Central Railway and Pyrmont, heralded a period of rapid patronage growth. The number of passengers carried by the Sydney tramways during the year ended 30 June 1899 was 76.4 million. Ten years later, annual patronage had climbed to 176.2 million, an increase of 130%.

These patronage figures were reflected by very frequent services, and congestion at major intersections. In 1909 a total of 564 trams, or 708 cars as coupled sets were counted as single units, crossed the intersection of George and King Streets between 5.00 and 6.30 pm each weekday, at the rate of one car every 8 seconds.

Until 1932 the George Street line was the busiest in Sydney. Its routes radiated to 12 destinations. The transfer in that year of the south western routes to

Pitt and Castlereagh Streets, where capacity had become available following the opening of part of the City Railway, meant that Elizabeth Street replaced George Street as the busiest tramway thoroughfare. Even then, there was more than one tram per minute along George Street during the day, and almost double that frequency at peak periods.

This brief pictorial survey recalls the George Street line during more than half a century of operation. Thanks are due to Noel Reed and Vic Solomons for contributing many of the pictures. Much of the information in this introduction and in the photo captions is drawn from *Tramways of Sydney, City Lines* and *Western Lines*, all by David Keenan and available for purchase from the Sydney Tramway Museum. These books contain a wealth of pictures and detailed information on the services which are the subject of this article.

*Fort Macquarie depot was one of several depots supplying trams for George Street services. Designed by NSW Government Architect W.L. Vernon to resemble the fort which had previously stood on the same site, it was opened in 1902. Although closed to traffic operations in October 1955, the depot fan continued to be used to stow trams between peak hours, and the balloon loop encircling the building was used until August 1958. This picture was taken in 1957.*

National Library of Australia, J.L. Buckland collection





R1 car 2052 is passing the south-eastern corner of Fort Macquarie depot at the start of a run to Annandale in 1955. At left is breakdown car 56s, which was attached to the depot from 1909 until it closed in October 1955. After use as an advertising car (see the back page) and on tours, this car was bought by Mr Norm Boxall and after almost 40 years of outside storage is now at the Sydney Tramway Museum. Noel Reed

Painted in ivory with blue and gold lining for the forthcoming Royal Tour, R1 car 1992 is the focus of attention as it stands, with proud crew members, at the entrance to Fort Macquarie depot on 3 February 1954. If this scene could be transposed to today, the tram would be standing in the Opera House forecourt.

Noel Reed

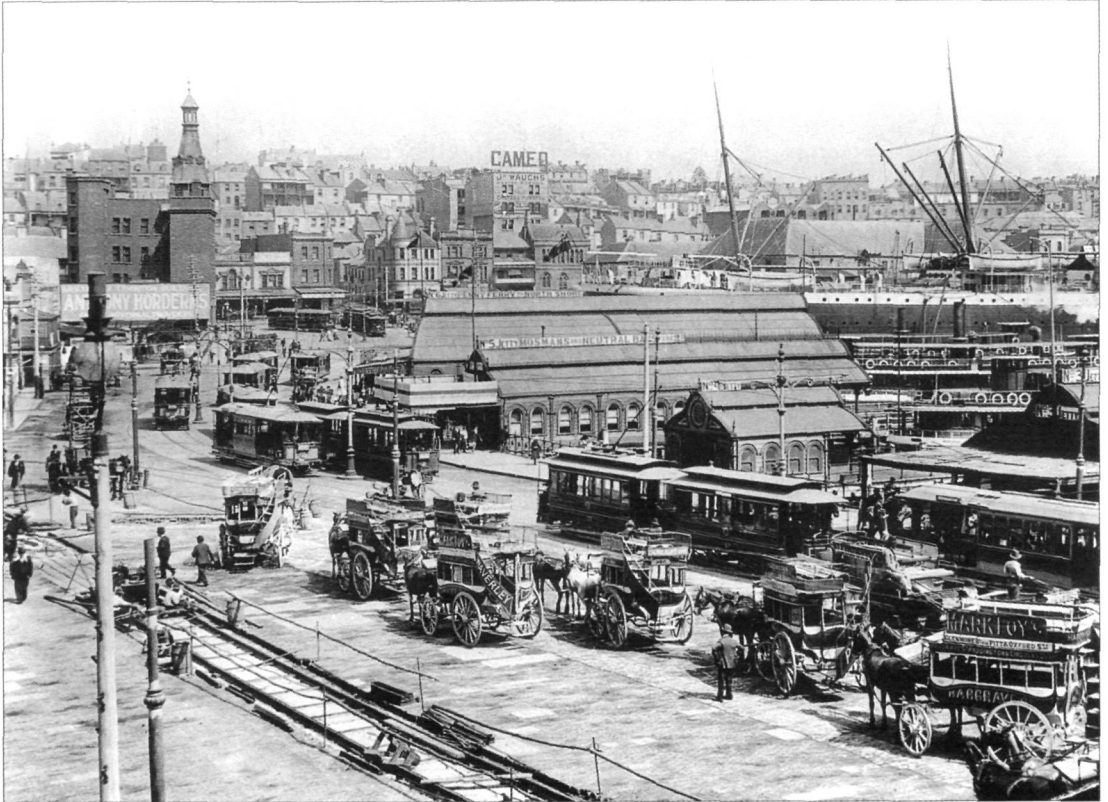






*Circular Quay was originally known as Semi-Circular Quay, and Alfred Street with its tram lines made a sweeping curve behind the ferry wharves. The lines which led to George Street were those closest to the wharves. The hand-coloured postcards, above and below, date from the period before the First World War. The card above was printed in Saxony, while the lower card was printed in Prussia. Both: Vic Solomons collection*





*Circular Quay in 1902 with numerous C and F class trams heading to and from George Street, and almost equally numerous horse buses, soon to be vanquished by other new electric tram services.*

State Rail Authority of N.S.W

*The year is about 1930, and crowds stream across the road as they make the transfer from ferries to trams. The tracks leading to George Street were laid at unusually wide centres to ensure that pedestrians would not be caught between two trams moving in opposite directions.*

Vic Solomons collection







Hats are in vogue for both men and women as L/P 153 is briefly delayed by a rush of commuters from No 5 jetty in December 1937. Sydney Morning Herald

In the early post-war years the appearance of Circular Quay was dramatically changed by the building of the railway with the Cahill Expressway above. In October 1952 the railway was well advanced but there was no sign of the overhead roadway, as brand new R1 car 2059 set out across the quay, Lilyfield-bound.

Noel Reed







Largely caused by the construction of the railway, the tracks across Circular Quay were moved many times. The last re-alignment work was completed less than four and half years before the George Street lines were closed, when the junction for the Millers Point line on the western side of the quay was repositioned a few metres southwards. In the last week of May 1954, R car 1784 is showing the unusual destination 'University via Railway Square' as it reaches the new junction on the down line; the new inbound track was opened a few days later.

Noel Reed

In the last year of operation of the George Street lines, coupled Os led by 1085 traverse the final, straight track across the quay; compare this with the views on the previous pages. In a few moments this coupled set will use the new junction depicted above, as it turns into George Street.

Leon B. Manny



*An unusually quiet scene in the late 1920s: a coupled set of O cars bound for Five Dock approaches Essex Street. Today, the Regent Hotel occupies the block on the right of this picture.*

Vic Solomons collection



*Thursday, 7 December 1899, the first day on which people could travel on electric trams in the central area of Sydney. No fares were collected on this day, on which a full scale trial was conducted before the start of normal services on the following day. The two C class cars are about to pass at a point which would now be outside the entrance to Wynyard station. Peapes' store, at right, remained on this site for many years, easily outlasting the tramway era; eventually it too became a memory.*

Kerry photo, Vic Solomons collection



KERRY PHOTO, SYDNEY

3201 GEORGE ST NEAR HUNTER STREET



*Ornamental centre poles were an attractive feature of the George Street tramway, but they lasted less than nine years before being removed in 1908 to allow use of the wider O cars. This is a view at the intersection with Martin Place in the very early days of the line.*  
Vic Solomons collection

*Again at the corner of Martin Place, relaying works are under way as an R car heads for Balmain in November 1953.*  
Noel Reed







4. George St., SYDNEY

George Street at the corner of Barrack Street. O car 832 is bound for Circular Quay in this postcard from the mid 1920s, published by Samuel Wood and printed in France. Vic Solomons collection

From 1934 until 1950, Fort Macquarie depot supplied many trams for the Watsons Bay service. Passengers were carried on these trams as they used George Street on trips to and from the depot. On the last day of trams in King Street, 9 December 1950, R1 car 1934 turns from King Street into George Street: the building which at that time housed the Belfields Hotel has stood on this corner from the cable tram era until today. Noel Reed





*The Queen Victoria Building is a handsome structure which has dignified Sydney before, during and since the tramway era. In this mid-1920s view, O car 945 passes the building as it approaches Market Street. In the shadow at left can be seen the elevated signal box which controlled the junction for the York and Market Streets loop. Rose postcard, Vic Solomons collection*

*George Street's three most distinctive landmarks: St Andrew's Cathedral at left, the Town Hall and in the middle distance the Queen Victoria Building. Trolleybus No 3, bound for Wylde Street, Potts Point, is about to turn into Bathurst Street in this 1937 scene. Sydney Morning Herald*





*It's the summer of 1937 and George Street is crowded with Christmas shoppers. More than ten trams can be identified in this view looking north from Park Street, including coupled Os, coupled L/Ps, coupled Ps and corridor cars including one in King Street. Sydney Morning Herald*





GEORGE STREET BRICKFIELD SYDNEY.

*A coupled set of F class trams climbs Brickfield Hill in the first decade of the century, with the handsome Anthony Horderns building behind. The F class cars quickly supplanted the C cars as Sydney's most numerous tramcar type: the 250 production-series Fs (following prototype car 122) entered service at an extraordinarily rapid rate - more than two per week over 28 months from April 1900 to August 1902. Vic Solomons collection*

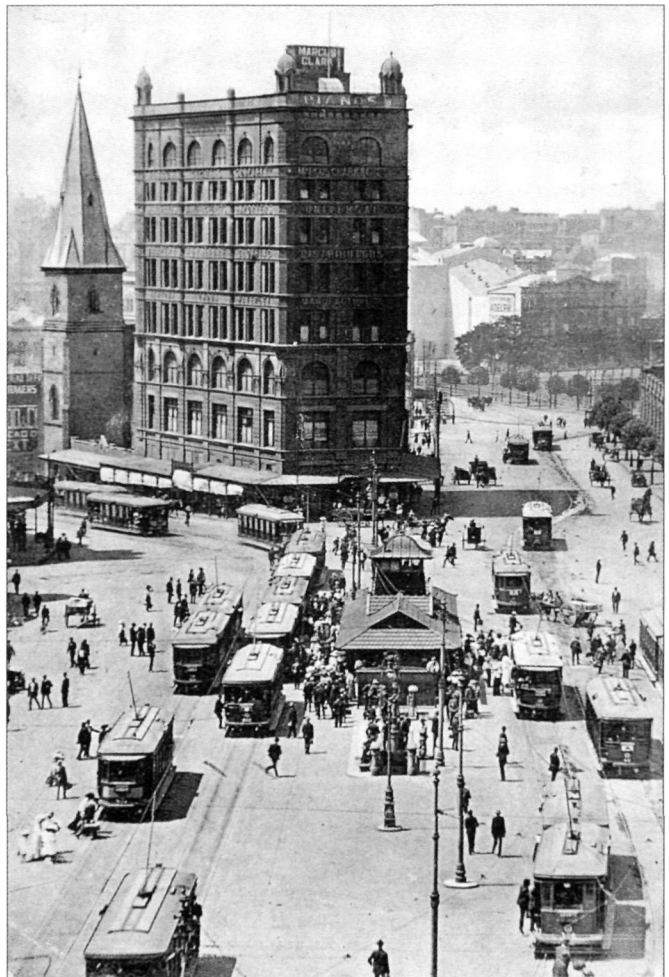
*A view of the locality known as the Haymarket, looking south from near Goulburn Street in about 1950. A picture taken here today could again show trams, crossing George Street at Hay Street but without the benefit of the elevated signal box on the south-west corner of the intersection.*

Murray Views postcard, Vic Solomons collection

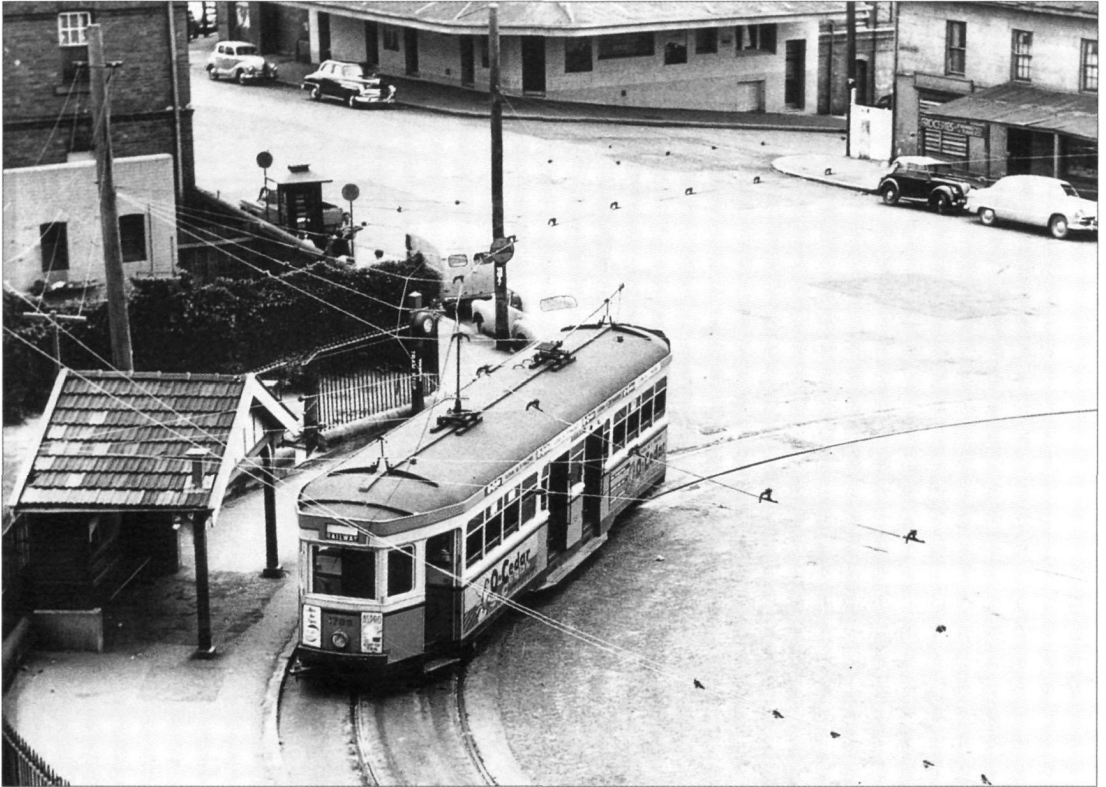




*Railway Square in about 1900, showing the old Redfern railway station. In the centre a pair of C class trams from George Street is about to turn into the station area; another pair is about to turn out of Devonshire Street to begin the run down town. In 1906 the new Sydney station was opened and virtually everything in this picture was swept away: Devonshire Street survives only as a pedestrian subway. Vic Solomons collection*



*Railway Square in about 1911 or 1912. The tracks at centre left lead to George Street; those at right are for Eastern Suburbs services. In the message written on the back of this postcard, Lizzie told her friend Maud that 'there is always such a lot of people and what with the trams you have got to have your eyes all over the place at once.' Vic Solomons collection*



*The Millers Point line was both an inner suburban route and an alternative city terminus for George Street services. R car 1783 is waiting to leave Millers Point for Central Railway in this 1957 scene.*

Leon B. Manny

*O car 1111 pauses beneath the Harbour Bridge approach on its way to Millers Point on an AETM tour on 22 November 1958, the last day of the George Street lines. In a few hours the George Street tramway will become history, as will the era of the O class trams.*

John Adkins





# THE REPLICA DOUBLE-DECK STEAM TRAMCAR

By Peter Stock

## Background

A disastrous fire engulfed the Steam Tram and Railway Preservation Society's tram depot in Parramatta Park on 7 June, 1993.(1) The building was completely gutted and most of Society's rolling stock destroyed. The exception was Stephenson No.2, an 0-6-0 locomotive, which had been moved to Thirlmere for restoration prior to the fire. All that remained of the wooden-bodied rolling stock were damaged bogies, twisted metal castings and fittings. Steam tram motor 103A (just back in service after an extensive overhaul) and 0-4-0 locomotive 1022 suffered through heat and fire but could be rebuilt.

The Society, at that time, was given to believe it might expect to resume operation in Parramatta Park either at the old site or another site within the Park. That hope was eventually dashed by bureaucratic problems that plagued the Society before the fire and continued apace thereafter. This culminated in the Society being forced out of the park in late 1998, after tenure of over 40 years. (See *Trolley Wire*, February 1999, page 30).

Whilst these negotiations were proceeding the Society began to look for and secure substitute, but relevant, rolling stock as a major priority. It was aware of two B class steam tram trailers contained within a domestic dwelling at Berowra, NSW. The cars were not available in 1993 but both were subsequently acquired. (2)

The search identified several N class electric tram bodies at various locations. These tramcars had driving compartments at each end but, with certain minor design changes, were essentially of a C2 (B after 1905) class steam tram trailer configuration. Two such bodies were acquired from a location near Moss Vale, NSW, and these were delivered to a private site at Thirlmere. The cars are 619 and 685. At this time 685 is being restored whilst its sister, having succumbed to the ravages of time, is being dismantled for spare parts. (*Trolley Wire*, February 1999, p.33)

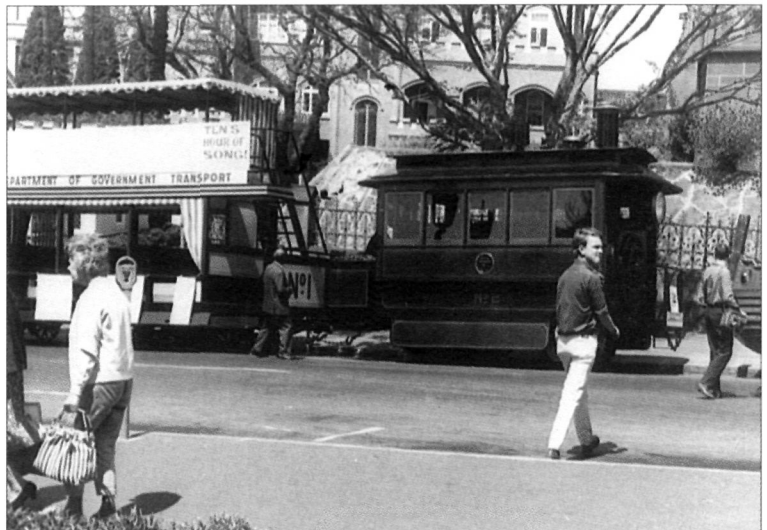
Whilst the previous activities were taking place, the Society became involved with the Powerhouse Museum's de-accessioning committee. Our interest lay with the replica double-deck steam-tram trailer from that collection.

## The Origins of the Replica Car

In 1938 (3) a replica steam tram was constructed by the Department of Road Transport and Tramways for a parade as part of celebrations relating to Sydney's Sesquicentenary (1788-1938). The frame of H class tourist electric tram No. 739 was used to construct a replica double-deck steam tram trailer, loosely modelled on the original A class double-deck trailers. In order to produce a planning pattern, a well-known photograph of a Sydney steam tram of 1879 was used. However, the

*A view of the Department of Government Transport exhibit awaiting entry to the Waratah Parade in the early 1970s. The steam motor is a 1957 replica and the trailer carries sponsor Channel 10's advertising.*

R.F. Moag collection



negative was printed back-to-front. The resulting print showed the tram with the stairs facing the wrong way.

Once construction of the body (4) was completed, the replica car was mounted on ex-steam tram bogies with the wheel flanges ground down for operation over road surfaces. The rear bogie was fixed while the leading bogie was designed to swing around corners. It was connected through a towbar to a tractor's hauling coupling. The tractor had the body from steam tram motor 1A, then in the Museum of Applied Arts and Sciences (MAAS) (5) collection, mounted over it. After the parade the replica car was scrapped, whilst the body was re-united with the remainder of the motor.

For the Jubilee of Federation in 1951 (6) the Department again provided a replica steam tram. The cab of 1A was again used, as in 1938. However a new double-deck trailer was constructed, this time utilising the frame of K class electric tram No. 746. The old pattern drawing was again used, repeating the earlier error in regard to the stairs. After this parade the new replica was stored and the tram motor was re-united with the body.

Springtime in 1957 (7) saw the commencement of the annual Sydney Waratah Festivals. A street parade was held on the first Saturday after Labour Day in October. The parades continued annually until the Festival's demise in 1973. The replica double-deck car was again used but because of age the MAAS would not release the body from steam motor 1A. Therefore



*The Department of Government Transport's entries are seen in a Waratah Parade. Steam motor No.1 and the replica trailer are compared with the following bus. The location is in Oxford Street, Sydney.*

R.F. Moag collection

*Replica motor No.2 and trailer No.1 are seen in Elizabeth Street at King Street. In this parade, the trailer carries the sponsorship of the YWCA.*

R.F. Moag collection



The replica steam tram motor alongside motor 103A, 37C and 74B at Parramatta Park on 1 November 1975. Peter Stock



Below:

The replica trailer as delivered to Valley Heights on 5 June 1997. Note the original steam tram trailer wheels (minus flanges) with their distinctive spoke pattern. The roof is lying on the upper deck floor and the handrails are leaning against the side of the car. The knifeboard upper deck seat is behind the car. Peter Stock



a new body was constructed suitable for mounting over a tractor.

The replica motor body (8) was retained by the Tramway Department and stored at Randwick Workshops, whilst the double-deck trailer replica (9) eventually found its way into the MAAS collection.

### De-accessioning

During the 1990s, the Powerhouse Museum began to rationalise its transport collection. The Society accepted an invitation to inspect the replica double-deck trailer at the Powerhouse Museum workshop and storage facility at Castle Hill.

Society members were favourably impressed with the vehicle. The uprights that supported the roof over the top deck and the stair handrails had been removed along with the knifeboard longitudinal seat but were stored adjacent to the car. The roof itself had been lowered and was stored on the floor of the upper deck.

With the continuing uncertainties of the Parramatta Park tenure, negotiation had begun with the NSW Rail Transport Museum and its Blue Mountains division, the Valley Heights Locomotive Depot Heritage Museum, for the relocation of the Society's remaining assets for storage in the leased area at Valley Heights.

The Powerhouse Museum wisely requested that the replica double-deck trailer be stored and restored in a secure and weatherproof environment. As the B cars had been located under such conditions, permission was granted by the Powerhouse Museum to transfer the car to Valley Heights.

On Thursday, 5 June 1997, the replica double-deck was received into the Society's care at Valley Heights. On arrival an inspection of the bogies indicated that their rebuilding for use under the car was not beyond the capabilities of the Society's members as bogies from the depot fire have been restored for use under trailer 93B.



Over the weekend of 4-5 April 1998, the car was moved on temporary bogies within the roundhouse and stabled over a pit road. That weekend saw the roof raised and the uprights and handrails restored to their rightful place. The opportunity was taken to place the knifeboard seat on the upper deck. At an Open Day on 18 April 1999, the replica double-deck car became an attraction to visitors.

### Restoration

Whilst considerable work needs to be undertaken, many major items have already been completed. This work has comprised:

- Removal and replacement of lightweight headstocks with heavyweight headstocks.
- Fabricating and forging links and hooks for safety chains.
- Fitting and anchoring safety chains to the new headstocks.
- Fitting bumpers to headstocks.
- Fabricating new draw-gear mountings.
- Replacing or repairing sections of footboards.

### The Future

At this time, the Society has yet to commence rebuilding the bogies. This will be a major project. It is the Society's intention to fit Eames vacuum brakes to the car to ensure compatibility with steam tram motor 103A and the B cars. No time frame has been set for the completion of the replica to operating standard.

True, the car is only a replica, but its operation at the Museum will demonstrate to visitors just what travelling on a steam tram was really like!

### Acknowledgments

The author wishes to thank the Society's archivist Frank Moag for his help in updating the double-deck car history.

### References

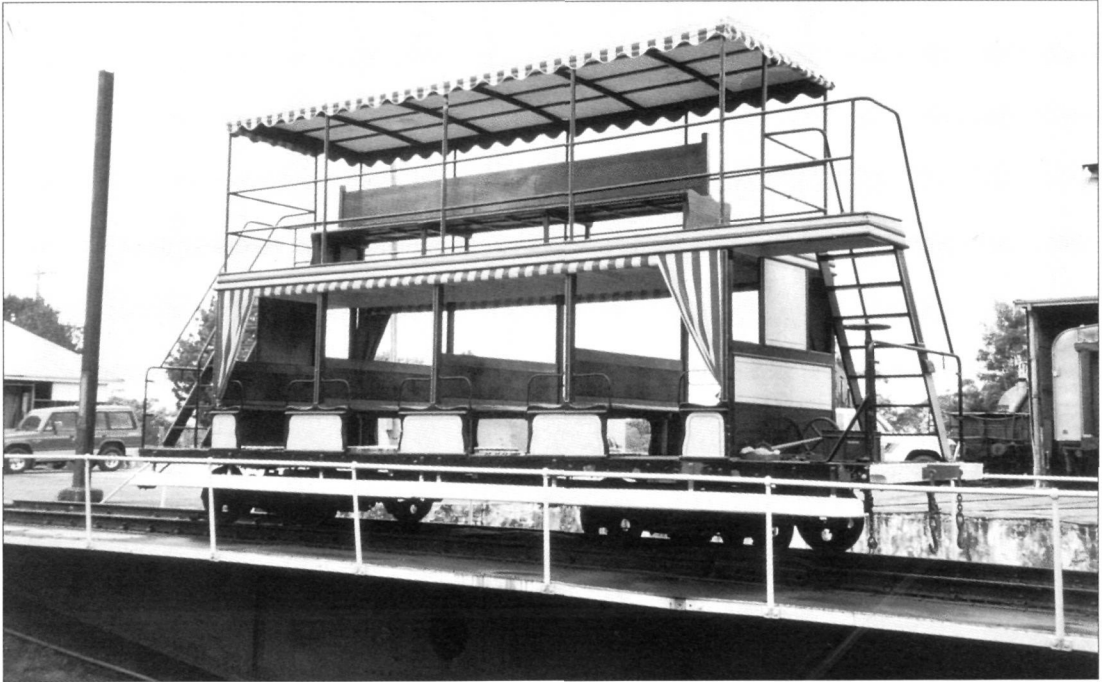
1. *Trolley Wire*, No.254, August 1993.
2. Cars 93B and 72B subsequently acquired by the Society. To Valley Heights 10 March 1997. 93B is being restored at present, whilst 72B awaiting restoration.
3. *Trolley Wire*, No. 167, December 1976, pp 11-14, The Story of the Facsimile Steam Tram in Sydney. P. Stock



*The replica double-deck car attracted attention at the Valley Heights Locomotive Depot Heritage Museum open day on 18 April 1999.*

Peter Stock

4. The original A-class double-deck trailer cars, built by the JG Brill Co in 1879, had a lower-deck capacity of 60 passengers in six compartments with the upper-deck seating 30 back-to-back on a longitudinal seat. In the case of the replica, the lower-deck seats only 40 passengers in four compartments with a corresponding reduction in upper-deck seating of some 20 passengers.
5. The Museum of Applied Arts and Sciences is now called the Powerhouse Museum.
6. *Trolley Wire*, No. 167, December 1976, pp 11-14.
7. *Ibid.*
8. *Trolley Wire*, No. 161, December 1975, p.19.
9. *Trolley Wire*, No. 205, April 1983, p.23 and *Trolley Wire*, No. 210, February 1984, p.24. Further, it is recorded that the Purcell Vanguard with replica motor body fitted was numbered 133A. Destroyed 7 June 1993. Diesel unit to Valley Heights, 4 February 1998 and awaiting long-term restoration.

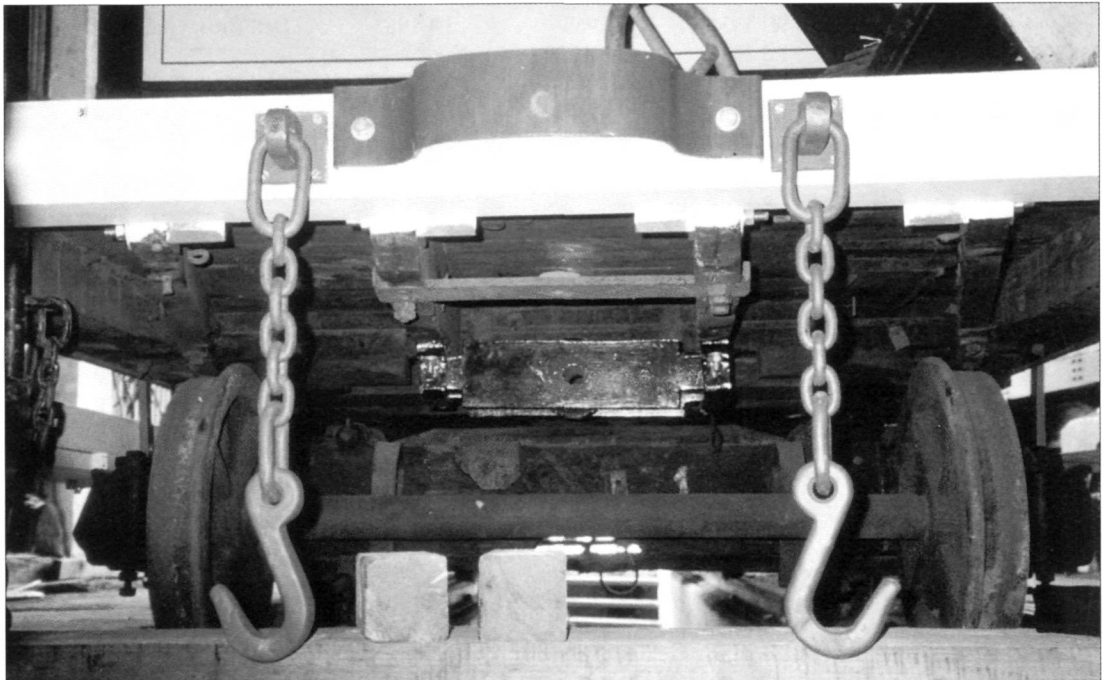


*During May 1999, the opportunity was taken to move the double-deck car out of the roundhouse. It is seen here on the turntable.*

Peter Stock

*The newly fitted headstock, safety chains, buffer and coupling point can be seen in this view taken in June 1998. The car is sitting on temporary railway bogies.*

Peter Stock



# THE TROLLEYBUSES OF PERTH

Concluded

By R. Francis

## Mt Lawley Route Correction

The terminus was initially a turning circle located within the intersection of Walcott and Charles Streets. Around 1964 this was reconstructed to form a triangular, anticlockwise loop, from Walcott via Charles and Hilda Streets to Walcott Street.

## Fleet Data for the Perth Trolleybuses

The disposal information in the table below was made available from material provided by Ross Willson.

NUMBER	TYPE	IN SERVICE	WITHDRAWN	SOLD	SOLD TO - AS SHOWN ON OFFICIAL LISTS	
WAGT	MIT					
1		LT-A	1.10.1933	3.6.1960	X	
2		LT-A	1.10.1933	3.6.1960	X	
3		LT-A	1.10.1933	3.6.1960	X	
4		LT-B	1.3.1938	3.6.1960	X	
5		LT-B	1.3.1938	3.6.1960	X	
6	6	LT-B	1.3.1938	13.2.1962		Mt Marshall Shire
7		LT-B	1.3.1938	3.6.1960	X	
8	8	LT-B	1.3.1938	18.4.1962		Perron Bros, Rivervale
9		LT-B	1.3.1938	3.6.1960	X	
10		LT-B	1.3.1938	3.6.1960	X	
11		LT-B	1.3.1938	3.6.1960	X	
12	12	LT-B	1.3.1938	4.1963	5.4.1963	Bell Bros, Guildford
13	13	LT-B	1.3.1938	4.1963	5.4.1963	Bell Bros, Guildford
14		LT-B	1.3.1938	3.6.1960	X	
15	15	LT-B	1.3.1938	4.1963	12.4.1963	Bell Bros, Guildford
16		LT-B	1.3.1938	3.6.1960	X	
17	17	LT-B	1.3.1938	4.1963	12.4.1963	Bell Bros, Guildford
18	18	LT-B	1.3.1938	4.1963	12.4.1963	Bell Bros, Guildford
19	19	LT-B	1.3.1938	4.1963	12.4.1963	Bell Bros, Guildford
20		LT-B	1.3.1938	3.6.1960	X	
21		LT-B	1.3.1938	3.6.1960	X	
22		LT-B	1.3.1938	3.6.1960	X	
23	23	LT-C	16.8.1942		6.8.1963	Bell Bros, Guildford
24	24	LT-C	16.8.1942	29.4.1964	10.11.1964	Menzies Shire Council
25	25	LT-C	1.9.1942	29.4.1964	2.7.1964	Darken Shearing Syndicate
26	26	LT-C	16.9.1942	1964		
27	27	LT-C	1.10.1942	19.5.1962	19.5.1962	Australian Blue Metal Co.
28	28	LT-C	16.10.1942	16.7.1963	6.8.1963	Bell Bros, Guildford
29	29	LT-C	1942	3.6.1960	?	
30	30	LT-C	1.1.1943	29.4.1964		Retained for Museum
31	31	LT-C	1.5.1943	19.8.1963		Readymix Concrete
32	32	LT-C	16.5.1943	29.4.1964	2.7.1964	Darken Shearing Syndicate
33	33	LT-C	1.4.1943	29.4.1964	3.7.1964	?
34	34	LT-C	16.4.1943	28.1.1964	22.4.1964	T. Higgins, Rivervale
35	35	LT-C	1.7.1943	28.1.1964	29.5.1964	G. Boerkamp, Rivervale
36	36	LT-C	1.8.1943	6.8.1963	6.8.1963	Bell Bros, Guildford
37	37	LT-C	1.9.1943	6.8.1963	8.8.1963	G. Moss Pty Ltd



NUMBER	TYPE	IN SERVICE	WITHDRAWN	SOLD	SOLD TO - AS SHOWN ON OFFICIAL LISTS	
38	38	LT-C	1.10.43	27.3.1963	Retained for rest room	
39	39	LT-C	1.1.1944	28.1.1964	Marilla Station, Carnarvon	
40	40	LT-C	1.6.1945	6.8.1963	Bell Bros, Guildford	
41	841	SB-D	3.7.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
42	842	SB-D	23.10.1950	5.1969	25.11.1969	Bell Bros, Guildford
43	843	SB-D	3.11.1950	5.1969	2.12.1969	McGann Bros, Osborne
44	844	SB-D	30.10.1950	5.1969	2.12.1969	McGann Bros, Osborne
45	845	SB-D	7.9.1951	31.8.1969	2.12.1969	McGann Bros, Osborne
46	846	SB-D	10.9.1951	31.8.1969	29.10.1969	W.A. Electric Transport Assn.
47	847	SB-D	11.2.1951	5.1969	2.12.1969	McGann Bros, Osborne
48	848	SB-D	28.10.1951	5.1969	2.12.1969	McGann Bros, Osborne
49	849	SB-D	28.3.1951	11.1969	2.12.1969	McGann Bros, Osborne
50	850	SB-D	9.10.1951	5.1969	2.12.1969	McGann Bros, Osborne
51	851	SB-E	21.7.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
52	852	SB-E	26.8.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
53	853	SB-E	18.9.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
54	854	SB-E	3.10.1950	31.8.1969	12.11.1969	Carter's Hire Service
55	855	SB-E	21.11.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
56	856	SB-E	5.12.1950	31.8.1969	2.12.1969	McGann Bros, Osborne
57	857	SB-E	8.12.1950	5.1969	23.4.1970	M. Turpin (MTT)
58	858	SB-E	19.12.1950	5.1969	2.12.1969	McGann Bros, Osborne
59	859	SB-E	13.2.1951	5.1969	25.11.1969	Bell Bros, Guildford
60	860	SB-E	16.3.1951	31.8.1969	2.12.1969	McGann Bros, Osborne
61	861	SB-E	27.3.1951	31.8.1969	2.12.1969	McGann Bros, Osborne
62	862	SB-E	29.3.1951	5.1969	2.12.1969	McGann Bros, Osborne
63	863	SB-E	2.4.1951	5.1969	2.12.1969	McGann Bros, Osborne
64	864	SB-E	20.4.1951	7.1969	2.12.1969	McGann Bros, Osborne
65	865	SB-E	3.5.1951	5.1969	2.12.1969	McGann Bros, Osborne
66	866	SB-E	6.6.1951	31.8.1969	9.10.1969	W.K.Hebiton
67	867	SB-E	15.5.1951	31.8.1969	2.12.1969	McGann Bros, Osborne
68	868	SB-E	18.6.1951	7.1969	2.12.1969	McGann Bros, Osborne
69	869	SB-E	29.6.1951	31.8.1969	25.11.1969	Valencia Vineyards
70	870	SB-E	11.7.1951	31.8.1969	23.10.1969	H. Lindsay
71	871	SB-E	24.7.1951	7.1969	2.12.1969	McGann Bros, Osborne
72	872	SB-E	1.8.1951	7.1969	25.11.1969	Valencia Vineyards
73	873	SB-E	17.9.1951	31.8.1969	21.11.1969	F. Boneham, Geraldton
74	874	SB-E	10.8.1951	31.8.1969	12.11.1969	Mogumber Pastoral Co.
75	875	SB-E	29.9.1951	31.8.1969	2.12.1969	McGann Bros, Osborne
76	876	SB-E	26.11.1952	31.8.1969	2.12.1969	McGann Bros, Osborne
77	877	SB-E	19.12.1952	31.8.1969	22.10.1969	B.E. Dowiton
78	878	SB-E	23.12.1952	7.1969	2.12.1969	McGann Bros, Osborne
79	879	SB-E	10.2.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
80	880	SB-E	13.2.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
81	881	SB-E	20.2.1953	7.1969	2.12.1969	McGann Bros, Osborne
82	882	SB-E	6.3.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
83	883	SB-E	23.3.1953	31.8.1969	18.12.1969	McGann Bros, Osborne
84	884	SB-E	2.4.1953	31.8.1969	25.11.1969	ARHS. WA Division
85	885	SB-E	13.4.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
86	886	SB-E	27.4.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
87	887	SB-E	6.5.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
88	888	SB-E	18.5.1953	31.8.1969	2.12.1969	McGann Bros, Osborne
89	889	SB-E	25.6.1953	31.8.1969	12.9.1969	TVW7 Pty Ltd
90	890	SB-E	25.6.1953	31.8.1969	2.12.1969	McGann Bros, Osborne

**Notes**

## Type Codes

- LT-A Leyland chassis, 6-wheel, tandem rear axles. No.1 had fully imported 38-seat English (Park Royal) two-door body. Nos 2 and 3 had 38-seat composite bodies built by Western Australian Government Railways (WAGR) at Midland Workshops. British GEC electrical equipment, 1 x 50hp 600V dc motor, 10.50 x 20 tyres, hand air brakes, GD Peters (England) air compressor. Cost each: £3791.
- LT-B Similar to LT-A but built at WAGR's Midland Workshops. Equipment same as for LT-A. Cost each: £3306.
- LT-C Leyland chassis, single rear axle, 38-seat 2 door composite body built at WAGR's Midland Workshops. Equipment same as for LT-A and LT-B. Cost each: £4401.
- SB-D Sunbeam chassis, 6-wheel dual rear, 37-seat body with single centre door built by Commonwealth Engineering Co, Sydney. British Thomson Houston electrical equipment, 1 x 50hp 600V dc motor, 11.00 x 20 tyres, Westinghouse air brakes, Westinghouse air compressor, Cost each: £7260.
- SB-E Similar to SB-D but built by Boltens Pty Ltd, West Perth, WA under licence from Commonwealth Engineering Co. Equipment same as for SB-D. Cost each: £7260.

## Withdrawn/Sold

X indicates trolleybuses withdrawn from service and sold prior to acquisition of the Western Australian Government Tramways by the Metropolitan Transport Trust.

The official withdrawal date for all Sunbeam trolleybuses is 31 August 1969; however, some units were rendered unserviceable prior to this date by removal of parts on a 'cannibal' basis. Such withdrawals are shown as either May 1969 or July 1969, being the closest possible record.

**General**

No Western Australian trolleybuses bore registration plates.

All trolleybuses were purchased by the Western

Australian Government Tramways, and, unless otherwise indicated, became assets of the Metropolitan Passenger (Perth) Transport Trust as from 30 June 1960.

Sunbeam trolleybuses were renumbered on 15 March 1963 by prefixing the existing number with '8'.

Trolleybus No. 30 was collected on 25 November 1969 for transfer to the Western Australian Division of the Australian Railway Historical Society's museum site at Bassendean.

Trolleybus No. 38, after having served as a rest room and store for maintenance crews from 27 March 1963, was presented to P.W. Markham of Floreat on 27 May 1966. A cosmetic restoration of this vehicle was completed by the Bus Museum of Western Australia and the vehicle displayed at Whiteman Park on 22 February 1998.

Trolleybus No. 46 is privately preserved at Forrestfield.

Trolleybus No. 84 was given to the Western Australian Division of the Australian Railway Historical Society.

Trolleybus No. 89 was given to Perth Electric Tramway Society on permanent loan from TVW7 in March 1989.

The 50 Sunbeam trolleybuses were replaced by 50 Leyland Leopard type PSU3A/2R diesel buses, all delivered in 1969 and numbered 775 to 824 inclusive.

**Acknowledgments**

The assistance of Mike Stukely in preparing this article for publication and Ross Willson for providing additional information is gratefully acknowledged.

# HERE AND THERE

## NEWS ITEMS OF INTEREST FROM ALL OVER

### Melbourne News

#### Docklands Extension

There has been very slow progress in Flinders Street West. The track extends about 300 metres west of Spencer Street, and a second crossover has been laid, about 100 metres west of the first one, which is itself about 100 metres west of Spencer Street.

There has been negligible progress on the overhead, the only change being the installation of troughing for one track beneath the pedestrian footbridge, which led to the temporary Crown Casino.

At the western end of the current track, the track and road surface is about half a metre higher than the existing road lanes on either side. There will presumably be major road works in that area, changing the level of the whole of the road. Perhaps this is delaying further work on the tramline.

Rails have been laid on the new bridge crossing the railway tracks, which will be an extension of La Trobe Street. Concreting of the tracks has not yet taken place. There is no sign of any work yet to link these tracks to La Trobe Street at Spencer Street.

The following is the allocation of the Melbourne tramcar fleet as at 2 August 1999:

#### Swanston Trams

The total number of cars in the Swanston Trams' fleet is 279, allocated as follows:

Brunswick: B2 class – 27, Z3 class – 25, total 52.  
 Essendon: B2 class – 28, Z3 class – 41, total 69.  
 Glenhuntly: Z1 class – 43, Z2 class – 7, Z3 class – 2, total 52.  
 Malvern: SW5 class – 2, SW6 class – 18, W6 class – 4, W7 class – 6, Z1 class – 51, Z2 class – 5, Z3 class – 16, total – 102.

All cars are fitted with pantographs except the W class vehicles allocated to Malvern Depot. The W cars still have poles. Four additional cars are allocated to Swanston Trams. They are 10W for track maintenance,

796 for training, and 843 and 1008 for training and charters.

#### Yarra Trams

The total number of trams in the Yarra Trams' fleet is 202. They are allocated as follows:

Camberwell: A1 class – 15, B2 class – 23, total 38.  
 East Preston: B2 class – 30, Z3 class – 26, total 56.  
 Kew: A1 class – 13, A2 class – 42, Z3 class – 5, total 60.  
 Southbank: B1 class – 2, B2 class – 22, SW5 class – 3, SW6 class – 12, W6 class – 3, W7 class – 5, total 47

11W has also been attached to Yarra Trams. The three restaurant cars are attached to Southbank for servicing.

#### Fifty Years Ago – Trolleybuses Recommended for Bendigo

A report to the Bendigo City Council on its street transport system made by Mr H.H Bell, jnr, permanent way engineer of the Melbourne and Metropolitan Tramways Board, advocated a trolleybus system to replace the city's tramways. Cost of the installation was estimated at £175,000 compared with at least £400,000 to rehabilitate the tramways. For the twelve months ended 30 June 1949, the Bendigo tramways incurred a deficit of £38,959. As a result the State Electricity Commission (which operates the system) recommended that fares should be increased.

From *Electrical Engineer and Merchandiser*, 15 September 1949

#### Correction

John Thompson's offer to purchase or trade original Kodachrome slides of Sydney light rail, Melbourne and Adelaide trams, which appeared on page 20 of the May issue of *Trolley Wire*, showed the name of his street incorrectly. John's correct address is 198 St Leonards Avenue, Toronto, Ontario M4N 1K7, Canada. Our apologies to John and to any reader who responded to John's request.



# COTMA

## Council of Tramway Museums of Australasia

Executive Officer: Craig Tooke 158 Lorne Street, Fawkner, Victoria 3060

From Richard Gilbert and Bill Kingsley

### Annual General Meeting

An Executive Meeting and the Annual General Meeting of COTMA were held in Melbourne on Saturday, 19 June 1999. The Victorian Division of the Australian Railway Historical Society invited us to use its meeting room at Windsor railway station for the day. We thank their Secretary, Lindsay Chapman and his Committee for the use of the facilities which proved to be excellent for the purpose.

Support of the AGM was most rewarding, with a number of interstate representatives being present. Among the important deliberations were the following:

- Commencing from our next membership year, Member Museums will be provided with a framed certificate to inform visitors of their participation in COTMA.
- COTMA is moving into cyberspace with the development of a web site. Our site will provide information about COTMA and may present details of the attractions and operations at our museums.
- One of the more difficult aspects of running COTMA conferences is the production of the official proceedings after the celebrations have faded. Much information of real and immediate value is discussed at Conferences and many

important decisions and recommendations are made. However, it sometimes takes years for host museums to get that information to the people who need it. Future Conference hosts may need to be given deadlines for the publication and circulation of Conference proceedings.

- Concern exists over the future of many tramway heritage features in Melbourne, such as buildings, shelters, signs, etc. We recognise the excellent work of the Rail Heritage Trust of NZ and hope to adopt a similar approach in Melbourne. The outcomes of this exercise may be applicable to other States.
- A significant increase in the cost of membership of the International Association of Transport Museums has resulted in COTMA relinquishing its membership. It would be more appropriate for individual museums to take out their own individual membership should they wish. Consideration could be given to membership of Museums Australia or/and the Heritage Collections Council.

*Scrubber cars 8W (right) and 9W are seen standing in the yard at Preston Workshops on 29 August 1999. These cars have since been delivered to Ballarat and Bendigo respectively.*

Ray Marsh



- We were advised of the planning that is underway for the celebratory 25th COTMA Conference in Ballarat next year. The Conference Committee is doing a fine job and a separate report is included in this issue of *Trolley Wire*. An urgent request is made for photographs from the first Conference in 1975. We do not believe that an official group photo was taken, but if you have a group photo or any relevant photos, the Ballarat organisers would be pleased to hear from you. Mark your diaries for Brisbane in 2002 and Auckland in 2004.
- The spare parts in the COTMA ex-railway B van will be relocated from Bylands to Bungaree when a new shed is completed there. The B van will then pass into TMSV ownership. COTMA thanks the TMSV for allowing the storage of our parts on its site over many years.

### Visit to Bylands

On Sunday 20 June, at the invitation of TMSV, many of the delegates, suitably clothed in their winter woollies, sallied forth in the writer's Volkswagen bus to Bylands. Here TMSV Chairman Rod Atkins and his board hosted us for an inspection of the works activities that are underway. After a welcoming chat over steaming hot coffee, we admired the new pit and the framework of its surrounding maintenance shed, the site for the Exhibition Goods Shed and other recent improvements. After luncheon at The Red Lion in Kilmore, we enjoyed riding the trams. The winter chills were more than compensated for by the warmth of the welcome. Thanks TMSV for a very worthwhile day.

### On Other Matters

Melbourne scrubber trams 8W and 9W were moved recently to Ballarat and Bendigo respectively where they will be used to clean tracks. The relocation of these trams from Melbourne is in accordance with agreements made between COTMA and The Met on behalf of member museums in the early 1990s. 9W has been seen travelling along Pall Mall rectifying the rail corrugations.

John Lambert has stepped down as Assistant Executive Officer of COTMA as from the end of August. With the privatisation of Melbourne's tramways, considerable workload has fallen on Executive Officer, Craig Tookey, and he would greatly appreciate an AEO in Melbourne at this time. At present, several candidates are being considered for this position. In the meantime, thanks to John for your keen and vital involvement over the years.

## The 25th Anniversary Conference

Ballarat features prominently in Australian history – from the discovery of gold to the Eureka rebellion. It also features prominently in our tramway history because of its horse trams and electric trams, its subsequent tramway preservation initiatives and the formation in Ballarat of our tramway museum federal body in 1975.

The Ballarat Tramway Museum is proud to host the 25th Anniversary Conference of the Council of Tramway Museums of Australasia from 17 to 23 November 2000.

In 1975, Ballarat hosted the first Conference to bring together the groups dedicated to preserving trams and the building of operating tramway museums in Australasia. The 25th anniversary Conference program will look at the Ballarat Tramway Museum today, current tramway preservation issues and the future of COTMA and its Member Museums. The Conference will also recall our formative meeting 25 years ago.

### Conference Program

As Ballarat is inland and most Conference participants are expected to travel via Melbourne, transport is being arranged to take delegates to Ballarat. On Friday evening 17 November, a special train is planned to whisk delegates to this fine city, 120km from the metropolis. They will be met at the station by historic buses that will take luggage, and any passengers who do not wish to walk the two city blocks, to the Conference venue.

The venue will be the Mid City Motel, which is located in the city centre for easy access to all facilities. Registration will commence during the afternoon, and the Official Opening Address will be made at 8:00pm.

Saturday will commence with workshop sessions. A visit to the Tramway Museum has been arranged for the afternoon, and the day will end with a spit roast meal at a quiet country hall. Our arrival there will be by Diesel Electric Rail Motor travelling along a rural former Victorian Railways branch line. Time is planned during the evening for the first of our customary member museum 'brag' slide and video shows.

More workshops will take up Sunday morning and this will be followed in the afternoon by a visit to Ballarat's leading historical attraction, Sovereign Hill. A busy afternoon has been planned. We will step back

into the 1850s to sample billy tea and damper, walk through the gold diggings and witness the troopers chasing the miners without gold licences. The evening will be spent viewing the excellent sound and light show 'Blood on the Southern Cross' which tells the story of Eureka, Australia's only rebellion.

Monday's activities will commence at the tram depot with practical and display workshops. These will be followed by lunch in the depot building. Because free time is important during the Conference, there will be no organised activities during the afternoon.

The evening meal will be held in the rural surrounds of the Museum's two-hectare property at Bungaree. It was here 25 years ago that the main evening social function was held. We intend to recreate the atmosphere of that occasion. Our spit roast meal will be served under a big marquee and the evening's entertainment will be a screening of colour slides of the Ballarat Tramways from our archival collection.

The Annual General Meeting will be held on Tuesday morning. After lunch, a bus trip over the former tram routes of Ballarat will take place. The Conference Dinner is to be held at the Mid City Motel and a sumptuous menu has been chosen. Our guest speaker will be Peter Hiscock, Director of Sovereign Hill and campaigner for the city tram project.

On Wednesday, the final day of the Conference, our partner organisation, the Melbourne Tramcar Preservation Association, will welcome delegates to their museum site at Haddon. The Ballarat Tramway Museum and the Melbourne Tramcar Preservation Association will share the day, with a bus shuttle allowing delegates to travel between the two locations. A packet lunch will allow unrestricted time at the location of your choice. After a full day of tramping around at both sites, continuation of our member museum 'brag' slide and video shows at the motel will finish off the day's activities.

## Post Conference Activities

As delegates will be in the Central Highlands region, a post-Conference tour program is being organised.

### Tour 1

This tour will allow delegates to visit Bendigo's tourist tramway and the TMSV's museum at Bylands.

The Thursday morning departure will use our historic buses. We will pass through Daylesford, en

route to Muckleford where we will visit a preserved Victorian Railways branch line for the 7km journey to Maldon for lunch. Our buses will then take us on to Bendigo for a tram ride and a visit to Bendigo's tramway attractions. From there, those who wish to return to Melbourne on the evening train can do so. For those wishing to do so, overnight accommodation in Bendigo will enable delegates to visit the Tramway Museum Society of Victoria's museum at Bylands on the Friday before returning to Melbourne. This tour is planned to give delegates the opportunity to inspect all four Victorian tramway museums during their stay.

### Tour 2

This post-Conference tour will take four to five days and will travel along the rugged western coast of Victoria. It will include a visit to the Portland Cable Tramway, Mount Gambier and the Grampians National Park.

Planning is still being undertaken at this stage. On Monday, 28 November a modern tour coach will take us from Melbourne to Geelong and along the renowned Great Ocean Road. Here we follow the 'shipwreck coast' of western Victoria. Sights along the way include the Twelve Apostles coastline rock formation, the Loch Ard shipwreck museum, and the former narrow gauge railway terminus at Crowes, where railway memorabilia is on display. The historic town of Portland was Victoria's first settlement and located here is the Portland Cable Tramway, a COTMA affiliated group. A day trip to Mount Gambier, where ex-Adelaide Red Hen railcars are operated on a tourist railway, is also planned. Our return journey will take us through the Grampians National Park, a picturesque and rugged mountain range, before returning to Melbourne. This tour is limited to one coach-party only.

The itineraries for both tours may be subject to some change as planning progresses.

A program for members' wives/partners not taking part in the Conference is also being planned to run in parallel with its sessions.

### Extra Events

The famous Puffing Billy Railway's 'Olde Time Festival' will be held on 3 December. As the railway is celebrating its centenary in December 2000, this event will be an outstanding one. The Centenary celebrations will be supported by historic vehicles including buses. It is expected to be a very popular occasion with much fun of the fair!

### Conference Fee

The fee for participation in the full Conference from 17 to 23 November is expected to be \$350 to \$400.

Accommodation for six nights is additional to the Conference fee and is expected to be as follows:

Twin share (per person) \$300; Triple share (per person) \$240; Single \$480.

A full breakfast is included in these prices. Breakfast is \$10 per person, but is optional when bookings are made.

Bookings for day attendance or particular events at the Conference will be welcome and fees for each of these will be made available closer to the Conference. This will particularly suit Victorian museum members who may not be able to obtain leave from work for the full period of the Conference.

The train fare from Melbourne to Ballarat on Friday, 17 November is not included in the Conference fee.

Payment by cheque or credit card (Visa, Mastercard or Bankcard) will be accepted for bookings.

## BALLARAT

### Ballarat Tramway Museum

PO Box 632, Ballarat, Victoria 3353

From Dave Macartney

Melbourne track cleaning car No. 8 arrived in Ballarat on 10 September 1999. It had long been listed to come to Ballarat, but it was only recently that Melbourne finally decided to let it go, despite it not having run since 1990. When received, it was not in operable condition, with one controller having been removed, and many other parts missing.

The car was built in 1934 utilising parts from Scrubber No. 3, cabs from maximum traction car No. 32 and parts of a Brill 21E truck. Its original B23D controllers were replaced by the more common K36JR type in 1959. Somewhere along the way it acquired a pair of GE 241 motors. In Melbourne these were used only on the ex-Melbourne, Brunswick and Coburg Tramways Trust cars, later M&MTB classes S and T.

*Scrubber No.8 stands outside South Melbourne Depot on 10 February 1962.*

Dave Macartney







*Alistair Reither starts the process of cleaning 8W while member Andrew Mitchell and tow truck driver Mark McKay look on as Warren Doubleday repositions the overhead wire on 10 September 1999. Simon Jenkins*

*W3 class 661 tows scrubber 8W to the depot on 10 September 1999. Despite the graffiti on the bumper, 8W is not for sale and fits quite snugly in its new home. Simon Jenkins*



No.8 received a major overhaul in 1960, emerging with extra bracing on the body and new squared off cab window sashes. An all-over cream paint scheme replaced the traditional green and cream. With the introduction of the Z class passenger trams in 1975, it became 8W. It measures in length a compact 6.71 metres (22 feet 6 inches) and weighs 12.2 tonnes.

To accommodate it in an already full shed required some rearrangement. After careful measurement it was found that No. 7 road could accommodate trams 11 and 32, the new arrival and the tower truck with little more than 200mm to spare, provided one of No 32's bumpers was removed. The rest of the junk on 7 road would have to go. A tandem trailer was hired to carry three driving axles, two pony axles and the cab roof canopy off No. 39 out to Bungaree for storage, while Bob and Bruce kindly made their tilt tray truck available at no cost to transfer the spare No. 9 track out there. To the surprise of some, the four vehicles actually fitted into 7 road on the day, just as predicted.

The following few weeks have seen our junior members (who seem besotted with the thing) cleaning

down years of accumulated road grime, and the refurbishment or replacement of various parts.

At Bungaree, work commenced early in October with the provision of a storage shed for the over-abundance of spare parts and general long-term junk cluttering up the running shed.

The rebuilding of No. 28's truck had to take place in a very restricted area at the end of No. 3 road, and at right angles to the track. This work is now largely complete, with the truck frame back on its newly reprofiled wheels and under the car body, with the motors about to be reinstalled. Work continues on the body interior and, with the return of warmer and longer days, the exterior paintwork will soon follow.

The depot's fire system moved a step closer with the connection of the water main under Gillies Street to the hose reel at the back of the shed. A full sprinkler system can now be contemplated, when funds allow. The installation of the main was coordinated with the reconstruction of Gillies Street, which is now a four lane road, complete with state-of-the-art lighting. It is quite a contrast to the pitch-blackness of years gone by.

## WHITEMAN PARK

**Perth Electric Tramway Society**  
PO Box 257, Mount Lawley, Western Australia 6050

From Michael Stukely

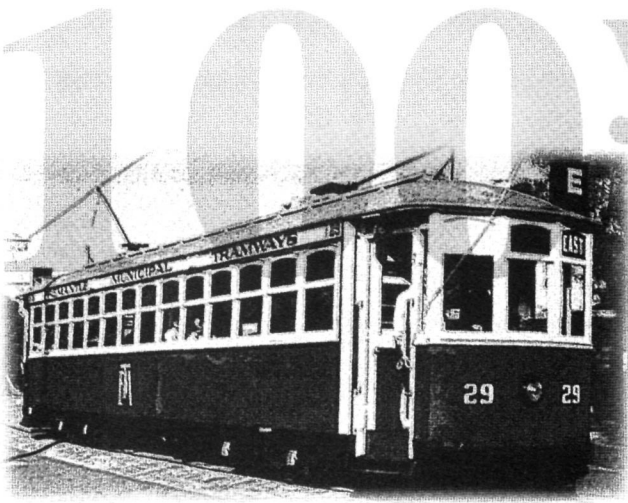
### Centenary of Perth Tramways

The first lines of the Perth electric tramway system, from the Car barn to Thomas Street, Subiaco (via Hay Street), and the Colin Street branch (Hay Street to King's Park Road, West Perth), were officially opened on 28 September 1899, following successful trials conducted in preceding days.

PETS celebrated the centenary of Perth's tramways (and of electric tramways in Western Australia) at Whiteman Park on Sunday, 26 September, with the event being organised by our Promotion and Events Committee (Roy Winslow, John Shaw and John Stone). Fremantle Municipal Tramways bogie car No.29 was given the honour of playing the role of 'Centenary Tram', as it is still the only fully restored Western Australian tram in our collection. This car was decorated with flags and bunting for the occasion by John Shaw and a friend, and it looked superb.

A special all-day ticket (in postcard format) was printed for the occasion. This entitled passengers to unlimited rides for the day and a conducted tour of the Society's Car barn precinct. Services began at 11:00am between the Car barn and the Village/Village Junction using ex-Melbourne cars, a different tram being used on each trip. At 12:50pm, No.29 led a cavalcade of four trams (with SW2 class 426, W2 class 393 and 368) from the Car barn, arriving in the Village at 1:00pm. No.29 remained in service continuously for the rest of the day, with the Melbourne cars taking turns as second car, and crossing 29 at Stockmans Loop.

Although the weather was against us (with rain starting just as the cavalcade got under way), the day was well patronised and the Car barn tours were popular. A display of photos and video presentations as



**1899 - 1999**

**Celebrating 100 years  
of electric tramways  
in Perth.**

**28th September 1999**

No. 0490

**ADULT RETURN**

well as our sales outlet were set up in cosmetically-restored Perth E class 64 on the fan below the L.C. Richardson Car barn, and attracted a good deal of interest. Our friends at the Bus Museum of WA provided an added attraction, with ex-WAGT Leyland trolleybus 38 positioned inside the Oketon Geddes Car barn on 4 Road. Two other buses, Metro 81 and ex-Westrail passenger-freighter DP90, were parked alongside E 64.

The Centenary received excellent television promotion on the previous Sunday, with the Society's operations and especially FMT 29 being featured on the 'Postcards' program on Channel 9. Bob Pearce was interviewed during the segment.

*The special all-day ticket printed for the centenary of electric tramways in Perth (and Western Australia) on 26 September, featuring Fremantle 29, which filled the role of Centenary Tram for the day.*

A souvenir booklet by freelance writer, Bob Campbell, has been published by the Society to mark the centenary year of trams in WA. The 28-page booklet *Getting There by Tram in Western Australia* provides a brief general history of the four electric tramway systems and features many previously



*Early on Sunday 26 September, Leyland trolleybus 38 has been positioned on No.4 road of the Oketon Geddes Car barn, alongside Fremantle 29. The trolleybus was kindly provided for display by the Bus Museum of WA. Michael Stukely*





*Looking resplendent with its centenary decorations, Fremantle 29 carries passengers through the Village on 26 September.*

Michael Stukely

unpublished colour and black and white photographs. Detailed maps drawn by Adrian Gunzburg are also included.

### Annual General Meeting

The eighteenth Annual General Meeting of the Perth Electric Tramway Society was held in the Administration building at Whiteman Park on 11 September. The following Officers and Councillors were elected: President, Michael Stukely; Vice-President, David Brown; Secretary, Robert Pearce; Treasurer, Martin Grant; Councillors, Trevor Dennhardt, Duncan McVicar, Lindsay Richardson, John Shaw and Roy Winslow. Subsequently, Roy Winslow was appointed Membership Secretary and Gary Barker was co-opted to the vacant position on Council.

The following details from the 1998-99 Annual Report are of interest. Forty-five members gave a total of 9,446 hours of voluntary work at the Park for the year. This is well above the previous year's total of

8,511 hours. Our membership rose significantly to 82, but a disappointing result was that our gross traffic revenue was almost 14% lower this year. Our trams travelled 11,602km on 277 running days, with individual (rounded) totals as follows:

Fremantle	29	1,317 km
Melbourne	W2 329	1,715
Melbourne	W2 368	1,769
Melbourne	W2 393	2,696
Melbourne	SW2 426	3,451
Melbourne	W4 674	654
Ballarat	31	0

A total of 24,518 ticketed passengers were carried; this does not include those carried on Special Event days or bush dances, when 'free' services are offered with trams being chartered at an hourly rate.

### Operations

The new financial year got off to a good start with well-patronised services during the July school holidays, assisted by pleasant weather, which continued through much of August. A trial Transport Gala Day was organised by the Bennett Brook Railway on Saturday 18 September, as a development of their annual Enthusiasts Day which was planned to include the activities of other transport oriented groups in the





Robert Pearce (far right) takes passengers on a Car barn Tour on 26 September. Fremantle 28 and W4 class 674 can be seen behind them. John Stone



Conductor Justin Smith has a busy time aboard Fremantle 29 during the centenary celebrations, 26 September. John Stone



Rain was falling as the Centenary tram cavalcade arrived at the Village on 26 September. Fremantle 29 is at left, followed by SW2 class 426, W2 393 and W2 class 368. John Stone



*John Stone sands a seat for Perth E class 66 on 17 July, and Roy Winslow re-assembles it – one down, 27 to go ...*  
Michael Stukely



Park. This day acted as an entrée to the week leading up to our tramway centenary celebration on the 26th.

In September, the Bennett Brook tram stop was re-located by Park Management to the toilet block some 130 metres east of the former stop. This was done mainly for safety reasons as the old stop was sited between two level crossings, which caused some confusion to motorists. 'Stop' rather than 'Give Way' signs now protect both of these crossings.

## General

Lindsay Richardson reports that six lengths of grooved rail have been cut to length with the rail saw for use on the maintenance pit. The fabrication and erection of steel piers for rail support in the wider centre section is now required.

A major clean up of stored materials around B Road in the W.P. Pennenburg Workshop was carried out in July-August to provide a new home for FMT 36. On Wednesday, 25 August, No.4 Road in the Oketon Geddes Carbarn was cleared of trams, a wheelset under repair, the Broomwade compressor and a No.1 truck. The tractor was then used to tow No. 36 from open storage on No.9 Road (south of the L.C. Richardson Carbarn) to the main line, then westward and through 4 Road to B Road in the workshop, next to Perth K class 130. The last trams built for the Perth and Fremantle systems now stand alongside each other for the first time.

As a result of these complex manoeuvres it was decided to reset the gauge of the A/B Road points at the rear of the carbarn. Whilst excavating the roadbase from the points a PVC waterline was punctured by an enthusiastic, crowbar wielding member, producing a 'gusher'. The damaged pipe was repaired, the regauging completed and the points tested successfully. Attention has now been turned to sets of points on the fan where regauging is also needed.

The track team was busy during July-August replacing sleepers and carrying out maintenance on Farmgate curve, and Kevin Clarke reports that 10 sleepers were replaced just south of the Village level crossing.

On 12 September, two concrete poles were installed in the very wet area near Red Dam, north of Stockmans, by Ray Blackmore's overhead team. Wooden poles here are being severely affected by rot and termite activity. The opportunity was also taken to remove two redundant poles from the Bennett Brook area.

Noel Blackmore and Geoff Morrison have completed some major repairs to W2 class 393, including work on the controller and the replacement of line-breaker components. The crane is again mobile and in great demand following its repairs.

The restoration of Perth E class 66 is progressing with the rebuilding of both end platforms now almost complete. Work on refurbishing and preparing various parts is continuing. After straightening the body it has been found necessary to apply additional reinforcement to the main end beams, which has delayed several other jobs such as the installation of the tongue and groove matchboard to the saloon sides.

# ST KILDA

## Australian Electric Transport Museum

GPO Box 2012, Adelaide, South Australia 5001

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From Colin Seymour

### Refurbishment of H 360

Work is progressing very well on the refurbishment of Glenelg tram H 360 to circa 1929 appearance and it will be on the Glenelg line by the time this report is read. Its use on the Glenelg line is limited to a few special trips, including one commemorating the 70th anniversary of the line (and car 360) on Tuesday, 14 December 1999.

Work carried out over the last few months included reconnecting wiring, roof repairs and repainting, varnishing new saloon sashes, removing and replacing old floor coverings, cleaning the frosted glass in hopper windows, painting exterior panels and frames, painting, varnishing and rifling new window sashes, scraping and painting cabins, repainting seat frames, installing and painting new plywood floor covering, reinstalling newly plated handrail fittings, varnished hand rails and new leather straps, and cleaning down underfloor components. Testing and servicing of all

control equipment, compressor, brake gear and pneumatic equipment were also carried out.

On the mechanical side, all door engine components have been cleaned out, serviced and painted, safety valves have been cleaned out and reset, the outside of the compressor degreased and painted, the brake cylinder cleaned out and new bucket installed, the

*Partly refurbished Glenelg tram 360 is seen in Shell Street, St Kilda on a test run in early October 1999.*

Ian Seymour



*Upon the completion of H360, sister car 362 will take a back seat for a while. Although repainted in 1983 shortly after its arrival at St Kilda, the car was not fully refurbished and it now requires some attention.*

Neville Smith



*The interior refurbishment of H car 360 was well in hand by early October 1999. The floor was originally an orange colour (the same colour used on our E1 tram 111).*

Ian Seymour

brake valve faces ground, door linkages and air gauges tested, new buckets and gaskets fitted to the PC5 controller components, the air reservoirs painted and horizontal drains installed, brake levers and rods were removed and cleaned, the hand brake rigging was made operable and the journal bearings were checked.

Some non-authentic modifications were required. TransAdelaide requested installation of an MTT emblem glass in the centre door between the two saloons. The lower door panels have been fitted with glass rather than plywood for safety purposes. The stoplights fitted in the late 1940s/early 1950s have been retained as have the air horns fitted in the 1930s. Full handrails have been retained in the saloons – the handrails were originally at the ends of the saloons

near the longitudinal seats only. The air-operated wipers fitted in the 1950s have been retained. The door actuating buttons have also been retained – the doors were originally operated from the brake valve in a similar manner to Birney 303.

The new doors manufactured by Husnjak Joinery are of excellent craftsmanship as are the new window sashes, which have been fitted. Husnjak Joinery had previously manufactured the new bulkhead and the crossbench side pillars for our E1 car No. 118.

### **Electric Locomotive E1**

Following member approval at the AGM in May 1999, BHP electric locomotive E1 was transferred





*BHP electric locomotive E1 is placed on a low loader to be transported to the Port Dock Station Railway Museum at Port Adelaide on 17 September 1999.*  
Ian Seymour

*BHP electric locomotive E1 departs the Museum yard at St Kilda for the Port Dock Station Railway Museum.*  
Ian Seymour



from St Kilda to the Port Dock Station Railway Museum on 17 September 1999. The narrow gauge locomotive arrived at St Kilda from Iron Knob in December 1968 and was placed on a small section of narrow gauge track in the workshop (now Road 1). In fact the workshop was built around the locomotive.

The locomotive has remained in the workshop out of public view ever since. In 1998 the Port Dock Station Railway Museum offered to repaint the loco and place it on public display in a special BHP section of their museum. As there were no plans to refurbish and display the loco at St Kilda, the offer was accepted subject to membership approval.

Electric locomotive E1 was the first of eight operated by BHP on two quarry railways at Iron Knob and Iron Monarch near Whyalla in the north of the state and at Rapid Bay south of Adelaide. It entered service in 1928 and was withdrawn on 12 July 1968.

## LOFTUS

**South Pacific Electric Railway Co-op Society**  
PO Box 103, Sutherland, NSW 1499

From Bob Merchant

### Annual General Meeting

The Annual General Meeting of the Society was held at the Sutherland Scout Hall on Saturday, 21 August 1999. The three members whose term in office was due for renewal stood again, our Secretary, Frank McQuade, declined to stand again for a Board position. The election resulted in Howard Clark, David Rawlings and Ken Butt being re-elected and Tom Tramby being elected to the Board. John Matts has accepted the position of Secretary.

The financial results of the year revealed a modest surplus of \$19,643. It is disappointing to note that the net income contribution from traffic receipts has fallen due to falls in ticketed revenue and some increases in direct expenses, particularly accreditation and security/fire monitoring.

The decline in traffic revenue has been partly averted by consistently good weekday attendances largely due to the special efforts of our booking officer Ron Ham, who continues to attract good attendances from school groups. It is also pleasing to note that the Museum is receiving a steady stream of overseas

Two methods of current collection were used on these locomotives. In the quarries where the wagons were loaded by overhead shovels, side bow collectors were used, whereas a conventional pantograph was used on the main line to the crusher. The locomotives were usually operated in pairs and hauled ten 25-ton ore wagons between them. They were powered by four 35hp motors and geared down to a maximum speed of 11 mph.

The St Kilda connection remains to some extent, as a truck from one of the other BHP electric locomotives remains on display in the depot yard to enable visitors to see what a 'tram' truck looks like.

### Other News

John Radcliffe has completed painting the reconstructed Hanson (now Pulteney) Street signal cabin and has placed interpretive signs in it.

visitors, further testimony to our place as a tramway museum of international standing.

### Works Report

The excavation for road 8 in the display hall is now ready to have completed track moved into place. Mike Giddey and Tom Tramby have been working on this project with Tom supervising our assisting CSO workers.

Mike Giddey has been working on construction of a set of points to replace the very sharp set at the top of the grade from the Army Depot crossing to the site of Waratah Loop, the present northern terminus of the line to Sutherland. The replacement set of points came from the Moncur Street Loop at Woollahra before being used to connect road 4 of the Museum's old depot in the Royal National Park.

Joe Kirchburger has stick-welded ten rail joints within the Museum's grounds.

A power conduit has been laid from the workshop building under the track to a switchbox attached to a pole on the western side of the depot yard. This will enable power tools to be used in the depot yard without running leads across the running tracks.

Weed spraying has been carried out along the Museum's line to limit the growth of unwanted vegetation around the rails and sleepers.

### Overhead Work

Repairs to the overhead on the National Park line had to be carried out by David Rawlings, David Bennett and Bob Cowing when it was found that two insulators were missing and one badly broken through vandalism.

The Sydney-style overhead fittings between the Railway Square waiting shed and the northern terminus have been modified with the insertion of an extension piece to allow the use of pantographs on trams running over the Museum's line. Once the conversion work has been completed, the Berlin cars can be refitted with their pantographs and the Berlin and Munich cars placed in regular service. Because of a low overhead wire height in Japan, our Nagasaki car will require some modification to raise the base of its pantograph before it can be refitted.

### Car News

Sydney O/P class 1089 has been white undercoated and the application of colour undercoats is nearing completion. The work is being carried out in the top shed, close to the paint shop, by John Matts and Norm Chinn.

The overhaul of L/P 154 has come to a temporary stop as work is being concentrated on converting Melbourne W2 class 411 to a dedicated restaurant car for Christchurch Tramways. Work on 411 is progressing at a steady rate.

Melbourne W2 class 560 was trucked to the Museum from Port Kembla and unloaded at the Museum on 28 August 1999. Car 560 was in poor condition and had been acquired as a source of spare parts. The car was one of those fitted with a plywood roof and over time the roof had failed. The body was dismantled over the following three weeks. The bogies from 560 and the other two W2 cars still stored at Port Kembla were also shipped to Loftus. The bogies have been placed in storage behind the paling fence north of the toilet block in Tramway Avenue.

*Trolleybus 19 saw daylight briefly on 30 May 1999 during a reorganisation of the trams in the display hall.*  
Bob Merchant



## General News

The Museum attended two model exhibitions recently with sales stands at the Newcastle model exhibition, held at the Basketball Stadium, Broadmeadow, over the weekend 28-29 August, and at the 37th Sydney Model Railway Exhibition held at the Whitlam Leisure Centre, Liverpool, over the holiday weekend 2-4 October 1999. The Museum has been attending the Sydney exhibition now for more than 30 of the 37 years it has been held. This year reasonably priced second-hand railway books proved to be our most popular selling items.

More than 40 members attended the Museum's annual dinner on Saturday evening, 16 October 1999. The venue was once again the Southern Sports and Recreation Club, conveniently located across the road from our northern tram terminus. Our guest speaker was Gavin Fry, Director of the Newcastle Regional Museum, owners of former Newcastle L/P class tramcar No. 284. The evening concluded with rides in Munich 2656 and San Francisco 1014.

The Museum took part on Saturday, 16 October in the Greys Point Octoberfest '99. The Museum

provided a tram service from Loftus to the Royal National Park between the hours of 9:00am and 3:30pm as part of *Tram & Trek* for people arriving by public transport. The trams were met by a minibus to take visitors to the centre of the festivities at Greys Point Public School and Swallow Rock Reserve.

Our members' annual open day will be held on Saturday, 11 December 1999. This year the day will commemorate the centenary of the commencement of electric tramway operation along George Street, Sydney. This was the first electric tramway in the city area, and is the subject of the feature article in this issue of *Trolley Wire*.

## Oops

The editor has been well and truly ticked-off by a number of members for twice referring, on pages 29 and 30 of the August issue of *Trolley Wire*, to the Museum's newly acquired bucket truck as a Dodge. The vehicle is actually a 1960s TJ model Bedford. In fact, all our overhead maintenance road vehicles are Bedfords.

# SYDNEY

## Citytram Association

PO Box A530, Sydney South, NSW 2000

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From CTA Newsletter

## R Cars on the Move

After sitting forlornly in a transport yard at Penrith for over three years, R class 1741, 1749 and 1917 were moved by the Sydney City Council in early October 1998 to undercover storage at Ultimo. Negotiations for this move commenced with enquiries to both Citytram and the Sydney Tramway Museum only about a week before the actual move, and caught us all by surprise.

Nevertheless, the trams are now secure and undercover, awaiting whatever is on offer for their use in the future.

## Belgian Trucks for R and R1 Class Cars

Citytram will be providing some funds for the purchase of trucks from Belgium. The Sydney

Tramway Museum has arranged the purchase and it is planned that some will be fitted to a number of the Sydney City Council cars when restored for possible operation on the light rail line.

## Restoration of R1 Class 1951 Commences

Following receipt of a heritage grant, the Sydney Tramway Museum has commenced restoration of Sydney R1 class 1951. Other vehicles coming under that grant are Sydney City Council cars R class 1753 and 1923, and R1 class 1943. This is a great boost for heritage and the Sydney Tramway Museum and for Citytram whose members will now begin to see the fruits of their labours undertaken over the last eight years.



# BYLANDS

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

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From Running Journal

## To Kilmore by Tram?

The prospect of travelling to Kilmore by tram from Bylands may be getting a little closer to reality. At the meeting of the Mitchell Shire Council on 9 August, a unanimous resolution was passed by Council to seek support from the State Government for the extension of the tramline into Kilmore. Councillor Audrey Whittingham, who stated that the Society had been in operation for almost 30 years, and had built up unique facilities at Bylands, spearheaded this move.

Councillor Whittingham stated that the tramway would be of great benefit to the community, generating employment and tourism. Councillor David McCullough spoke in support of the motion, saying that the Society project is worthy of government support.

This development was prompted by a recent editorial in the Kilmore Free Press, regarding the grant made to the Portland cable tram group by the previous State Government in July. The editorial questioned why such a grant was made to a relatively new group, when an established local community organisation in a marginal electorate had been unable to achieve such funding.

Subsequently, the Liberal candidate for Seymour, Di Rule, visited Bylands on 22 August to discuss options for funding the extension into Kilmore. As a result of this visit, a proposal is being drawn up by the Society for submission to the new Government. The proposed project will be divided into three phases spread over several years. The phases will result in the line being extended along the old right of way, first to Wandong Road, then to Tootle Street, with the final extension occurring along White Street into Hudson Park.

## Another XI

Several months ago, the owners of the Crystal Brook Caravan Park in Doncaster East approached the Society about a tram body located on their property that was no longer required. A close inspection of the vehicle revealed it to be XI No. 460. The Society had only earlier this year acquired the body of XI 461.

Unfortunately, No. 460 is in a poorer condition than its sister vehicle. However, following discussions with the owners, the tram was made available to the Society. With the expert assistance of A.J. Clarke Cranes, transport to Bylands took place on 29 July with 460 being placed in storage next to 461.

No decision has yet been made on the ultimate future of No. 460. In several short months we have trebled our fleet of XI trams. Not bad considering the M&MTB constructed only 10 between 1926 and 1928.

## Acquisitions

In the last few months we have been fortunate to be offered material for addition to our library and archive collections. Consisting mainly of photographs, some books and other memorabilia, these items are very welcome additions. The material has come via the families of former members Bern Hurren and Jack Chadwick. We appreciate the opportunity to be able to preserve this material in their memories.

Following a chance remark, we were advised that there may have been an opportunity to obtain free of charge, a surplus photocopying machine from the Caulfield West Branch of the Commonwealth Bank which is renewing its equipment. The lead was quickly followed up resulting in a machine becoming available to the Society. The machine had only been serviced several weeks before and came complete with all books, spares and service history. Our secretary arranged immediate pick-up and took no time in putting the machine to good use. The Society wishes to express its gratitude to the Commonwealth Bank for its generosity.

## Rail Donation

The City of Yarra has kindly made available to the Society approximately 100 metres of surplus railway rail, which is still in situ and was previously part of the former Inner Circle Railway in North Fitzroy. It consists mainly of 80lb rail and is complete with sleepers, spikes and fishplates. No date had been set,

but the Society is required to dismantle and remove all items within the next few months with the site being left clear upon completion of the task. It is intended to spread the work over several weekends.

### Exhibition Goods Shed

No progress has been made on this project since early June when the contractor suspended work because of wet weather and ground conditions. However, the contractor arranged to cover the entire timber framework of the shed with tarpaulins in an effort to stop any deterioration. When the weather improves and the ground dries out, work will resume.

### Vehicle Maintenance Shed

A considerable effort has been made on the trackwork for this facility. The rails have been installed over the pit and for a further 30 metres to the north from the rear of the building. Welding of some joints, and lifting and packing of sleepers will complete this section. Once this has been undertaken, a start will be made on the fabrication of the turnout to be placed in the main line. The turnout will be constructed adjacent to its final position and will be installed in the near future. Construction of the track leading from the front of the building to the main line cannot be commenced

until the area is cleared of stored rail. These rails will ultimately be used in the Exhibition Goods Shed.

For access into the pit, two sets of steel pit steps from South Melbourne Depot will be placed in position at either end of the pit. Construction of stormwater drainage for this building has commenced, with the necessary trenching, underground pipes and drainage pits being installed at the southern end.

We have had mixed success with the new trees planted around the site during the last 12 months. However, we have been reasonably pleased with those that have survived. This is a result of regular hand watering over our long dry summer and protection from wandering livestock. Additional trees are being planted progressively.

Our two flat-top works trolleys have seen a lot of use in recent months. Trolley T2 had just received a major rebuild. It soon became apparent that trolley T1 required similar treatment. Although basically an inside job for a wet day, all the supporting timber frame and decking will be replaced over several weeks, with only the two main side frames and one cross member being original. Once complete, both trolleys will be repainted in the warmer months.

Several years ago we were fortunate to acquire during track replacement works a quantity of sleepers and wooden blocks removed from Queensbridge Street, Southbank. Because they were kept dry under the roadway, the sleepers were in near new condition. However, many still retained the rail fastening bolts and plates. Until removed, these made the sleepers unsuitable for trackwork. In July several hours of work saw the bolts and plates removed. The sleepers were then used as part of the trackwork in the vehicle maintenance shed. The good ex-broad-gauge sleepers

*The shelter shed from the former Batman Avenue terminus was dismantled and shipped to Bylands in three main pieces. The shelter is seen being inspected by COTMA delegates on 20 June 1999.*

Bob Merchant



stored on 15W for some time have also been used as part of this trackwork. A truckload of ballast was purchased recently for trackworks.

Tramcar maintenance has continued with several cars being fully serviced. The bogies have also been cleaned of accumulated grime and will in due course be repainted. Car 7W has been moved from its former position on No. 1 road to No. 6 road so that we can access works car 15W. When we have track access to the vehicle maintenance shed, 7W will be placed there.

## Exciting News

In a joint project involving the Sydney Tramway Museum and with the support of the Citytram Association in Sydney, six PCC bogies and motors plus other associated equipment have been obtained from Brussels. This equipment will shortly be shipped to Australia and will initially be stored at Bylands. Two of the bogies will be used in a project to restore PCC 980 to operating condition at Bylands. The rest will be added to Sydney's bogie pool, for future use.

And now, for Trolley Wire's last story for the 20th century,  
something completely different:

## **A STRANGE BUT INTERESTING DREAM...**

It was a close run thing. Planning was well in hand in 1937 for the electrification of Sydney's last government steam tram line, from Kogarah to Sans Souci, when the Minister decided he would prefer trolleybuses, following the initial success of the Wylde Street route. Luckily a snap election brought a change of government, and the tramway electrification proceeded as planned.

The publicity surrounding the tram/trolleybus issue in the election meant it was not possible to continue with the original proposal to use K and N class trams on the *Sans Souci line*. *Nothing less than the latest and best* would do. So a further 50 R1 cars were ordered (1988 to 2037) of which 10 were allocated to Kogarah, supported by an equal number of Ns.

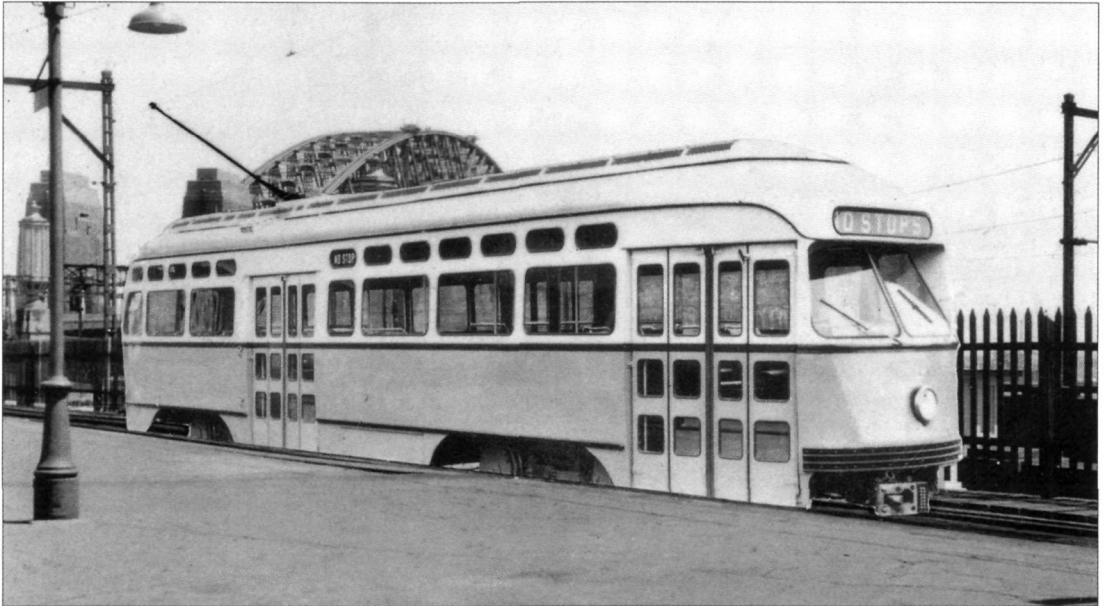
The second world war imposed a heavy load on the tramways. Track and trams both suffered from deferred maintenance. Numerous K and N class cars were kept in service long beyond their economic lives.

After the war, sharply declining passenger loads meant that the four-wheelers and the Ns were quickly retired. But there was still a pressing need for new trams, particularly to replace the ageing L/Ps. Conservative elements in the tramways pressed for a further order of 250 R1s. But the new commissioner, after a visit to the USA, successfully argued for modern technology in the form of PCCs. An initial order for 100 cars was placed in 1948, for delivery from 1950

onwards. As the classification letters from S onwards had been used by service stock, the new cars were classed A.

The PCCs revolutionised the system, and all thoughts of substitution faded away. Successive orders were placed until the total PCC fleet reached 650 by 1963. This year marked the replacement of the last of the footboard cars, with the last P class running in November of that year. The fleet was much smaller than in its heyday, partly because of declining traffic with the growth in motor car ownership, partly because of some minor line closures (see below) and partly because of much greater efficiency in fleet usage. Fewer cars were held as spares in depots.

The PCC fleet consisted of two main types, with some minor variations. The 400 A class cars (numbers 2038 to 2437) were double ended, similar to the San Francisco 'D' class 'Torpedoes'. The 150 A1 class cars (2438 to 2587) were single ended, and confined to operation on eastern suburbs routes with balloon loops at termini, and the Circular Quay to Railway run. The tracks on the open space at the back of Dowling Street depot were rearranged to provide loop operation from the ten eastern-most roads to the ten western-most, thus allowing the housing of the single ended cars. The last 100 cars (2588 to 2687) were A2 class, double-enders similar to the As but with forced ventilation and heating. These successive orders made Sydney one of the largest users of PCCs in the world. All the PCCs were equipped for multiple unit operation.



*A1 class 2583 poses for a publicity photo at Milsons Point, brand new in May 1961. The photo was taken before the car had its numbers applied. The last five cars of this class were fitted with forced ventilation, as a precursor to adoption of this feature on the subsequent A2 class. Single ended cars did not normally run on the North Sydney lines, and on this occasion the car was turned at North Sydney depot before returning to the city.*

Official photo by Barry Tooker, from NLC collection

A few lines did not escape closure. After a public enquiry, the Enfield lines were replaced by buses in 1948. In the following year the Rockdale to Brighton-le-Sands line was replaced by trolleybuses, transferred from the City to Wylde Street line. The Ryde line - longest on the system - was cut back to the city side of the old Gladesville bridge in 1949, because even the PCCs could not match bus running times on this long route, and because the Department of Main Roads was determined to build a high concrete arch as a replacement bridge, a design not suitable for trams.

But elsewhere the Tramway Department pressed ahead with overcoming the backlog of track maintenance from the second world war. A long-term program of track renewal saw virtually all street track relaid in concrete by 1960.

The Newcastle system also benefited from the post-war renewal policies. Political pressure associated with Newcastle's sesquicentenary in 1947 saw the first allocation of corridor cars to the northern city, when ten R cars were transferred to Newcastle in that year. As

PCCs were later delivered to Sydney, further R cars were sent north. It was originally planned to allocate 60 to Newcastle, but the response to the new trams was so positive that a further 10 were needed. Even then a handful of L/Ps (five cars even received a green-and-cream repaint) survived in peak hour service until 1954.

The major physical change to the system in the early post-war years was the King Street tunnel in the city, serving the Watsons Bay line. Congestion on this very busy route - particularly at the intersections with the north-south lines in the central city area - was acute. There was even an ill-considered proposal to cut back the line to the edge of the city at Queens Square.

Sensibly, the decision was made to relieve the congestion and simultaneously provide a better service by placing the line underground between a ramp near Hyde Park Barracks at Queens Square, and Kent Street on the western side of the city. This huge project took three years to complete, finally opening shortly before the Royal Visit in 1954.

The King Street subway brought a special benefit. A short tunnel from Wynyard, with an underground junction beneath York and King Streets, allowed the North Sydney lines to be physically connected to the main system for the first time.

Declining traffic allowed the closure of Fort Macquarie depot in 1959, to make way for the Opera House. In the same year the opening of the new Spit Bridge, complete with tram tracks, connected the Manly lines to the integrated main and North Sydney systems.





The next round of fleet replacement took place in the 1980s, as the R and R1 cars reached the end of their lives. 125 single-articulated cars (B class, Nos 2688 to 2812) were acquired, based on similar vehicles in Brussels, although wider. By this time the Sydney system had developed a strong association with Brussels, as the other remaining major operator of PCCs. Again fitted for multiple unit operation, the B class introduced pantographs to the system. The R cars at Newcastle were replaced by 55 PCCs sent north from Sydney.

The 1980s also saw some significant developments to the network, particularly in the northern suburbs. The fast-growing Warringah area saw the Narrabeen line extended to Mona Vale (it had been duplicated throughout in the 1950s). Already providing a relatively fast trip from Manly, the network was greatly enhanced by the provision of reserved track along the new Burnt Bridge Creek deviation, and along Condamine Street, to link Seaforth directly with Brookvale.

In 1990 the State Government announced that the lines along Miller Street, Military Road and Spit Road, from Victoria Cross in North Sydney to the top of Parriwi Road in Mosman, would progressively be placed underground, in a cut-and-cover tunnel. Although potentially saving as much as 15 minutes in journey times on this congested route, the cost of this work meant that it was still only partially completed by the end of the century.

*Only a few weeks before withdrawal, ageing R1 class 2026 heads across Barcom Avenue viaduct at Darlinghurst, bound for Circular Quay in June 1984. This car was one of those built for the electrification of the Kogarah-Sans Souci line in 1937. The revival of interest in inner-city living, which began with the restoration of terrace houses in Paddington, has led to the skyline in this part of Sydney remaining almost unchanged for more than a century.*

H. Dale

In the west, plans were announced for a new network based on Parramatta, extending to Castle Hill to the north, and Liverpool to the south. Although a supposedly a firm commitment, funding has not yet been made available for these lines. In Sutherland shire, the branch railway to the Royal National Park was converted to tram use in 1991, with an independent connection to Sutherland where a small depot was established, close to the site of the former steam tram depot which had closed in 1932.

By 1990, attention was again turning to rolling stock, as the forthcoming need to replace the PCCs became evident. A prototype low-floor car was delivered in 1995. It was numbered 2813, class C. The first of the production cars (C1 class, numbered 2814 onwards) was delivered 1997, in time for the conversion to tram operation of the former goods railway line from Ultimo to Wentworth Park, connected to Central Railway by a line along Hay Street. There are plans for extension of

tram operation along this line to Lilyfield or Leichhardt. The Glebe area will be served by an underground station beneath Glebe Point Road.

The service stock fleet remained a haven for interesting relics, although the variety of earlier years had gone. In the late 1990s, former R class breakdown cars were still to be seen, as were ex-K class scrubbers, the latter more than 90 years old. The PCCs have never been adapted for breakdown service, although one was converted to an overhead line car to replace the veteran 99u.

Throughout the post war years the administration maintained a strong commitment to heritage activities. The first tram to be nominated for preservation, in 1950, was L/P 154. Thereafter one car of each type - or two in the case of cars which normally worked in multiple -

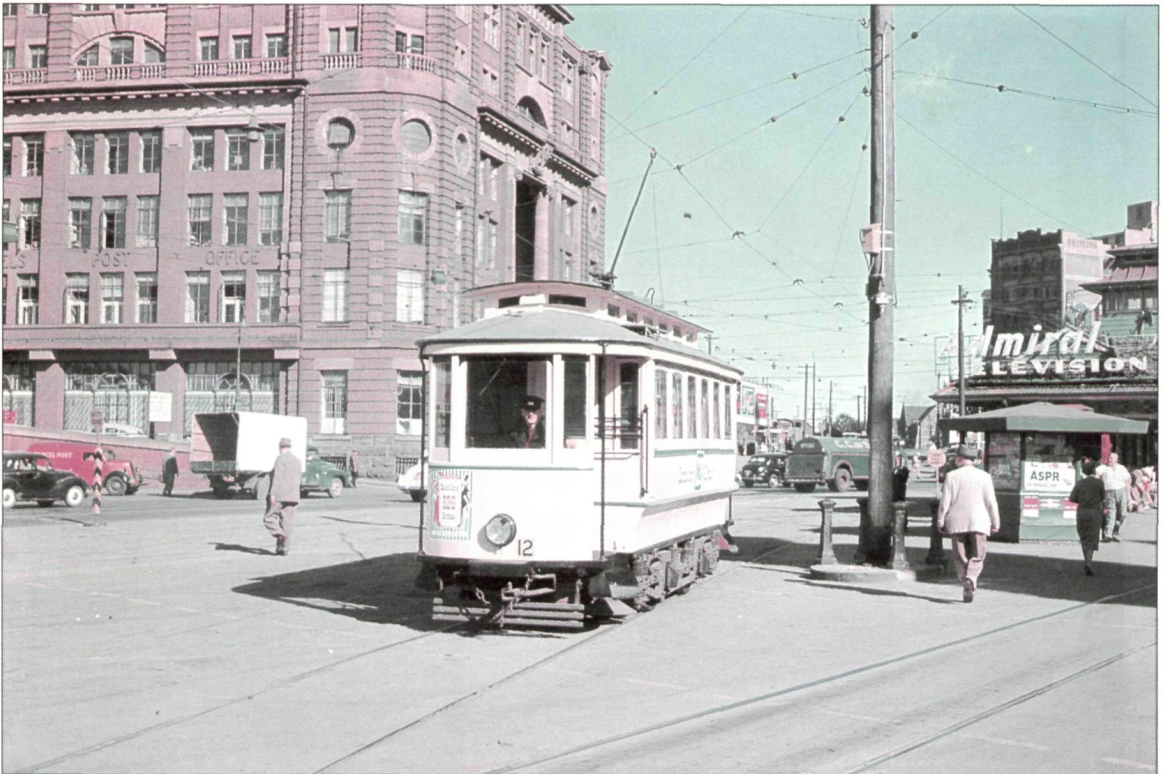
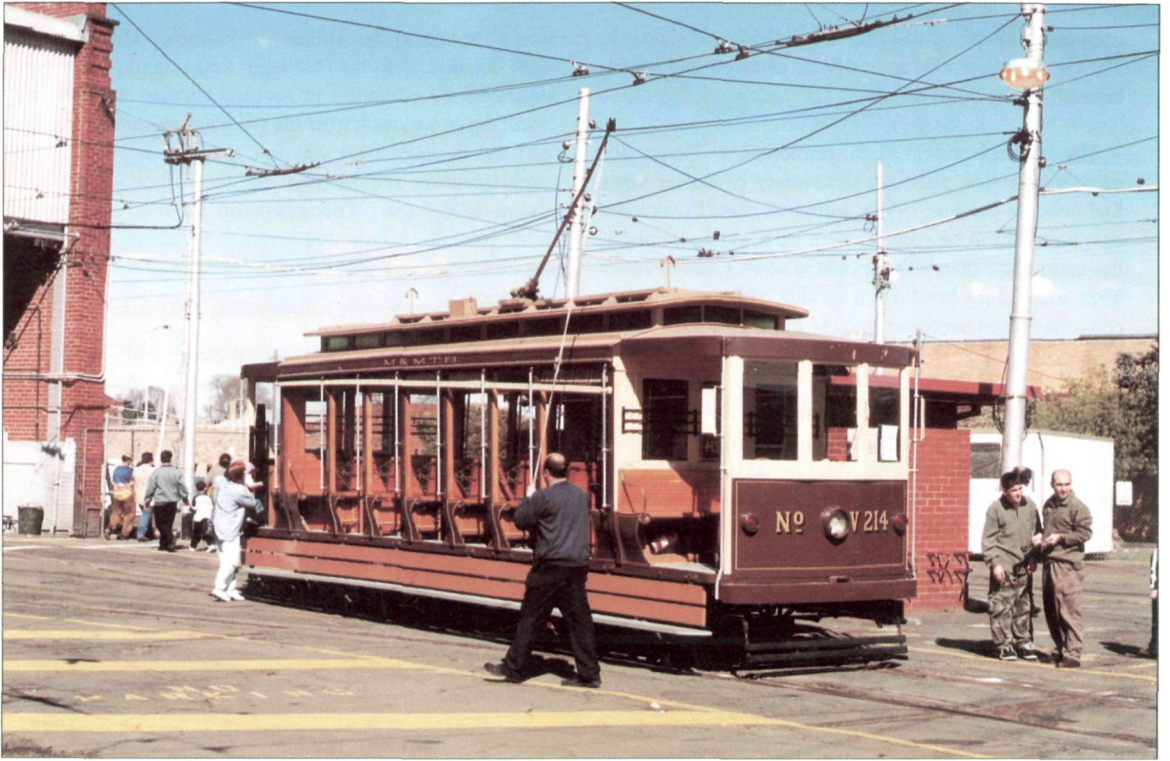
was allocated to the Tramway Museum. Moreover it was decided that the heritage trams could best be displayed by operation in revenue service. In 1960 a small depot was built near the top gates at Taronga Zoo, and the heritage fleet was put to work at weekends, supplementing regular cars on the Athol Wharf to Balmoral service. This operation on this very busy route provided substantial revenue, which was directly applied to maintenance and development of the heritage operation.

So the Sydney tramway system, and that in Newcastle, enter the 21st century in good shape. Route mileage is close to its highest ever, and the fleet of trams, while lacking the variety of former years, is well suited to requirements. Thanks to a long period of progressive policies, the system and its users can look forward to the future with confidence.

*Museum trams in heritage service: preserved O car 1341, with 1111 following, passes Ashton Loop on the climb from Athol Wharf to the Zoo on Boxing Day, 1991. Well-known Sydney Tramway Museum member Norm Chinn is standing in the doorway of the second closed compartment.*  
Noel Reed







a sper magazine