

TROLLEY WIRE

No.306

AUGUST 2006



\$8.80*

Print Post Approved PP245358/00021



ISSN 0155-1264



In this issue

- Victorian Railways Trams
- Melbourne Opening Dates
- Glenreagh Mountain Railway/Tramway

TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

AUGUST 2006

No. 306 Vol. 47 No. 3 - ISSN 0155-1264

CONTENTS

MELBOURNE'S ELECTRIC TRAMWAY CENTENARY:
VICTORIAN RAILWAYS TRAMS.....3

MELBOURNE'S TRAMWAY SYSTEM:
LIST OF OPENING DATES.....8

GLENREAGH MOUNTAIN RAILWAY/TRAMWAY.....16

HERE AND THERE.....20

MUSEUM NEWS.....25

Published by the South Pacific Electric Railway
Co-operative Society Limited,
PO Box 103, Sutherland, NSW 1499
Phone: (02) 9542 3646 Fax: (02) 9545 3390

Editor.....Bob Merchant
Sub-editing and Production.....Dale Budd
Randall Wilson
Ross Willson

*Cover price \$8.80 (incl. GST)

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

Australia\$A32.00
New Zealand/Asia.....\$A38.00
Elsewhere.....\$A42.00

All correspondence in relation to *TROLLEY WIRE* and
other publishing and sales matters should be forwarded to
PO Box 103, Sutherland, NSW 1499

The opinions expressed in this publication are those of the
authors and not necessarily those of the publishers or the
participating societies.

Typesetting and finished art by National Advertising & Design
Studios - Canberra Tel: (02) 6231 2565
email: pritch4711@velocitynet.com.au

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



A passenger's view from Sydney O class car 1111 at the Sydney Tramway Museum. Conductor Geoff Graham is chatting to the passengers on the return journey from the northern terminus to the Museum on 24 June 2006.
Maikha Ly

LATE NEWS

The body of Victorian Railways tramcar No. 49 arrived at Glenreagh on 7 August 2006, accompanied by a second bogie for car 447. See article and report in this issue.

Front Cover:

The Victorian Railways electric street railway from St Kilda to Brighton Beach had its depot at Elwood. Car 54 was built at Newport railway workshops in 1942 and is seen outside the depot on 27 January 1959.

Bob Merchant

MELBOURNE'S ELECTRIC TRAMWAY CENTENARY

An album of Victorian Railways trams

The year 2006 sees the centenary of continuous electric tramway operation in Melbourne. Following the pioneering service from Box Hill to Doncaster which ran between 1889 and 1896, the Victorian Railways' 5ft 3in (1600mm) gauge line from St Kilda station to Park Street Brighton was opened on 7 May 1906. This line was extended to Brighton Beach station on 22 December 1906, an event preceded by the opening of the North Melbourne Electric Tramways and Lighting Company's network on 11 October 1906.

The VR's tramways have gone, but several of their tramcars have survived. March 2005 saw the return to operating status of the Melbourne Tramcar Preservation Association's No. 41 following major restoration at Bendigo; July 2006 saw the Australian Railway Historical Society's No. 53 return to operating condition, again following work at Bendigo.

On these pages we present a gallery of pictures of VR tramcars, reflecting 100 years of history.

By the time of final closure in 1959, the Brighton Beach line had been cut back to run from St Kilda only as far as the depot at Elwood. On 27 January 1959, a little over four weeks before the end of operation, St Kilda Street is almost empty of cars as No. 36 leaves Elwood, its destination shown as St Kilda Rly.

Bob Merchant



VR trams were well maintained to the end, with regular painting and frequent washing. No. 37 is being washed behind the depot in another scene captured on 27 January 1959.

Bob Merchant





Cars 29 and 33 pass at the approach to St Kilda station in the early 1950s. W5 car 765 waits in Fitzroy Street for the two broad gauge cars to clear the intersection. Noel Reed

A feature of the 'Brighton line' was the railway connection at St Kilda, long disused and disconnected by the time this photo was taken.

Hugh Ballment



California Combination car No. 3, seen behind the Elwood depot, was one of seven built in 1907 to replace the original fleet which had been destroyed by fire soon after the line's opening. Although rarely used after the Second World War, five of these cars survived until 1956. Hugh Ballment

The second VR tramway, built to standard gauge, was opened in 1919. It ran from Sandringham station to Black Rock, with a short-lived (1926 to 1931) extension to Beaumaris. The role of tramways in opening up suburbia is illustrated by this view of cars 43 and 49 on a deserted road with not a house in sight. The body of car 49 is now at Glenreagh: see the article commencing on page 16.

Noel Reed



Unique to the Black Rock line were cars 50 and 51, converted in the 1930s for driver-only operation. These trams were transferred to the Brighton line after the Black Rock line closed in 1956, but because of union opposition did not run there in regular service. No. 50 is pictured at Sandringham.

Geoff Grant

An important intermediate terminus on the Brighton line was the crossover in Ormond Road at Vautier Street. In the last week of service car 36, bound for Elwood Depot, waits for car 39 to clear the crossover on its way back to St Kilda. Note the immaculate paintwork on No. 36.

Jim Seletto





On this page are three pictures of car 53, one of the three 'luxury trams' built for the Brighton line in 1942. During the last week of the line's operation in 1959, the car waits in the late evening at St Kilda for a connecting train from Flinders Street. Jim Seletto



In MMTB service, No. 53 is seen on the Moonee Ponds to Footscray line in 1969. This view shows the car's original narrow doors, subsequently replaced with standard doors when the centre section was rebuilt in 1973. Dale Budd

No. 53 speeds across the Maribyrnong River bridge in 1969. The bridge had opened in its new form only two years previously. Dale Budd





In their MMTB days the former VR cars were a popular choice for enthusiast tours. Here car 53 pauses beside Essendon aerodrome in about 1969; almost overhead, an Ansett 727-100 series aircraft is on final approach to a landing. The 727-100s were Australia's first domestic jets, lasting until early 1980. In 2006, Ansett has long gone, this scene has been changed by the advent of the Tullamarine Freeway – and car 53 is running again.

Hugh Waldron

Magnificently restored by the Bendigo Tramways, former VR car 41 displays the colour scheme, with elaborate lining and lettering, carried by these cars when new. The car is seen on an outing in Bendigo in March 2005 prior to its return to Haddon.

Dale Budd



Pictured in Weeroona Avenue in July 2006, car 53 shows the later VR green and scheme colour scheme following its repaint (and removal of multiple head and tail lights) in Bendigo. No. 53's restoration, to mark the centenary of VR trams, was a joint initiative of the Australian Railway Historical Society and the Department of Infrastructure.

Bendigo Tramways

MELBOURNE'S TRAMWAY SYSTEM

List of dates of opening for traffic of the horse, cable and electric lines associated with the various operators of electric tramways

HORSE TRAMWAYS

Constructed by the Melbourne Tramways Trust

- 28/12/1887 Victoria Street, Kew Bridge, Barkers Road and High Street, Victoria Bridge cable tram terminus to Boroondara Cemetery
- 28/8/1890 Extension across Victoria Bridge
- 27/1/1890 Bridge Road, Burwood Road, Power Street and Riversdale Road, Hawthorn Bridge to Auburn Road
- 10/3/1890 Royal Park, Royal Parade to Zoological Gardens

Constructed by the Northern Tramway Company Limited

- 14/2/1889 Sydney Road, Moreland Road to Gaffney Street

NEW CABLE TRAMWAYS

- 11/11/1885 Spencer Street, Flinders Street, Wellington Parade and Bridge Road, Bourke Street to Hawthorn Bridge
- 1/10/1886 Collins Street, Macarthur Street, Gisborne Street, Victoria Parade, Brunswick Street and St. George's Road, Spencer Street to Barkly Street
- 22/11/1886 Victoria Parade and Victoria Street, Brunswick Street to Victoria Bridge
- 9/8/1887 Bourke Street, Spring Street, Evelyn Street, Nicholson Street, Gertrude Street, Smith Street, and Queen's Parade, Spencer Street to Northcote Bridge
- 30/8/1887 Nicholson Street, Gertrude Street to Park Street
- 1/10/1887 Elizabeth Street, Royal Parade and Sydney Road, Flinders Street to Moreland Road
- 28/12/1887 Swanston Street, Lonsdale Street, Russell Street, Lygon Street, Elgin Street and Johnston Street, Flinders Street to Clark Street
- 11/10/1888 St Kilda Road, High Street and Brighton Road, Princes Bridge to Milton Street
- 15/10/1888 Madeline Street and Swanston Street, (horse) Queensberry Street to Lonsdale Street
- 20/1/1889 (cable) Queensbury Street to Lonsdale Street
- 26/10/1888 Domain Road, Park Street, Toorak Road and Chapel Street, St Kilda Road to Carlisle Street
- 9/2/1889 Rathdown Street, Elgin Street to Park Street
- 15/2/1889 Toorak Road, Chapel Street to Irving Road
- 23/2/1890 Swanston Street, Flinders Street to Princes Bridge
- 3/3/1890 Victoria Street, Errol Street, Queensberry Street, Abbotsford Street and Flemington Road, Elizabeth Street to Flemington Bridge
- 18/4/1890 Lonsdale Street, Spencer Street and Abbotsford Street, Elizabeth Street to Queensberry Street
- 14/6/1890 Market Street, Queens Bridge, Queens Bridge Street, City Road, Clarendon Street, Park Street, Montague Street, Bridport Street and Victoria Avenue, Collins Street to Beaconsfield Parade
- 20/6/1890 City Road, Crockford Street, Bay Street and Beach Street, Clarendon Street to Princes Street
- 27/10/1891 Wellington Street, Fitzroy Street, Esplanade and Acland Street, Chapel Street to Barkly Street
- 30/4/1892 Market Street, extension into Collins Street
- 18/12/1897 St Kilda Road-Fitzroy Street – connection from City towards Esplanade

Constructed by the Clifton Hill to Northcote and Preston Tram Company Limited

- 18/2/1890 High Street, Merri Creek Bridge to Dundas Street Montague Street, Bridport Street and Victoria Avenue, Collins Street to Beaconsfield Parade
(Closed 7/7/1893, re-opened 7/4/1894, closed 27/11/1897, re-opened 23/3/1901)

Constructed by the Town of Northcote

23/3/1901 Queens Parade, near Merri Creek Bridge

Constructed by the Melbourne and Metropolitan Tramways Board

11/2/1924 Lonsdale Street, Swanston Street to Elizabeth Street

8/3/1925 Queens Parade, connection between Clifton Hill and Northcote cable tramways at Merri Creek Bridge

19/7/1925 Howard Street, Victoria Street to Howard Street Depot

28/12/1925 Lonsdale Street, Connection across Swanston Street towards Elizabeth Street

CLOSED CABLE TRAMWAYS

9/2/1924 Madeline Street and Swanston Street, Queensberry Street to Lonsdale Street

19/7/1925 Flemington Road, Abbotsford Street to Flemington Bridge

29/8/1925 Wellington Street, Fitzroy Street, Esplanade and Acland Street, Chapel Street to Barkly Street

27/12/1925 Swanston Street, Lonsdale Street to Princes Bridge

27/12/1925 St Kilda Road, High Street and Brighton Road, Domain Road to Milton Street

12/1/1926 St Kilda Road, Princes Bridge to Domain Road

28/8/1926 Chapel Street, Carlisle Street to Toorak Road

2/10/1926 Domain Road, Park Street and Toorak Road, St Kilda Road to Irving Road

15/5/1927 Spencer Street and Flinders Street, Bourke Street to Swanston Street

29/6/1927 Flinders Street, Wellington Parade and Bridge Road, Swanston Street to Hawthorn Bridge

13/7/1929 Victoria Parade and Victoria Street, Brunswick Street to Victoria Bridge

12/9/1929 Collins Street, Macarthur Street, Gisborne Street and Victoria Parade, Spencer Street to Brunswick Street

12/7/1930 Brunswick Street and St Georges Road, Victoria Parade to Barkly Street

20/7/1935 Lonsdale Street, Spencer Street and Abbotsford Street, Elizabeth Street to Queensberry Street

20/7/1935 Victoria Street, Errol Street, Queensberry Street and Abbotsford Street, Elizabeth Street to Brougham Street

29/9/1935 Elizabeth Street, Flinders Street to Victoria Street

17/11/1935 Elizabeth Street and Royal Parade, Victoria Street to Leonard Street

11/1/1936 Royal Parade and Sydney Road, Leonard Street to Moreland Road

2/8/1936 Rathdown Street, Elgin Street to Park Street

13/3/1937 Market Street, Queens Bridge, Queens Bridge Street, City Road, Crockford Street, Bay Street and Beach Street, Collins Street to Princes Street

13/3/1937 Clarendon Street, Park Street, Montague Street, Bridport Street and Victoria Avenue, City Road to Beaconsfield Parade

15/4/1939 Lonsdale Street, Russell Street, Lygon Street, Elgin Street and Johnston Street, Elizabeth Street to Clark Street

A horse tram runs past a group standing in the middle of High Street, Kew.

Postcard



- 26/10/1940 Bourke Street, Spring Street, Evelyn Street, Nicholson Street, Gertrude Street, Smith Street, Queens Parade and High Street, Spencer Street to Dundas Street
- 26/10/1940 Nicholson Street, Gertrude Street to Park Street

CABLE TRAMWAYS CONVERTED TO ELECTRIC TRACTION

- 10/2/1924 Madeline Street and Swanston Street, Queensberry Street to Franklin Street
- 13/4/1924 Swanston Street, Franklin Street to Lonsdale Street
- 19/7/1925 Flemington Road, Abbotsford Street to Flemington Bridge
- 27/12/1925 St Kilda Road, Park Street to Fitzroy Street
- 27/12/1925 Wellington Street, Fitzroy Street, Esplanade and Acland Street, Chapel Street to Barkly Street
- 4/1/1926 City Road and St Kilda Road, Sturt Street to Princes Bridge
- 24/1/1926 Swanston Street and St Kilda Road, Lonsdale Street to Princes Bridge
- 28/3/1926 St Kilda Road, City Road to Park Street
- 29/8/1926 High Street and Brighton Road, Fitzroy Street to Milton Street
- 31/10/1926 Chapel Street, Toorak Road to Windsor station
- 19/12/1926 Chapel Street, Windsor station to Carlisle Street
- 17/4/1927 Domain Road, Park Street and Toorak Road, St Kilda Road to Orrong Road
- 8/5/1927 Toorak Road, Orrong Road to Irving Road
- 14/7/1927 Spencer Street and Flinders Street, Bourke Street to Swanston Street (west side)
- 23/7/1927 Flinders Street, Swanston Street (west side) to Swanston Street (east side)
- 4/12/1927 Flinders Street, Wellington Parade and Bridge Road, Swanston Street to Hawthorn Bridge
- 14/9/1929 Victoria Parade and Victoria Street, Brunswick Street to Victoria Bridge
- 8/12/1929 Collins Street, Macarthur Street, Gisborne Street and Victoria Parade, Spencer Street to Brunswick Street
- 26/10/1930 Brunswick Street and St Georges Road, Victoria Street to Barkly Street
- 29/9/1935 Victoria Street, Errol Street, Queensberry Street and Abbotsford Street, Elizabeth Street to Flemington Road
- 17/11/1935 Elizabeth Street, Flinders Street to Victoria Street
- 12/1/1936 Elizabeth Street and Royal Parade, Victoria Street to Leonard Street
- 22/2/1936 Royal Parade, Leonard Street to Park Street
- 26/4/1936 Royal Parade and Sydney Road, Park Street to Moreland Road
- 25/7/1937 Clarendon Street, Park Street, Montague Street, Bridport Street and Victoria Avenue, City Road to Beaconsfield Parade
- 3/2/1946 Queens Bridge Street, Queens Bridge and Market Street, Hanna Street to Flinders Lane
- 15/1/1951 Spencer Street, Lonsdale Street to Latrobe Street
- 26/6/1955 Bourke Street, Spring Street, Evelyn Street, Nicholson Street, Gertrude Street, Smith Street, Queens Parade and High Street, Spencer Street to Dundas Street
- 8/4/1956 Nicholson Street, Gertrude Street to Park Street

NEW ELECTRIC TRAMWAYS

Constructed by W.H. Masters & Co. – Centennial International Exhibition, Melbourne

- 16/11/1888 off Carlton Street, Nicholson Street to Rathdown Street

Constructed by the Box Hill and Doncaster Tramway Company Limited

- 14/10/1889 Station Street, Tram Road, Frederick Street, Arthur Street and Tram Road, Whitehorse Road to Doncaster Road

Constructed by the Doncaster and Box Hill Electric Road Company Limited

- 19/3/1892 Tram Road, Frederick Street to Arthur Street

Constructed by the Victorian Railways Commissioners

- 7/5/1906 Railway station approach, Grey Street, Barkly Street, Mitford Street, Broadway, Ormond Road, St Kilda Street and Esplanade, St Kilda Station to Park Street
- 22/12/1906 Esplanade, Park Street to South Road
- 7/5/1913 St Kilda – connection to railway
- 10/3/1919 Station Street, Bay Road, Fernhill Road, Sea View Street, Royal Avenue and Bluff Road, Sandringham station to Balcombe Road
- 1/9/1926 Bluff Road, Balcombe Road, Ebdon Avenue, Fourth Street, Haydens Road, Pacific Boulevard, Reserve Road, Holding Street and Martin Street, Balcombe Road to Tramway Parade

Constructed by the North Melbourne Electric Tramways and Lighting Company Limited

- 11/10/1906 Mount Alexander Road, Pascoe Vale Road, Fletcher Street and Mount Alexander Road, Flemington Bridge to Lincoln Road
- 11/10/1906 Victoria Street, Racecourse Road, Epsom Road, Union Road and Maribyrnong Road, Mount Alexander Road to Woods Street, near Saltwater (Maribyrnong) River
- 11/10/1906 Puckle Street, Mount Alexander Road to Moonee Ponds station
- 27/8/1913 Mount Alexander Road and Flemington Road, near Flemington Bridge to North Melbourne cable tram terminus

Constructed by the Prahran and Malvern Tramways Trust

- 30/5/1910 Coldblo Road, Glenferrie Road to Malvern Depot
- 30/5/1910 Glenferrie Road and Wattleree Road, High Street to Burke Road
- 30/5/1910 High Street, Charles Street to Tooronga Road
- 14/5/1911 High Street, Charles Street to Punt Road
- 16/12/1911 Glenferrie Road and Dandenong Road, Wattleree Road to near Sandringham railway
- 16/2/1912 Dandenong Road, near Sandringham railway to Chapel Street
- 14/9/1912 High Street, Punt Road to St Kilda Road
- 12/4/1913 Hawthorn Road, Balaclava Road and Carlisle Street, Dandenong Road to Esplanade
- 30/5/1913 Glenferrie Road, High Street to Cotham Road

The Victorian Railways official first tram departs Sandringham railway station on 10 March 1919 to mark the opening of the line to Black Rock. Does anyone have a copy of the photograph being taken by the photographer on the ladder in the foreground?

Postcard



30/5/1913	Cotham Road, High Street to Burke Road
13/11/1913	Hawthorn Road, Balaclava Road to Glenhuntly Road
13/11/1913	Glenhuntly Road, Brighton Road to Grange Road
13/11/1913	Balaclava Road, Normanby Road, railway subway, un-named thoroughfare, Dandenong Road and Waverley Road, Hawthorn Road to Darling Road
29/3/1914	High Street, Tooronga Road to Lower Malvern Road
20/6/1914	Railway Avenue and Derby Street, railway subway to Dandenong Road
24/2/1915	High Street and Barkers Road, Cotham Road to Victoria Bridge
24/2/1915	Cotham Road, connection to High Street line
8/4/1915	Commercial Road and Malvern Road, St Kilda Road to Burke Road
8/5/1915	High Street, Cotham Road to Boroondara Cemetery
4/6/1915	Glenhuntly Road, Brighton Road to Point Ormond reserve
4/7/1915	Victoria Bridge, east side to west side
22/11/1915	High Street, Boroondara Cemetery to Strathalbyn Street
18/3/1916	Balloon loop, Acland Street and Esplanade
10/6/1916	Victoria Bridge and Victoria Street, extension to Victoria Bridge cable tram terminus
30/9/1916	Whitehorse Road, Burke Road to Union Road
6/12/1917	Burke Road, Malvern Road to near Camberwell railway crossing (south side)
7/3/1918	Burke Road, Cotham Road to near Camberwell railway crossing (north side)
28/4/1918	Burke Road, across railway at Camberwell

Constructed by the Hawthorn Tramways Trust

6/4/1916	Batman Avenue, Swan Street and Wallen Road, Princes Bridge to Hawthorn Depot
7/5/1916	Wallen Road and Riversdale Road, Hawthorn Depot to Auburn Road
31/5/1916	Riversdale Road and Camberwell Road, Auburn Road to Bowen Street
10/6/1916	Camberwell Road, Toorak Road and Burwood Road, Bowen Street to Boundary Road
21/6/1916	Bridge Road, Hawthorn Bridge, Burwood Road and Power Street, Richmond cable tram terminus to Wallen Road
16/10/1916	or
25/10/1916	Riversdale Road, Burke Road to Wattle Valley Road
9/11/1916	Riversdale Road, Wattle Valley Road to Highfield Road
23/12/1916	Riversdale Road, Highfield Road to Boundary Road

Constructed by the Melbourne Brunswick and Coburg Tramways Trust

27/4/1916	Nicholson Street and Moreland Road, Coburg Depot to Sydney Road (passenger service commenced 14/8/1916)
27/4/1916	Sydney Road, Moreland Road to Wilson Street
28/4/1916	Sydney Road, Wilson Street to Bell Street
14/5/1916	Sydney Road, Bell Street to Bakers Road
14/8/1916	Holmes Street, Albion Street and Lygon Street, Moreland Road to Park Street
31/10/1916	Nicholson Street, Coburg Depot to Bell Street
31/10/1916	Lygon Street, Elgin Street and Madeline Street, Park Street to Queensberry Street
17?/6/1918	Madeline Street, Queensberry Street to cable tram terminus

Constructed by the Fitzroy Northcote and Preston Tramways Trust

1/4/1920	St. Georges Road, Miller Street, Elizabeth Street and Gilbert Road, Barkly Street to Regent Street
1/4/1920	Tramway reserve, Dundas Street and Plenty Road, St Georges Road to Tyler Street

Constructed by the Footscray Tramways Trust

- 6/9/1921 Leeds Street, Hopkins Street, Droop Street and Ballarat Road, Irving Street to Summerhill Road
- 6/9/1921 Barkly Street, Droop Street to Russell Street
- 6/9/1921 Irving Street, Nicholson Street, Buckley Street, Victoria Street, Charles Street, Gamon Street and Somerville Road, Leeds Street to Williamstown Road

Constructed by the Melbourne and Metropolitan Tramways Board

- 7/7/1923 Church Street, Bridge Road to Barkers Road
- 7/7/1923 Keilor Road, Mount Alexander Road to Gillies Street
- 28/8/1923 Napier Street, Fletcher Street to Raleigh Street
- 8/7/1924 Chapel Street and Church Street, Toorak Road to Swan Street
- 20/10/1924 Church Street, Swan Street to Victoria Street
- 11/1/1925 High Street, Strathalbyn Street to Burke Road
- 1/3/1925 Hawthorn Road, Glenhuntly Road to North Road
- 24/3/1925 Brunswick Road, Holden Street, Pilkington Street and Barkly Street, Lygon Street to St. Georges Road
- 19/7/1925 William Street, Peel Street, Flemington Road, Royal Park tramway reserve, Grantham Street and Dawson Street, Collins Street to Daly Street
- 10/10/1925 Dawson Street and Melville Road, Daly Street to Albion Street
- 31/10/1925 Sturt Street, Eastern Road, Heather Street, Park Street, Clarendon Street, Albert Road, subway, Canterbury Road, Mills Street, Danks Street, Patterson Street, Park Street, Mary Street and Beaconsfield Parade, City Road to Esplanade
- 31/10/1925 Hanna Street, Sturt Street to Hanna Street Depot
- 31/10/1925 Mills Street, Danks Street to Beaconsfield Parade
- 27/12/1925 Hanna Street and Park Street, Hanna Street Depot to St Kilda Road
- 4/1/1926 City Road, Sturt Street to St Kilda Road
- 16/5/1926 High Street, connection from Glen Iris line to St Kilda Road
- 16/5/1926 Commercial Road, connection from Gardiner line to St Kilda Road
- 31/5/1926 Swanston Street, siding in Swanston Street (in triangular piece of land at intersection of Swanston Street and Victoria Street beyond Franklin Street)
- 29/8/1926 Brighton Road, Milton Street to Glenhuntly Road
- 19/12/1926 Chapel Street, Carlisle Street to Brighton Road

Ticketed gents pose for their photo during the ceremony to mark the opening of the Footscray Tramways Trust's first line on 6 September 1921.

Footscray Historical Society



1/2/1927	Victoria Street and Elizabeth Street, Swanston Street to Flemington Road (paralleling existing cable tramway in Elizabeth Street)
8/5/1927	Toorak Road, Irving Road to Glenferrie Road
15/5/1927	Melville Road, Albion Street to Moreland Road
26/6/1927	Melville Road and Imperial Avenue, Moreland Road to Bell Street
23/7/1927	Spencer Street, Bourke Street to Lonsdale Street
24/3/1928	Beaconsfield Parade, Connection from Albert Park line to Esplanade
24/6/1928	Wattletree Road, Dandenong Road to Glenferrie Road
1/7/1928	Riversdale Road, Boundary Road to Elgar Road
28/7/1928	Wellington Parade, Simpson Street to Hoddle Street
4/8/1929	Racecourse Road, Flemington Road to Victoria Street
24/9/1929	Church Street, connection from North Richmond line to Victoria Street
9/6/1930	Batman Avenue, extension to St Kilda Road
29/12/1935	Connection at Flemington Road and Elizabeth Street
29/12/1935	Connection at Flemington Road and Victoria Street
26/4/1936	Moreland Road and Cameron Street, Sydney Road to Brunswick Depot
26/4/1936	Moreland Road, Cameron Street to Somerton railway
7/2/1937	Keilor Road, Gillies Street to Birdwood Street
13/6/1937	Doncaster Road, Burke Road to Bulleen Road
25/7/1937	Connection from Collins Street into Spencer Street
25/7/1937	Spencer Street, Spencer Street Bridge and Clarendon Street, Flinders Street to City Road
25/7/1937	Connection across Clarendon Street from Albert Park line to South Melbourne Beach line
10/9/1937	Hawthorn Road, North Road to Eric Street
5/12/1937	Hawthorn Road, Eric Street to Point Nepean Road
11/12/1938	Doncaster Road, Bulleen Road to Balwyn Road
22/12/1940	Maribyrnong Road, Raleigh's Road, Remount Paddock and Explosive Factory Grounds, Woods Street to Commonwealth Explosives Factory (Cordite Avenue)
6/7/1941	West's Road, Raleighs Road to Williamsons Road
14/9/1941	Gordon Street, Ballarat Road to Mitchell Street
9/11/1941	Gordon Street, Mitchell Street to River Street
24/5/1942	Maribyrnong Road and Ascot Vale Road, Union Road to Mount Alexander Road
16/5/1943	Keilor Road, Matthews Avenue and Vaughan Street, Birdwood Street to Essendon Aerodrome (Treadwell Road)
3/2/1946	Hanna Street, Sturt Street to Queens Bridge Street
3/2/1946	Flinders Lane and William Street, Market Street to Collins Street
3/2/1946	William Street, Peel Street to Dudley Street
15/1/1951	La Trobe Street, Victoria Street and Victoria Parade, Spencer Street to Gisborne Street
3/7/1953	Gilbert Road, Regent Street towards Union Street
2/5/1954	River Street, Rosamond Road and Williamson Road, Gordon Street to West's Road
8/4/1956	Nicholson Street, Park Street to Blyth Street
8/11/1959	Park Street, Mary Street to Fitzroy Street
21/10/1968	Queensway, St Kilda Road to Chapel Street
10/3/1970	Nolan Street, St Kilda Road to Sturt Street (Down line, Up line opened 12/3/1970)
7/10/1976	Matthews Avenue, Vaughan Street to Hawker Street
12/7/1978	Burwood Highway, Warrigal Road to Somers Street
20/7/1978	Burwood Highway, Somers Street to Middleborough Road
19/5/1983	Plenty Road, Tyler Street to Boldrewood Parade

Constructed by the Metropolitan Transit Authority

- 10/1/1985 Plenty Road, Boldrewood Parade to Kingsbury Drive
- 17/11/1986 Park Street to new Domain Road terminus off St Kilda Road
- 23/4/1987 Plenty Road, Kingsbury Drive to McLeans Road
- 20/11/1987 Bourke Street, extension into Spencer Street
- 20/11/1987 Whiteman Street and light rail reserve, Clarendon Street to Fitzroy Street
- 18/12/1987 Light rail reserve, Port Junction to Port Melbourne old station

Constructed by the Public Transport Corporation / Department of Infrastructure

- 22/12/1992 Matthews Avenue, Hawker Street to Dromana Avenue
- 21/1/1993 Connection across St Georges Road from Northcote line to West Preston line
- 8/7/1993 Burwood Highway, Middleborough Road to Blackburn Road
- 29/4/1994 Spencer Street, La Trobe Street towards Jeffcott Street
- 29/4/1994 Spring Street, Bourke Street to Flinders Street
- 10/4/1995 Plenty Road, extension at Bundoora terminus beyond McLeans Road
- 12/10/1995 Plenty Road, Bundoora terminus to McKimmies Road
- 4/12/1995 Park Street, Connection into Fitzroy Street
- 22/6/1998 Light rail reserve, extension of Port Melbourne terminus (Beacon Cove) to Beach Street
- 6/6/1999 [new] Batman Avenue and tramway reserve, Flinders Street to Swan Street
- 5/12/1999 Flinders Street, Spencer Street to World Trade Centre
- 9/3/2000 La Trobe Street, Spencer Street to Colonial Stadium (No. 6 Gate)
- 12/4/2000 La Trobe Street and Harbour Esplanade, Colonial Stadium to Bourke Street (test)
- 3/9/2000 Spencer Street, World Trade Centre to Wurundjeri Way
- 14/10/2002 Wurundjeri Way and Harbour Esplanade, Flinders Street to near Charles Grimes Bridge
- 18/11/2002 Collins Street, Spencer Street to Stadium Drive
- 26/1/2003 Harbour Esplanade, Bourke Street to near Charles Grimes Bridge
- 4/5/2003 Whitehorse Road, Union Road to Market Street
- 4/1/2005 Harbour Esplanade and Docklands, La Trobe Street to Sudholz Street
- 2/5/2005 Burwood Highway, extension at East Burwood terminus beyond Blackburn Road
- 23/7/2005 Burwood Highway, Beyond Blackburn Road to Hartland Road

Speeches are being made on the roadway to mark the opening of the Melbourne Brunswick and Coburg Tramways Trust's first tramway.

Coburg Historical Society



GLENREAGH MOUNTAIN RAILWAY/TRAMWAY

A Short History

By Gregory Wilson

A tram operation at Glenreagh came about because of an idea and suggestion by Russell Phemister to Bob Farquhar. Had this been put to any other person, trams at Glenreagh would still be only that, a suggestion. However Russ was told to go and find a tram and that is exactly what he did.

Glenreagh Mountain Railway (GMR) has its base at Glenreagh West. Glenreagh is located on the Orara Way, the back road between Coffs Harbour and Grafton. Glenreagh is also the junction for the former branch railway to Dorrigo. GMR's operational equipment includes 1919, a Z19 class steam locomotive operated by the NSWGR as a Darling Harbour shunter until the end of steam in the early 1970s. This locomotive was sold to the Forbes Vintage Village before ending up at Dorrigo. We have three ex-State Rail single deck interurban cars as our main train, complemented by a single S type 4-wheel open goods truck used for passenger riding. The arrival and ongoing restoration of two end-platform cars from Lachlan Valley Railway at Cowra, a further three S trucks and a converted covered van will shortly make up a vintage train, 'The Talawudjah Mixed'. The railway also has a CPH class 42ft rail motor under restoration as well as a couple of track maintenance vehicles. It is hoped shortly to have ex-Lysaghts locomotive 'Alison' arrive for eventual restoration to service and the operation of a second steam hauled train. We also have a small fleet of tramcars, consisting

of two ex-Melbourne W2 class cars: 392 is operational and 447 is under restoration.

The Railway has control of the branch line from Glenreagh to Ulong, with operational trackage at present of 3km to Talawudjah Creek, the first bridge on the line.

Russell's idea came about from our early days of operating the steam train, and seeing people lined up waiting for the train ride. A tram was seen as an alternative form of transport for the waiting passengers. More importantly, it would give Glenreagh Mountain Railway uniqueness and variety, with the combination of steam train and tram operation.

Russ was not unfamiliar with trams and tram operations, and knew where to find all the necessary equipment to operate a tram without the use of overhead wire. Russ was part of the Newcastle Tramway Museum, being member No. 1 and Secretary in the early years before he moved away to Queensland. Newcastle Tramway Museum had operated trams using a towed generator and when that group was dissolved most of the assets eventually came under the control of the Sydney Tramway Museum. Of course tram operation using a generator was not a new concept, a local example being the rail cleaning of the Eastern Suburbs Railway with ex-D class scrubber car 134s.



392 is at Glenreagh West, ready to head off for the 3km trip to Talawudjah Creek with a tour group.
Greg Wilson

In setting out to find a tram for Glenreagh, Russ initially contacted Bendigo Tramways, but the costs involved prevented the offer of a car from this source being taken up. He was then told about stored cars in Melbourne, before contacting Howard Clark at the STM and being offered a lease on their Melbourne W2 392. Russ inspected this car at Loftus, and so initiated tram operations at Glenreagh.

Tramcar 392 arrived at Glenreagh in August 2005, and its first major operation was in September when GMR operated for a special weekend as part of the Railways 150 Celebrations. This is when I became involved in the tram operation: Russ handed me the controls and we were off down a couple of hundred feet of track, being confined to the shed road.

My interest in tramways extends back to visiting the Sydney Tramway Museum at the National Park site on regular occasions as a young child. My interest in Sydney trams has led to many a great friendship and a tremendous amount of help from the various members of the Museum. I am very proud of the photo of my restored 1929 Chevrolet which appears on the rear cover of the Museum's new exhibit guide.

With tramway operation having commenced at Glenreagh, we slowly worked through the streamlining of our operation and also learned about the tramcar. The tram performed faultlessly and soon restoration was started on one side of the car. Russell's son Ian came on board and has taken charge of the body restoration of 392.

The October 2005 long weekend saw normal operations at GMR with a trip with 392, after the

Saturday running, on the main line to Kangaroo Creek crossing, then the end of our line. For the first time the tram was able to have a reasonable run, and on the Monday it was decided to have 'tram only' operations. These were very successful and it was great to have a longer run than our couple of hundred feet. On our next normal running weekend 1919 failed: foam from the bush fire brigade had mixed with the locomotive's boiler water and it was unable to steam. The necessary safe working was put in place to allow the tram to operate to the crossing, the extremity of the other end of the line. This then became normal operation giving us about half a kilometre on which to operate.

One of the highlights of last year was our Christmas party which saw both 1919 on the 'Talawudjah Mixed' and 392 travel to the end of the line at Talawudjah Creek bridge. A picnic area has been set up at this location while we await the results of grant applications to rebuild the bridge which will enable operations on the next stage of the track. This now gave us a 6km return run to operate on. However this extended operation highlighted the inefficiencies of our generator wagon and a new alternative was required before main line runs could continue.

Over the Christmas-New Year break a new generator bogie was sought from the STM, and the old workshop bogie from the Newcastle Tramway Museum was soon at Glenreagh being modified.

The holiday month of January was to be very busy for Glenreagh Mountain Railway. However the weather was something we could not control. As rain continued to fall, tram operations on the first weekend were suspended until late Saturday morning when a break



Our picnic area is situated among the trees not far from Talawudjah Creek. It is a pleasant spot on a hot day.

Greg Wilson



Tramcar 392 awaits its next run at the loading ramp at Glenreagh West. 1919 simmers behind, waiting at the platform for the next run. This is the normal arrangement on running days.
Greg Wilson

allowed the first successful tests with the new generator bogie. Services with the tram were limited this weekend due to some leaking of the roof where much of the hardware had been removed to allow tarpaulins to be put on the tram when it was not in use. At the conclusion of the Saturday run the tram was again shunted to the main line to allow further testing of the new bogie, particularly on the 1:50 grade from the mill crossing to Glenreagh West. Sunday again saw morning rain and services were restricted however at around midday 392 again ventured onto the main line and some train/tram operations were achieved. The remaining weekends in January saw continuing operations by 392.

Thursday 2 February 2006 was a special day for GMR. After working long and hard, stage one of the track from Glenreagh West to Talawudjah Creek bridge was officially opened. Early morning saw steam locomotive 1919 resplendent at the platform awaiting the honoured guest, with 392 behind. The steam train would transport the guests and members while 392 would convey the government and council representatives and media personnel. This event was the first time that all the tram staff were in full black uniform and we looked pretty great, adding to the electric atmosphere of the day. With the official speeches over everyone walked a short distance up the line where the two Mayors (of Coffs Harbour and Clarence Valley) drove in the 'Golden Spike'. Our local Federal member was due to cut the ribbon but as the scissors were not available (away in a car returning some media!), a decision was made to run 1919 through the ribbon. So with her whistle echoing right around the valley, with full steam and plenty of black smoke 1919 broke through the ribbon signalling the opening of the line. To the roar of the crowd, 392 followed close behind. The tram continued to provide a shuttle service for the guests with the train returning mid afternoon.

Our first running weekend for February saw a full train/tram operation all weekend. The tram would depart Glenreagh West first, with the steam train following five minutes or so behind. Again this weekend saw tram operations over the full 3km of line, for the first time since our December Christmas Party. This was a great weekend for the tramway department. Part of the agreement for the tram at GMR is that it is completely self funded and as such we only operated with a donation box. This has now been replaced with separate tram tickets. No ticket sales for the train go towards the tram's operation.

Restoration of 392 has been thorough, with one saloon end wall being completely removed and rebuilt. This necessitated the manufacture and installation of new frame work timbers, the main uprights being manufactured and supplied by Bishop Druitt College, Coffs Harbour. With these fitted, the side frame was rebuilt and the windows restored, followed by reinstallation of the original window fittings and varnished woodwork. The steel sheeting on the outside of the tram was replaced and detailing parts are to be refitted. The fascia at the top of the windows has also been replaced with new timber.

To enable the tram to be initially covered with tarpaulins, all of the roof hardware was removed. This also allowed the timber electrical covers to be removed, allowing access to the roof wiring. When 392 came to us one light circuit did not work. It was decided to alter this circuit and install 240v lights leaving the 600v wiring in the roof. The 240v lighting allows us to have lights run from a small petrol generator when the main diesel generator is off. It also allows the tram to be 'plugged in' when working on the interior in the shed. The petrol generator is also used to power a public address system that has been fitted in the tramcar, which allows us to tell our passengers the history of 392 and of the line and our future plans. The roof of



W2 392 at the approach to Talawudjah Creek where our mid-week picnic trip for group bookings terminates. Conductor Russell Phemister is standing in the second doorway.

Greg Wilson

392 is now being cleaned of all loose paint so it can be sealed and painted ready to install new trolley pole platforms, roof steps, and the route number boxes.

In our February shutdown a full mechanical and electrical inspection of 392 was made. This involved servicing and lubricating the axle boxes, brake gear and bogies, together with a clean up of the master controllers. The inspection of the brake gear revealed two brake shoes requiring to be changed. These were sourced from Bendigo, while Bill Parkinson supplied technical information for fitting and setting them up. Since then a further six have been supplied to allow changing of all brake shoes in due course.

Our tram has been in operation for a little under 12 months. We have been overwhelmed by the support and encouragement we have had from the tramway fraternity, in particular the generosity and assistance offered to us by the Sydney Tramway Museum. Although we are not operating in a typical tramway environment, Russ and I are dedicated to the preservation and operation of our tram fleet. Recently the STM has donated further tramcars, one being W2 447 previously at the Canberra Tradesmens Union Club. We also have W2 370 arriving shortly, one of the cars from the failed Port Kembla project back in the mid 1980s. This car is coming to Glenreagh to provide the underfloor and electrical equipment to return 447 to operation. The body of Victorian Railways tramcar No. 49, ex-Canberra, has also been donated to the railway for use as a training room/office for all our safe working training.

Although GMR's railway and tramway operations may be in their infancy compared to the more

established museums, we are dedicated to the preservation and operation of vintage transportation equipment. To this end we have worked to streamline our operations into a very efficient rail and tram operation. This is further enhanced by the charter operations of our tramcar, which include picnics at our creek picnic area where we supply either morning tea and/or lunch. The boiling water is supplied from our generator via an urn mounted on the bogie.

These charter operations are becoming a regular occurrence as more people, organisations and bus charter companies find out about us. The majority of these charters are mid-week and Russ and I put in a lot of time organising and preparing for these.

Glenreagh Mountain Railway/Tramway has developed into a very respected operation. Earlier this year we had an audit from ITSRR (the Independent Transport Safety and Reliability Regulator) and they were impressed with what we have achieved. Our accreditation certificate was presented to Bob Farquhar on their return. Glenreagh was also visited by the former Chief Justice, the Honourable Barry O'Keefe who travelled on the railway as part of Heritage Week celebrations on the North Coast. On the June long weekend GMR launched its first DVD production 'Wheels of Time'. This launch culminated in some spectacular night running and enjoyment by all.

As reported elsewhere in this issue, W2 447 arrived at Glenreagh in June. Restoration of this car started almost immediately and it is hoped that through the pages of *Trolley Wire* we will be able to keep everyone advised as to the latest happenings with our trams at Glenreagh.

HERE AND THERE

AUSTRALIAN AND OVERSEAS NEWS

Adelaide news

New Flexity car 107 arrived by road from Dandenong in Victoria on 29 May 2006. It passed through Taillem Bend around 4:30pm on 29 May and laid over at a truck stop a few kilometres east of Mt Barker. It arrived at Victoria Square around 2:00am and was on the rails by 3:15am on 30 May. It was commissioned and in service by 2 July.

Flexity 106 also arrived by road from Melbourne in the early hours of 6 June. On leaving the hills it turned onto Portrush Road, Greenhill Road, Goodwood Road, West Terrace and then along Grote Street to Victoria Square. Spectators found it interesting to see how wide was the turn when negotiating 90 degree corners! Once the tram was on the rails the ramp was moved onto the grass of Victoria Square ready for the following night's activity.

Flexity 108 arrived at Outer Harbour on the *Hual Paris* on 4 June and was brought into Victoria Square on 7 June. H car 373 was then loaded around 2:00am for the return journey to Victoria, with the car delivered to the Tramway Museum Society of Victoria at Bylands as back loading.

H car 369 left Adelaide on the afternoon of 10 July with Australian Train Movers, destined for Bendigo where it arrived the following day.

The next Flexity car is expected to arrive on the *Höegh Detroit*, due at Outer Harbour on 3 September 2006.

Restaurant car named

A competition to name Melbourne's new restaurant car was held by the Colonial Tramcar Restaurant Co. during April. The winning entry was submitted by Connex train driver Ray Oaff, who suggested 'Bela', Portuguese for 'Beautiful'. He wins exclusive use of the car for a Sunday lunch run for himself and 36 guests.

A Z goes narrow gauge

The Darling Downs Historical Rail Society in Toowoomba, Queensland, has acquired former Melbourne Z1 car 80. The car was delivered by Australian Train Movers and arrived on 5 June 2006. The car is mounted on 1067mm gauge freight car bogies and is to be used as a club room/lunch room.

Flexity 108 prepares to move down the ramp and onto the rails at Victoria Square on 7 June.
Bill Drury





Ex-Melbourne Z1 car No. 80 stands on narrow gauge bogies at the Darling Downs Historical Rail Society's site at Drayton, near Toowoomba..

Mario Menciga

Our mystery tramcar

The May/June issue of *Trolley Wire* included a photo of a 'mystery tram'. Its location: Los Angeles. The story of this interesting vehicle and the line on which it runs is as follows.

The Farmers Market, a Los Angeles tourist landmark, originated in 1934 as a depression-era outlet for locally grown produce. Several permanent buildings were soon erected and the Market evolved into a mixture of food sellers, souvenir shops, small restaurants and individually owned fast food stands which attract over three million visitors a year. It remained basically unchanged for six decades until Caruso Affiliated Holdings (CAH), a Los Angeles based developer of unique euro-historic style outdoor shopping plazas, obtained rights to 20 acres (81,000 sq. metres) of adjacent land and began building The Grove, an upscale outdoor retail and entertainment

centre. The new complex is over a quarter-mile (approx. 400 metres) long and CAH decided to install an environmentally clean rail transit system along First Street to carry shoppers needing a lift.

CAH called in technical consultants Production Resource Group (PRG), which had no previous transit experience. Steve Taylor of PRG was in charge of the streetcar project and says he became fascinated with vintage transit after visits to the Seashore and National Capital trolley museums as part of his research. It was at Seashore that he located the trucks he needed, a pair of Clark B2 bogies from a retired Boston PCC car. The brakes and motors were not included but the hypoid gears were retained because the ratio was what was wanted. The trucks were completely overhauled and now have a new motor on each axle with electric over hydraulic disc brakes.

Entertainment Engineering of Burbank, California were called upon to submit a proposal to design and

The body of the tram was made by a steel fabricator in Las Vegas.

Transport Innovations Group





This view of the trolley shows the position of the cassette wheelchair lift which doubles as a stairway. John Smatlak

engineer the trolley system through their Transport Innovations Group (TIG). A firm in Las Vegas undertook the steel fabrication.

Overhead wires were not an option, so a double deck, open-air, battery-powered tramcar carrying up to 62 passengers running at a maximum speed of 5mph (8kph) was the result. It is 35 feet long and 13 feet 4 inches high. The standard gauge tramcar, called a 'trolley' (but it does not have a trolley pole), was designed by George McGinnis and is made of heavy-gauge steel. It is painted green to signify its clean motive power. It has red oak footboards and custom-cast brass handrails and fittings. Two curved staircases lead to the upper deck, giving it the atmosphere of a vintage open-top British tram. It is also fitted with a cassette type wheelchair lift. The car carries the number 1759.

Only one vehicle would be provided on the 1,230 ft. (375 metre) single-track line. It was determined the tram's 56 batteries would need to be repeatedly recharged for continuous running of up to 13 hours daily because the motors and accessories, such as lights and advertising boxes, draw nearly 5 kW. The batteries are mounted beneath the motorman's position under the frame of the tram in two large cassettes wired in parallel. Each cassette contains 28, 12-volt gel-cell batteries wired in series, providing 336 volts to operate the car. An induction station with a primary coil was installed in the track bed at the eastern terminus of the line. The car stops with the onboard pickup an inch (2.54 cm) above the coil. As passengers

are being unloaded, a crew member pushes the 'charge initiate' button and the inductive system delivers a 30 kW jolt through a rectifier for three minutes, placing about two ampere hours into the batteries. A second sequence can be triggered if required. The batteries are conventionally charged every night to condition them to accept a deep charge. The Grove Trolley is the first use of inductive power technology for a transit system in the USA.

The tram is housed and maintained in a depot which looks more like a large garage with an inspection pit. It is at the Grove end of the line, tucked back between two stores. It has the words 'Trolley Depot No. 1759' above the gated entrance.

The trolley operation commenced with the opening of The Grove on 15 March 2002, and has exceeded expectations for both ridership and reliability. The car runs 8-10 hours a day, seven days a week and is rarely empty. During heavy rain the car is withdrawn from service. The trolley is currently carrying about 730,000 passengers annually (although an estimated 830,000 rode in 2003). Not surprisingly, the trolley also carries six advertising panels managed by a large outdoor advertising firm, which provide a revenue stream for the mall's operators.

A one-way trip takes 6 minutes 12 seconds including three intermediate stops. After the passengers board, the two person crew announces that "You don't need a ticket, but you do need a seat." They will not proceed if there are any passengers standing. The motorman



An end view shows the stairs to the top deck and the decorative paintwork.

Dale Budd

rings a bell and from The Grove the car proceeds around a curve, past a small open eating area, and along a pedestrian mall lined with shops. It proceeds down the mall, crosses Gillmore Lane and runs to a stub terminal in the Farmers Market. At the stops,

passengers are instructed to stay seated until a 'safety bell' rings. The ride on the trolley is described as slow but smooth.

The Grove shopping centre is located at the intersection of Third Street and Fairfax Boulevard, a short drive off the 10 Freeway. This is an upmarket area close to the centre of Los Angeles, south of the attractive residential district of West Hollywood. Sunset Boulevard is not far away. The trolley operates during the following hours: Mon-Thurs: Noon - 8pm, Fri: Noon - 10pm, Sat: 11am - 10pm, and Sun: 11am - 7pm. The trolley takes a break daily from 4pm - 5pm.

Transport Innovations Group are currently producing two additional vehicles for an operation at the new Puerto Los Cabos Marina development in Baja Mexico. TIG has recently incorporated its own in-house fabrication division, and the new vehicles will be manufactured in the Los Angeles area. The new trolleys will feature the same basic double-deck architecture as the car at Farmers Market, although with a different theme. The cars will be equipped with refurbished PCC tramcar running gear, and will also feature a small on-board generator to permit battery charging enroute.

Worldwide, other battery powered trams now in operation include the tramway at the restored Southport Pier in the UK. This unique 3ft 6in gauge operation began in 1 August 2005, using a modern 100-seat vehicle constructed by UK Loco Ltd.

The use of batteries for supplemental propulsion in light rail vehicles is also increasing. Cars in both the United States and Europe are being fitted with



A cassette type wheelchair lift which fits under the floor and wheelchair tie down points are provided.

John Smatlak



The top deck has 2 x 2 fixed seating with additional seats around the staircases at the ends of the car.
John Smatlak

batteries to provide the capability of making short moves 'off wire'. In some cases the batteries are intended only for short moves to navigate past interruptions in the overhead contact system or in maintenance facilities. In other cases, such as on Alstom's Citadis trams in Nice, France, battery power allows the trams to routinely traverse two 500m segments through the historic Massena and Garibaldi squares without the use of overhead wire.

And what is the significance of the Grove trolley's number? The force behind Caruso Affiliated is a very successful local entrepreneur (and former LA Police Commissioner), Rick Caruso. He took a great deal of personal interest in developing the Trolley for his flagship mall; it is his 'baby'. The explanation of the number? 1759 = January 7, 1959 – Rick Caruso's birthday.

COTMA

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

From Warren Doubleday

Bookings for the November 2006 Conference have opened. The booking form and detail program can be downloaded from COTMA's web site www.cotma.org.au. The programme is almost identical to that published in the May/June issue of Trolley Wire. Bookings close on 6 October 2006. Late bookings can be made, but an additional fee will be payable.

The COTMA website has recently been updated. Past news updates can be viewed on the site as well as many conservation documents and other COTMA material, including the 2004 Conference Proceedings. The site is steadily becoming a knowledge base in its own right.

The COTMA Executive is apprehensive about the impact on its members of the new Rail Safety Acts and regulation changes that are being introduced throughout Australia and New Zealand. The changes to these acts and regulations by the various administrations can cause a lot of frustrating paperwork, for a limited gain. The changes have to be implemented by museums to keep their trams operating for the public, and they divert activities away from conservation work. This has the potential to lead to volunteer burnout and frustration. Your moral and physical support of these over-worked volunteers who do this necessary paperwork is vital to us all.

BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

www.btm.org.au

From Dave Macartney and Warren Doubleday

Refurbishment of No. 40 finally reached the stage of a test run on 27 May. Painting is largely complete, but the onset of winter weather has meant that the remaining work can only be carried out when conditions are suitable. Electrical work is complete, while the last part to be refitted was the No. 2 end bumper, which needed a little extra work to bring it up to standard. Lining out of the paintwork will complete this job, which has taken over two years. On 1 July No. 40's place at the back of 4 road was taken by No. 14, which is to be lifted and the wheels reprofiled. The cream paintwork is also in need of attention, though the green is still in good condition. This car has also not been in traffic for two years, and will be a welcome addition when complete.

No. 33 has suffered for years with excessively worn floors in the drop ends. At the No. 1 end it was possible to see the roadway through a large crack in the doorway. Repairs involved stripping off the old floor covering which was tacked down over some tar-like base, levelling off the high spots on the timbers and building up a few depressions where countless feet had trodden, then covering the whole area with large sheets

of 9mm hardwood ply. This was covered with malthoid, fixed down with contact adhesive rather than tacks. This gives a very smooth finish, though handling large sheets of malthoid covered with rapidly drying adhesive, knowing that they had to go down exactly right the first time or be forever wrong, was a test of patience and endurance for the crew. The joints in the malthoid were filled with Ormonoid filling putty and the whole lot painted, resulting in a very pleasing finish.

In No. 671, the ornamental brackets which hold the horizontal grab rails down the length of the car were removed, stripped back to the bare brass and refitted. This lends some colour and style to the large areas of cream on 671's ceiling.

The wiring of 7 road was finally completed during June, after a wait of over twenty years. This can now serve as a running road, after having been mainly used for storage. Some brackets have been made to enable the wiring on 2 road to be directly suspended from the roof girders, instead of from timber crossbeams which are well due for replacement.

No. 40 did not quite get to stretch its legs along Wendouree Parade on 27 May 2006. It was undertaking a test run. Repainting is now well advanced and should be in service later this year.

Austin Brehau



Tram No 661 hard at work during the 2006 Ballarat Begonia Festival, on 11 March 2006.
 Peter Winspur



Out in Wendouree Parade, the shelter at the loop received a much needed touch up to the paintwork during May. Surprisingly, the large display board within the shelter has been in place now for the best part of twenty years without attracting the attention of the pests with spray cans. Perhaps it is too far for them to walk. Meanwhile at Carlton Street terminus a new seat has been installed for the convenience of intending passengers.



What is out of the ordinary in this photo at the Ballarat Tramway Museum depot mess room? The Museums Industry Award and flowers stand proudly on the bench that began its life in the Sandringham tram depot, along with the power control equipment.

Warren Doubleday



Work has commenced on lifting No. 14. Alastair Reither finishes off dismantling part of the truck on July 1 prior to a lift.

Warren Doubleday

The Museum was very proud to receive Museums Australia's Award for the most meritorious achievement by volunteers in the Victorian Museum Sector at International Museums Day on 25 May. The Award was presented by Bruce Mildenhall MP, Parliamentary Secretary to the Premier, to Museum President Stephen Butler. Along with the framed certificate came a large bunch of flowers, which made an unusual sight in the depot on the following Sunday.

The Award recognised the Museum's volunteers' achievement in overcoming the failure of the substation in October 2004, particularly the associated fund raising, and then in publishing *The Golden City*

and its Tramways in 2005. The success of the Museum in achieving this Award was due to the volunteers who worked tirelessly on the two projects and to our financial supporters, our Members and Friends who donated generously to the project for the rebuilding of the substation.

Sales of the Museum's publication *The Golden City* and its Tramways are going well. The book has been well reviewed in both Australia and the UK. Copies can be purchased directly from the Museum or ordered via the website www.btm.org.au. Recommended retail price is \$43.95. Copies can also be obtained from some fellow COTMA member museum bookshops.

BYLANDS

TRAMWAY MUSEUM SOCIETY OF VICTORIA

38 Piccadilly Crescent, Keysborough Victoria 3173

www.tmsv.org.au

From Graham Jordan and *Running Journal*

Adelaide H Class No. 373

Adelaide H class tram No. 373 arrived at Bylands at 11:30am on 8 June 2006.

The tram made its last run on the Glenelg line in the late evening of 6 June, when it left Glengowrie Depot around 11:30pm headed for Victoria Square. Earlier in the day it made several return trips from the City to Glenelg under test, to bed in a new motor and to make sure the car was in complete operating order. TransAdelaide staff made up a number of printed posters which were attached to windows on both ends and sides of the car, explaining that it was making its last trip on the line, and informing them of its new home.

No. 373 was then loaded in Victoria Square, Adelaide around 2:00am on 7 June, after the unloading of Flexity No. 108. The H class was loaded onto the trailer, which was the same vehicle that had been used to deliver No. 107 from Dandenong on the previous evening. The trailer was shortened at Mt Barker for the return trip to Victoria.

After unloading at Bylands, the pantograph was removed and a standard H class trolley base fitted at one end. A (Melbourne) Z class trolley pole was also fitted.

The H class was unloaded onto No. 2 road extension, and was towed into the shed by SW2 car 644. Once under wire in the shed, the tram was electrically tested and moved under power a short distance, and all seemed OK.

The sounds of the air horns on this vehicle as they echo through the tram shed, make for a change from the sounds of the standard Melbourne tramway foot gongs.

We would like to thank TransAdelaide and its staff, especially Peter Hascard and those immediately associated with the tram, for maintaining it and handing it over in good order. The workshop staff must be commended for an outstanding job in attending to every detail to ensure that the tram left Adelaide in the best possible condition. This is a good example of the pride and professionalism shown by TransAdelaide staff, one which has been greatly appreciated by the Society.

H car No. 373 is the first operational Adelaide tram to leave the State of South Australia, and the first to operate under power in a museum outside that State, something that the TMSV can be proud of.

TransAdelaide employees Jude and Marcia with 373 at Glengowrie Depot.

TransAdelaide



This however is not the end of the story. The Society would not have been able to secure this historic vehicle if it were not for the generous support, persistence and financial contribution made by our Deputy Chairman, Andrew Hall. Andrew made a commitment to the Society, one he followed through to the end, and if it was not for his dedication to this project, we would not have received such a wonderful exhibit. The Society owes a great deal to Andrew for his kind gesture.

7W

Work on this tram is proceeding slowly but surely. Half of the tank has been sanded back to receive some undercoat and the grill around the resistors has been metal primed. The No. 1 end is ready to receive its top coat of safety yellow paint.

Y1 612

Having made its first passenger-carrying service at our Trams in the Twilight in February, there were still a few important issues that had to be resolved to ensure that Y1 612 could return to revenue service at the museum.

Windscreen wipers and bell cords had to be installed and air leaks fixed which had shown up over time. Graham Jordan and Corey Robertson were responsible for ensuring that everything went well.

On 14 May, No. 612 made its first official run in revenue service driven by Graham Jordan and trainee driver Michael Fedor. The tram performed exceptionally well, and will provide another example of a Melbourne tram operating at the museum for the public to view and experience.



H car 373 arrives at Bylands on 8 June 2006. John Walker

Y1 612 also ran on 21 May and was driven by David Frost. The tram proves itself well on the cold and windy winter days at Bylands.

X2 680

Work on this car is proceeding well. The ceiling has been completely stripped and has already received two coats of lacquer.

The GreenCorps crew are working on the body of the tram, sanding and stripping the paint and applying a fresh coat on the aprons and around the windows, whilst work continues on the lower half of the body.

Seating has been removed to initiate any repairs required prior to being repolished and placed back into the tram. All the doors and lower windows have been removed and stripped, repaired and repainted before being reinstalled. It is anticipated that this work will be completed by the time the GreenCorps crew finish in August.

Tram services suspended

The Museum's Board of Management discussed on 25 May the course of action required following the release of a report regarding the condition of the overhead at the museum. Some areas were noted as



The two cranes lift 373 from the trailer... John Walker



... and it is gently lowered onto the rails. John Walker

requiring attention, and it was decided that the most effective method of addressing these issues was to suspend operations temporarily, to simplify the remediation program.

The museum will remain open to the public, but as a static display only, with no vehicles being permitted to be moved for external display. Our rostered staff are still required to attend but the position of Driver has

been altered to Museum Guide for the duration of the suspended operation.

Given that winter is historically a period with reduced museum patronage, it is not expected to have a material impact on museum revenue. It is expected that electric operations will resume by spring, and there should be no effect on the operation of our next Trams in the Twilight in 2007.

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) Inc

GPO Box 2012, Adelaide, South Australia 5001

www.railpage.org.au/aetmsa

From Colin Seymour

Car 15

The saloon windows have been re-installed. They are original windows mainly from car 15 itself that have been reglazed using laminated safety glass. Ten Brill Winner seat bases are being restored by John Pennack for installation in car 15's saloon.

Car 360

Due to wear, the camshaft on the PC5 controller was removed and 7 of the 8 cams were built up at the start and finish of their profile with bronze weld. This will

minimise burning to the contactor tips that the cams open in a set sequence. The cams were built up, installed back onto the shaft, and the final profile and sequence checked and modified by filing when the whole assembly was back in the controller.

W7 1013

Melbourne W7 1013 entered regular service at St Kilda on 7 May 2006 with new motorman, Mike Bosworth at the controls. The W7 was swapped with



Melbourne W7 1013 on its first day of regular service at St Kilda on 7 May 2006.

Ian Seymour

1980s refurbished H car 365 meets circa 1929 restored H 360 at St Kilda. Ian Seymour



our other Melbourne car W2 294, giving 294 a well earned rest. 1013 will be the winter Melbourne car with 294 being used in finer weather. Conductors will be in charge of the sliding door operation on the car.

Car 186

Our C type tram, 186 is again available for traffic following minor roof repairs.

Trackwork

The east curve at the Mangrove Street crossing was prepared for future concreting by welding rail offcuts upside down underneath the running rail to lock in the gauge. The check rail had to be loosened and pushed aside for welding to take place. Installation of new spacers and bolts and some packers under the 40lb check rail completed the job. Tony Smith from Haddon assisted with some of the work on his visit with wife Jackie and son Daniel.

Annual General Meeting

The 49th AGM was held at the Museum at 4:00pm on 27 May 2006. Earlier in the afternoon, members were treated to rides and photo opportunities on our three newest trams – Sydney R1 1971, Melbourne W7 1013 and Adelaide H type 365.

The opportunity to ride 365 is an unusual situation for the Museum as the car will be stripped for spare parts and the body moved to its owners' property to become a 'bed & breakfast' in the Adelaide Hills. In the meantime, we are familiarising ourselves with the characteristics of a 1980s refurbished H car in readiness for when car 364 arrives.

The meeting saw a couple of changes to the committee. Chris Andrews has taken on the Vice President role and Mike Bosworth has taken on the role of Rolling Stock Manager. The committee is now:

Chris Summers and Mike Bosworth re-installing the check rail after the installation of rail tie bars on the east curve at the Mangrove Street crossing. Ian Seymour



New Rolling Stock Manager, Mike Bosworth with car 42 at the Playground stop after his first run to St Kilda from the Museum as a fully accredited motorman in March 2006.

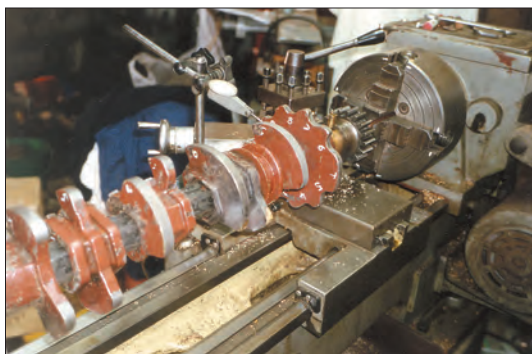
Chris Summers



President	Colin Seymour
Vice President	Chris Andrews
Secretary	David Williams
Treasurer	Barry Fox
General Manager	Ian Seymour
Operations Manager	Ron White
Site & Safety Mgr	John Pennack
Rolling Stock Mgr	Mike Bosworth

Trustee	Chris Andrews
Trustee	Ian Seymour
Trustee	Kym Smith

After the meeting members enjoyed a barbecue and bonfire and were entertained by a DVD presentation of Mike Bosworth's home-built tramway at his property at Burra and by a series of 16mm films shown by Tim Bell.



Car 360's PC5 shaft positioned on the lathe to check the profile of the built up cams with a dial indicator.
Ian Seymour

AETA visit

On 11 June 2006 participants attending the Australian Electric Traction Association (AETA) convention in Adelaide visited the Museum. Cars used on the day were Adelaide E1 111, F1 264, H 360, Sydney R1 1971 and Melbourne W7 1013. Car 111 was one of the cars used for the 1956 AETA convention in Adelaide during its MTT days. While at the Museum, a tour of the workshops was provided. To conclude the visit, participants went by tram 1013 to Shell Street from where they walked to the St Kilda Hotel for dinner. They returned to the city in a Volvo B59 bus formerly operated in Adelaide and provided by AETM member Geoff Grantham's Buses-R-Us.

Cars used for the AETA visit on 11 June 2006 – H 360, W7 1013, E1 111, R1 1971 and F1 264.

Ian Seymour



It interesting to note that the idea of saving some of Adelaide's trams was first discussed at the 1956 AETA convention in Adelaide. These discussions eventually

led to the formation of the Australian Electric Transport Museum, SA (AETM) in March 1957.

HADDON

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

From *Grand Union*

VR 41

The completion of VR 41's restoration in Bendigo saw the fitting of the drop centre storm curtains deferred until the tram returned to Haddon. When the body of VR 41 was acquired back in 1977 it still had one complete storm curtain in place and the metal runners from the remaining curtains were located on site. During February, Kym Smith arranged to have eight new curtains manufactured in Bendigo to the same pattern as the sample blind provided. New stainless steel slats had to be fabricated as the original mild steel units were too badly corroded for further use. The original bottom hand grip bars are still serviceable and have been straightened, grit blasted and primed. We are currently in the process of obtaining suitable replacement spring rollers as again the originals are beyond further service. When the new curtains have been delivered we will fit these components and install the curtains into VR 41.

W3 663

During January the No. 1 brake cylinder developed an air leak past the cylinder bucket. A decision was made to change out all four units on this tram with freshly overhauled cylinders. We are fortunate that many years ago the association obtained five such cylinders from St Kilda tram museum that were surplus to their needs, and four of these were removed from store for overhaul. They were dismantled, cleaned and the external bodies painted along with the honing out of the internal bores to remove any pitting. New piston stems were manufactured and the heads fitted with new buckets. They were reassembled and subjected to a leakage exam utilising the air test bench. On 20 March, the Nos. 1 and 4 cylinders on the No. 1 bogie of W3 663 were changed over and tested without fault. The No. 2 bogie had its cylinders swapped over during April. This project was undertaken by Arthur Ireland, John Withers and Anthony Smith.

L 103

Work has recommenced in earnest on this tram with a view to making it complete by November, when a visit by COTMA conference delegates is planned. Jackie Smith has taken on the responsibility for coordinating work on this tram and steady progress is now being made. During February all the fixed bulkhead windows were scraped clean to remove paint excess and the filling and rubbing back of all panel work completed. The exterior and internal bulkheads have been undercoated with minor spot filling performed to remove any small indentations, and this has been followed by more rubbing back. The driver's cabin bulkheads have had the first coat of cream applied and work has commenced on painting the exterior panels. The saloon window sashes were delivered to Arthur Ireland who completed the restoration of these items.

Signal indicator lights

During March the newly overhauled signal heads and mounting brackets were fitted to the upper terminus signal mast and the wiring reconnected. This work was undertaken by John Withers who also performed a signal sequence test to ensure that there were no wrong wiring connections.

B van

During February this ex-railway storage van was emptied of its contents and shelving installed along the back wall. All the tram components from this van plus others housed in the truck shop were sorted and stacked on the shelving along with the spare overhead fittings that had been stored in the carbarn. Work has commenced on the replacement of the north side sliding door with two outside opening hinged units as the original is badly rusted and is extremely hard to slide. A set of steps to access this van has also been installed.

Test room

As part of the commissioning of the lifting bay/No. 1 road traction supply, the hand circuit breaker had the overload current set utilising the electrical test bench. A special mounting frame and test leads were installed in the test cubicle for this function. The testing of this circuit breaker was the first use of this equipment, which functioned without fault. We are currently fabricating a mounting frame for line breakers to enable us to test and set the overload coils on the spare breakers we have in store. The air test bench also received its first use when the four overhauled brake cylinders for W3 663 were tested. A special jig was fabricated on which these cylinders were mounted to enable a pressure retention leakage to be conducted.

Overhead

Eight pole caps were fabricated and fitted to the new poles awaiting erection. On 6 March these eight poles were erected by contractor and concreted in position. Kym Smith, who is in charge of the overhead rebuilding project, has started sorting through our collection of frog pans and fitting them with the appropriate tips. He is also dressing them to remove the flattening effects of pantograph operation in readiness for installation. A comprehensive list of items to be acquired has been made and a work schedule created for stage one of this project which entails the rebuilding of the overhead in the upper terminus area. Work will commence shortly.

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

PO Box 257, Mount Lawley, Western Australia 6929

www.pets.org.au

From Michael Stukely

Equipment arrives

On 29 April a truck arrived at Whiteman Park with a container load of long-awaited and important equipment from Bendigo. The standout item was the ex-Brussels 21E truck that has been overhauled and shortened for us by Bendigo Tramways to fit the body of Perth C class car No. 61 (built at Midland Junction Railway Workshops in 1913 and listed as 'scrapped' in 1932), now awaiting restoration. Other welcome

arrivals were a Melbourne No. 15 truck (as a spare for W7 No. 1017); two Melbourne No. 1B trucks purchased from Sydney Tramway Museum (these are earmarked for use initially under Perth E class car No. 66, now being restored); a number of resistor banks; and 30kg of axle packing wool. Also included were some electrical meters and other measuring devices generously donated to the Society by Craig Tooke.



W4 No. 674, back in regular service, is seen passing the rotunda outside the Park Administration building in the Village on 16 April.

Michael Stukely

*The trams are popular for family photos, and here conductor Darren Ward can be seen being 'snapped' with visitors beside the centre entrance of W2 No. 329 at the Village tram stop on 16 April. Motorman Bill Kingsley is in the cab (Bill again spent Easter at Whiteman Park, driving trams – thank you, Bill).
Michael Stukely*



The equipment left Bendigo during the second-last week of April for Melbourne, where it was loaded onto a flat-tray container, placed onto a rail wagon and railed to Perth. Bob Pearce received advice from Sadleirs Transport on Thursday 27 April that the container had arrived in Kewdale, and arrangements were made for its delivery to Whiteman Park on the Saturday morning. There the items were unloaded by Noel Blackmore using the Society's crane with assistance from Lindsay Richardson, John Azzaro, Trevor Dennhardt and Ric Francis, and stowed in various areas. The 21E truck became the first tram truck to be moved over the tram service pit when it was towed through to the truck storage road at the western end, for covered storage.

Traffic operations

Following the excellent patronage levels during Perth's coolest summer in 50 years, attendances at Whiteman Park were steady through autumn and have again been boosted due to an extended period of fine, sunny weather resulting from the driest June on record. Patronage on the trams has benefited as a result.

Melbourne W4 car 674 was returned to regular service in April after over a year of only light occasional use, following the completion of repairs to the frames of both No. 9 trucks. Cracks had developed towards the ends of the upper side-frames at each end of the trucks, aligned with the pairs of rivets. The cracks were welded up, and pairs of steel reinforcing struts were added to each of the affected areas. This required each truck to be rolled out from beneath the car body for welding to be done, and this was achieved in rapid time by the Wednesday team. This work has

given an excellent result as shown by crack-testing that was carried out on completion.

WAGT tram No. 66

Frank Edwards and John Davies have continued the body restoration of Perth E class car No. 66. The saloon sliding doors were painted and interior painting in the saloon has continued, and major work was done on re-fitting the inside of the No.1 end saloon bulkhead. Grab-rails were fitted at the end-platform entrances. The newly prepared saloon windows have been installed and the freshly chromed, original Perth style catches fitted by John Davies.

Repairs and cleaning were carried out on the steel guard bars for the saloon windows. These were installed outside the saloon windows on both sides of the tram and painted by Paul Pickett and Frank. Chromed guard bars were installed over the glass in the sliding doors. This work has now given the car a very distinctive 'Perth' look.

Kurt Gahler and Gareth Watts have been working on the electrical wiring in the tram, and cleaning of the resistor banks has commenced.

Tram service pit

The excavation of sand and boxing out for concreting of the four lifting pads, each measuring 4.5 x 1.5 x 0.5 metres and positioned at each side at the pit ends, was completed by John Azzaro, Tony Grose, Jim Paton and Lindsay Richardson. The under-floor light and power circuit wiring was pulled in for the pit and for the Geddes Spare Parts Store. On 3 May, all four

lifting pads were concreted using a total of ten cubic metres, with assistance also from Trevor Dennhardt, Les Hunt and David Secker. The final concrete topping of the floor area surrounding the pit, and matching up with the existing Engineering shed floor on the south side, remains to be completed.

General

In March, remedial work on rail joint alignment and turnout gauge was done at the points on the passing loop north of Stockmans Triangle, and a three metre crossing timber was replaced at the Loop North points. Timber sleepers in need of replacement between the Carbarn and Bennett Brook North road crossing have been identified and marked by Lindsay Richardson and Trevor Dennhardt, and Trevor has carted and placed the steel sleepers ready for installation in the next major phase of our track maintenance program. In May, 20 timbers were replaced with steels between the Carbarn and the Workshops Road crossing, including Swamp Straight. Trevor and Lindsay were assisted by John Azzaro, Tony Grose, Terry Verney, John Shaw and Michael Stukely. Kurt Gahler, Gareth Watts and Tony Grose have completed repairs to all rail bonds to Village Junction.

Pat Ward has completed modifications to the new Toyota Landcruiser, including the fitting of the tray back and canvas canopy, tool racks and boxes, and a two-way radio, and re-positioning the step. Complete with the PETS logo on its cab doors, this essential vehicle now gives a very smart and professional look to our works activities around the Park.

Geoff Morrison and Kurt Gahler, assisted by other Wednesday team members, have continued their very valuable and never-ending work of servicing the trams and carrying out repairs.

A project to restore the body of former Perth single-truck B class tram No. 15 for the South Perth Historical Society for static display in a planned heritage precinct has commenced. Brian Adcock, a skilled carpenter friend of Lindsay Richardson, inspected and assessed the body in early April. Brian was very interested in our overall operations and has joined the Society. He began work on 12 April, assisted by Jim Paton, John Shaw and Lindsay, and has levelled and stabilised the body and cleaned out the accumulated rubbish and the old carpet from the interior, as well as the iron sheeting and malthoid from the roof.

The annual Safety Compliance Audit of our tramway was carried out by a representative of the WA Regulator on 28 April. This included a cab-ride over the main line from the Carbarn to Village Junction Terminus and return for the auditor, with stops to inspect parts of the system. We again passed with flying colours with no non-conformances being issued.

Throughout April, May and June, Michael Stukely, Noel Blackmore and the Safety Management Committee have continued the tedious and demanding job of revising our Rail Safety Management Plan so as to be compliant with the new Australian Standard for Railway Safety Management, AS4292.1-2006.



Autumn sunshine always attracts good crowds of visitors to Whiteman Park, as this afternoon view in the Village on Easter Sunday, 16 April shows. W4 No. 674 is loading at the tram stop before departing for Mussel Pool. Michael Stukely

In late March the remaining level crossing light equipment was removed from our storage area by our Park neighbours, the WA Light Railway Association. This has enabled a tidy-up to be done by Ric Francis, who also transferred the stored controllers from the Pennenburg Workshop to the Geddes Spare Parts Shed. It is now planned to erect a further four bays of pallet racking in this building.

Over the June long-weekend, the annual Australian Model Railway Association exhibition was held at

Claremont Showgrounds, and as usual the PETS display was on show and attended by a team of Society members. For the fourth time, we were awarded the trophy for the Best Non-Trade Display. Our Carbn Tours have continued on the fourth Sunday of each month, with Tony and Beth Kelly and John Stone regularly in attendance. These tours are attracting a steady level of interest and souvenir sales, and recently have attracted some applications from new members.

BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

www.bendigotramways.com

From Len Millar

Victorian Railways tram 53

On 8 July, several very happy members of the Victorian Division executive of the Australian Railway Historical Society presented a cheque to Superintendent Darren Hutchesson for the balance of the cost of renovating VR 53. In exchange they were given a specially buffed up reverser key. The visitors were given a tour of our line in 53, and there were many smiles and much photography. It was the first time in 26 years that the tram had carried passengers. Our Workshops staff had produced yet another gleaming 'external works' job, and we are grateful for the project coming our way. The ARHS funded the restoration, and VicTrack generously donated a set of No. 15 trucks for the tram, and paid for the transportation.

There was room at the bottom of the tram's destination curtains to hand-paint 'ST KILDA RLY' and 'BRIGHTON BCH'. The budget did not run to reducing the destination box canopies to the original width – maybe next time. Our workers were bemused to find in the ceiling advertisement racks inside the tram an old MMTB fare table for each route. It was dated 1980, and showed maximum fares (for six or more sections) of 80 cents!

The tram was launched for the benefit of the local media on 10 July, and there was good coverage on the WIN-TV news, and in an article in the next day's *Advertiser*.

Bendigo Trust CEO Tom Seddon stated that "the Tramways has the expertise and facilities to out-source its services to transport museums and councils that operate heritage services. The Trust is working to secure more outside contracts to further improve the financial standing and reputation of the Bendigo depot."

Darren Hutchesson spoke of "the real thrill is unveiling a thing of the past and seeing it come back to life!" Exactly!

Adelaide H car 369

After the service tram ran in on the afternoon of 11 July, two very large cranes moved into position in Tramways Avenue to unload our H class car from Adelaide. It will enter the workshops soon to undergo some modifications to enable it to operate on our Talking Tram Tour service. We believe it has the capacity to swallow the contents of a 66 seat coach in one fell swoop, providing a saving in crew and tram resources.

We are hoping for some sponsorship monies to carry out the works, and are fairly sure that the Trust's publicity arm will find someone out there.

369 will be very handy in January next year when, we have been advised, some 10,000 scouts will descend on

our city for a ten day Jamboree. A Talking Tram Tour is part of the deal for them, and we will be very busy for the duration.

Y1 610

In between other jobs, we have been working away on 610. The ‘Colorflek’ painted ceiling has almost been stripped off, and we look forward to the varnish treatment to come. External panels have been sanded down, and the door engines have been removed and overhauled. The four sets of folding doors will be converted to electro-pneumatic operation. This will involve independent operation (from buttons at the controls at each end) of each set of doors, just like Nos 18, 30, 33, 34 and 36.

It is rumoured that 610 may stay in its MMTB green and cream livery – sponsor willing!

Sydney J 675

Sydney car 675 is taking shape gradually. The Blackwood internal bulkheads are in place, cast iron grab rails, and other fittings have been screwed into place, and the resistance grids have been overhauled. They, and the brake cylinder, will be installed soon. The next task is the overhaul of the mechanisms which link each pair of sliding doors so that they move in opposite directions as they open and close.

36 loses its stripes

After a stint in State Electricity Commission of Victoria provincial city tramway dark green and cream with stripes on its end aprons, SW5 36 has gone back into the Paint Shop for a make-over. The Trust publicity supremo, Carlie Bell has obtained



*Unloading H car 369 in Tramways Avenue.
Bendigo Tramways*



*The Sydney J car door mechanism which allows the operation of one of the pair of doors to also open the opposite one.
Bendigo Tramways*



*Moving VR 53 after it had been unloaded in Tramways Avenue on 16 March 2006.
Bendigo Tramways*

The restoration of the Blackwood ceiling in Y1 610 is under way. Bendigo Tramways



The interior of J class 675 is coming along nicely, with the seat back frames now in place.

Bendigo Tramways

sponsorship from Hume and Iser, the local outlet of the Home Hardware chain. The striking blue and orange livery will certainly catch the eye of Bendigo pedestrians and motorists. The three year contract involves internal advertisement panels, together with the four roof-mounted panels.

The 21st Century

Just six (or is it seven?) years into the new century and the Depot has had a state-of-the-art phone system installed. Several important Occupational Health and Safety measures have been implemented to make for a safer work environment for our volunteers and paid staff.

Regretfully we have had to ‘moth-ball’ our beloved 1951 Bedford tower wagon, because it no longer meets ‘working at heights’ regulations. It started life with the Sydney tram system, gravitated to Melbourne, and has earned its keep with us over the last decade or so.

The Greater Bendigo City Council has kindly bought us new Ford 4110 tractor to move dead trams and bogies, and that has released our faithful Massey Ferguson 35 tractor (with its bald tyres). The ‘Fergy’ had a hard life, but now it has been literally put out to grass – mowing grass that is, at staff member Karl Penrose’s farm.

Council also are paying some \$38,000 for an

elevated work platform so that we can safely (and legally) attend to tram roofs, etc.

We are very grateful to the Council for these excellent purchases, which make us feel good about our commitment being matched in a material way by the local ratepayers.

Our human resources

We are truly thankful for the huge amount of time Sydneysiders Bill Jolly and Terry Boardman have put

in at the sharp end of our Talking Tram Tour service. Their contribution, especially during the school holidays with the half hour service, has been much appreciated.

Bob Sanders is happy to be back driving trams after re-passing his medical. We are as pleased as he is that he is back to 100% good health again!

We congratulate Michael Pope upon passing his Driver's examination. Welcome to the ranks.

LOFTUS

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

From Howard Clark and Mike Giddey

Old National Park site shed

A draft license agreement for use of these premises has been drawn up by National Parks & Wildlife Service to use the building for passive storage purposes for a five year period from 1 July 2006. Before we can move any items to this location we will need to remove a great deal of rubbish from the building, and level the interior to allow track panels to be installed. It is hoped that these works can proceed once we gain access.

New building fund

Gifts towards this have now exceeded \$42,000, which has been put aside for this purpose. It is hoped that in the next few weeks as 30 June approaches that we can reach \$55,000 so that we can confidently seek tenders from interested builders. It should be remembered that this building will need to be started before the end of the year to allow for accommodation of the two H cars, as well as 11W, and the return of operating cars currently stored at Preston.

J car 675

Works on this car have progressed well in Bendigo. The structural body work and fitting of new internal bulkheads and seat backs, and side panelling has been completed. John Penhall and Wayne Taylor from Bendigo visited Sydney in May to collect all the doors, etc. which had been restored offsite, along with the new seat bases and other parts for fitting to the car. The

Brill 21E truck has been returned to Bendigo from Preston Workshops after wheel turning, for installation under the car.

New heritage grant

We received a visit from Paul McLeay MP, State Member for Heathcote, on 18 May 2006 to announce that the Museum had been successful with our application under the 2006-2008 NSW Heritage Incentives Program for a \$40,000 grant towards the restoration of D car 107 to operating condition, and the restoration for display purposes of C car 33 to its experimental 1907/8 status as a double deck car.

Contracts are expected to be signed later in the year with works to be conducted by June 2008. Although the amount sought was \$50,000, this is nevertheless good news, confirming our status as a key protector of movable heritage in NSW.

O car 957

With external works on J 675 now finished, we have secured assistance from Geoff Spaulding to finalise body restoration of this car which is being done in situ at the back of road 5. Already the profile cutting of the remaining roof ribs and a number of damaged roof boards have been replaced. Tom Tramby and Howard Clark have moved a lot of items stored beside the car, and the centre saloon has also been largely cleared to

allow access to the vented roof. The materials for this work have been rediscovered buried in the workshop timber rack where they have remained for more than ten years, since works were last conducted on this car.

Offsite tram moves

From Canberra, ex-MMTB Q class 139 moved to Newstead on 2 May, Launceston No. 1 to Bendigo on 9 May, and Sydney R class 1819 to storage at Australian Train Movers on 7 June. Melbourne W2 447 left Canberra on 9 June, for scheduled delivery to Glenreagh on 19 June. This leaves only VR cars 48 and 49 to be moved in the coming weeks.

Melbourne X1 class 461 was moved from Bylands to Newstead on 2 May. Part of a potential arrangement involving the Victorian Division of the Australian Railway Historical Society and Bendigo Tramways, VR 35 was rescued from Bylands and transferred to Bendigo on 23 May.



L/P car 154 stands under the floodlights on 24 June. It is carrying a traditional kerosene tail lamp. If the trolley pole dewired and the tram was plunged into darkness, the kerosene lamp would provide some warning to oncoming traffic in the days when road traffic was much lighter than it is today.

Martin Pinches



David Canini breaks rock on the ground level of the Museum's head office building during trench digging to lay sewer pipes.

Danny Adamopoulos



A section of completed pointwork is moved from the top yard.

Danny Adamopoulos

Works report

Work has continued on fabricating the second set of left hand points for the new trailing crossover to be located north of the Pitt Street level crossing. It has been assembled on top of the first set in the yard of the top shed where power is available for welding. A new connecting box between the cast blade units had to be made to house the cross rod and the cast socket for the point bar to operate the points.

Each set will remain in two sections to facilitate handling and will be welded together when put into their final positions. On 3 June ballast motor 99u was used to move rails north of Pitt Street. They were placed to form a 'cattle grid' type level crossing so forklifts and trucks can cross the eastern track to access the road bed of the western track. Five of the six track panels from the dismantled western track were dismantled near the first curve and the sleepers were stacked. The rails were placed along the eastern track ready for re-use.

The prefabricated points have been moved into the cutting and placed in approximate position for final levelling and welding. Drainage and power conduit trenches are in the process of being dug, prior to the main running rail being welded and concreted in place.

On 13 May, 0.6 cubic metres of free concrete was received. A further 0.8 cubic metres was received on Wednesday 31 May with more being received on 17 June and 5 July. These were laid by museum members present on the day. The pours were placed near the side roller door of the top shed. This area is almost complete with only a few square metres left to finish.

David Canini, our local excavating contractor was on site on Saturday 8 and Wednesday 12 July to excavate in the ground floor of the YMCA building for the installation of sewer pipes for the future kiosk / shop to be located there.

Car news

On 6 May some shunting saw 93u, with the top deck of Albion bus 1615 on board, returned from the workshop to the back of road 7 in the display hall. While the space was clear, Geoff Olsen took the opportunity to use the tower wagon to replace a defective light above road 7.

W2 249, which has worn wheels, entered road 10 (the western road in the workshop) and had its bogies disconnected in preparation for a bogie swap with SW2 432, which has good wheels. This had to happen in two stages as we only have one set of jacks and can only lift one tram at a time. The first lift took place on Wednesday 10 May with the body of 249 being lowered back onto a pair of unpowered W2 trucks previously brought down from storage at our northern terminus. SW2 432 then entered road 10 and the jacks and beams were set up. Under normal circumstances the lift and the placement of 249's trucks under 432 would have been completed the same day. Time ran out as the motor lead connections on 432 were badly corroded and 432 could not be moved without dismantling all the jacking gear. As it was too risky to leave 249 outside until Saturday, it was placed at the front of road 12 in the top shed, this being the only covered track space available at short notice. On the Saturday, 432 was lifted and placed on the trucks from 249, reconnected and driven out ready for traffic again.

Melbourne Z2 car 111 then entered road 10 for continuation of the painting being done by Ian Hanson and his assistants. Whilst working outside the workshop extension they had been frequently interrupted by shunting operations. The roof and the 'string' colour around the windows have been completed. The last of three coats of orange below the

windows was applied on 1 July. The bogies and some of the undergear have been painted brown.

Completion of this work will see the car looking close to its original condition. The main differences will be the lack of the conductor's desks originally fitted to the Z class which have been replaced by seating, the retention of the dot matrix destination signs which were originally of the flip-over type, and the retention of the one pane windows in front of the side destination boxes. These were replaced by Bill Parkinson, assisted by two of our CSO workers.

On 8 July the car was moved from the workshop to Road 1 in the running shed for final touch-up work. The move attracted a number of photographers who were interested in the renumbering by Bill Parkinson of the car in the depot yard. The car was photographed numbered 1, then 11 before the final digit was applied.

One task successfully completed is the removal of the graffiti on some of the seats. This was achieved by applying a special solution made to the original Rodeo Tan colour by a Sydney company which used to make it for the MMTB. Ian Hanson visited the company with a sample of the original upholstery and they found they still had the original formula recorded. A batch was made up and tested on the seating in 111. The results proved most satisfactory indeed! Badly ripped or cut seating has been sent to our upholsterer, Anthony Kern for recovering. When completed 111 will have seating for 52 passengers. It is anticipated the car will be back in service in late August.

On 17 May two new cab roofs for ballast motor 42s were received from a joinery works engaged to carry out this work. Geoff Spaulding has subsequently replaced the round head screws with flat heads so the screws will not be visible through the canvas when applied. One of the finger joints broke and Geoff repaired it in a more substantial manner. On 28 June a trial fitting was carried out on the southern cab by our Wednesday work team and they are now working on the final fitting.

Trams After Dark

Our Trams After Dark evening on Saturday 24 June was a huge success with a big attendance and trams running until around 9:30pm. The publicity worked well with articles or mentions in various newspapers, including the *Sydney Morning Herald* and *Daily Telegraph*, and on a number of radio stations. Most trips required two trams working in convoy and it was only late in the evening when a single tram, albeit PCC 1014, could handle the crowd. Full seated loads were still being carried at 8:30pm, our passengers obviously enjoying the experience of riding trams at night. The

Doors are closed and Berlin rekowagen 5133 is ready to depart with a full seated load and David Critchley at the controls on 24 June.

Peter Butler



O 1111 and R 1740 await departure, each with a load of early visitors on 24 June.

Martin Pinches

O car 1111 is ready to depart for the Sutherland end of the line with Adam Greaves as the driver during our Trams After Dark event on 24 June.

Peter Butler



trams operating in convoy were Sydney R 1740 with O 1111, Bendigo Birney 11 with Berlin 5133, and Sydney P 1497 with L/P 154.

The outside kiosk, staffed by our youth group, and the sausage sizzle provided by 1st Engadine Scouts did a brisk business as did the bookshop. The weather was kind to us and the many photographers took advantage of the crisp, crystal clear conditions. The night was totally different from our previous After Dark events as

the large number of people present meant we did not move the flood lights around as on previous occasions. It did provide a greater challenge for the photographers with people milling around the trams all the time.

A photo competition was held on the night but was only advertised on our web site, although all visitors received printed details as they arrived at the museum. Seventeen photos were submitted and the winning entries were from Peter Butler of Ambarvale.

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY

PO Box 94, Ferny Hills, Queensland 4055

www.brisbanetramwaymuseum.org

From Peter Hyde

Recent times have been particularly busy at Ferny Grove in many areas. On the acquisition front, the major event has been the arrival of several glass mercury arc rectifier bulbs from Melbourne as spares for the substation. Victrack and Yarra Trams have been most helpful and supportive in facilitating the removal of these, which have come from several substations including South Yarra, Essendon and Deepdene where they have been replaced by modern equipment. At the time of writing only one set remains in active service in Melbourne at West Brunswick substation. Two of the original delivery crates from the 1940s/50s have been used to transport the bulbs, albeit with a few repairs to the canvas supporting slings which hold the bulbs upside down and clear of the wooden sides.

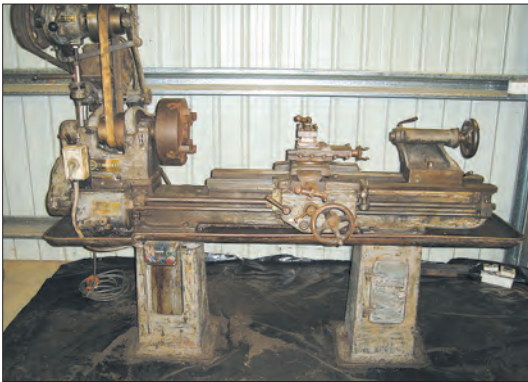
A new second-hand lathe which was originally built in Brisbane and used in the Albion Flour Mill has also been donated to the workshop. The Flour Mill adjacent to Albion railway station is currently being converted into modern units and commercial premises.

On the operations front, visitor numbers are steadily increasing with both Sunday and group visits in 2005/6 up by more than 25% over the previous year. Recent visits by the Buick Car Club and the Model A Ford Club enabled photos of some interesting combinations of old (tram) cars and old cars. The 2006/7 year got off to a flying start with a visit on 1 July by over 230 people from a steam train trip to Ferny Grove arranged by the Queensland Division of the Australian Railway



Dropcentre 341 and ten bench 65 provide a backdrop for a nicely restored vintage Buick.

Peter Hyde



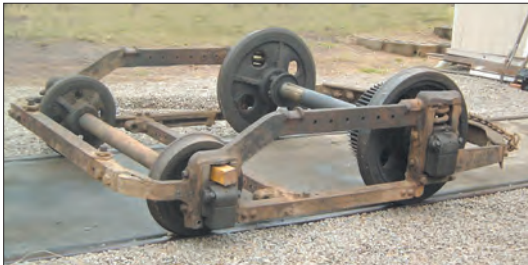
The ex-Albion Flour Mill lathe after its arrival at the museum.
Peter Hyde



A new arrival from Melbourne is this mercury arc rectifier bulb still in its packing case and showing the special sling.
Peter Hyde

On 20 June, the motor from one of Dreadnought 136's Brill 39E trucks was lifted out for overhaul.

Ken Howard



The Brill 39E truck has been stripped ready for cleaning and reassembly.
Ken Howard



Ten bench open car 65 arrives at the terminus while the ARHS members get their barbecue under way in the background.

Ivy Chen



Historical Society. Queensland Omnibus and Coach Society provided transport between the station and the Museum with vintage buses.

In the workshops, steady progress continues to be made on Four Motor class leader 400 where all interior

fittings and linings have now been removed. On Dreadnought 136 one bogie has been dismantled and removal continues of countless layers of paint on the interior.



A view of combination 47 through the window and across the bonnets of vintage Fords.

Ken Howard

GLENREAGH

GLENREAGH MOUNTAIN RAILWAY

PO Box 104, Glenreagh, NSW 2450

www.gmr.org.au

From Greg Wilson

Exciting news at Glenreagh has been the recent arrival of the body of W2 tramcar 447, donated to the Sydney Tramway Museum by the Canberra Tradesmens Union Club, and subsequently donated to Glenreagh Mountain Railway.

The car was unloaded at 9:00am on 18 June, and was placed on a sleeper pigsty to allow access to the underneath of the tram. When 447 was unloaded the opportunity was taken to photograph 392 and 447 together before 447 was covered with tarpaulins until the normal Thursday work day.

Withdrawn in 1979, the car has been completely stripped of everything underneath and so all will need

to be replaced before the tram returns to service. This will be achieved through the use of parts from W2 370, shortly to arrive at Glenreagh. One bogie from the ex Port Kembla cars was sent with 447, making use of space available on the gooseneck of the semitrailer. A second bogie will come with the body of car 370.

On the Thursday morning part of the tarpaulin was lifted to allow a thorough inspection of the interior and underneath of the car. A list is being compiled of all the equipment needed to make 447 an operational tramcar. As well as the body of the car, attention turned to the bogie which accompanied it. We were told that when this bogie left the STM the wheels would not rotate. Part of the problem was that the



The urn for our picnics is set up on the side of the tram's power generator trailer. Greg Wilson

brake gear had been wound on but it was also found to have a seized traction motor.

Since arrival at Glenreagh work has progressed fairly briskly on this car. The carpet in the two saloon ends has been removed along with the tables fitted in Canberra. This revealed the motor hatch covers still in good order and in position. Several of the missing

window glasses have been replaced. The car has been uncovered once since its arrival to allow the fire system and associated pipe work to be removed from the roof area.

One of the biggest jobs we have undertaken is the complete dismantling of the bogie from car 370. This has taken a concentrated effort as most of the bogie has extensive rust, having been exposed to the elements for some time. At present only Russ and Greg are working on the project, but a deadline of the end of the year has been set to have the car returned to the rails and hopefully operating. This will then allow 392 to be removed from service so restoration can commence on the drop centre section of this car.

GMR is a real bush operation! No. 447 is situated not far from the running line, approximately where our tram shed will one day be built. The bogie has been dismantled in front of the car, essentially with the use of a large socket set, hammer and chisel, pair of pliers and an oxy torch to provide heat for stubborn bolts and pins, and a lot of hard work and heavy lifting.

With the aid of our small excavator we were able to remove the traction motors when dismantling the bogie. The seized motor was freed and disassembled ready to be cleaned up and painted. The armature has been removed and the commutator will also be polished. The motor bearings are all in excellent condition. Over the next few weeks it is hoped to have the main parts of the bogie sand blasted and painted ready to start the reassembly process. This will give us our first overhauled bogie to go under 447, the first step in restoration of this car to service.



Finishing off the scones are GMR folk (L to R) Trudy Noakes with Mini (Woof!), Greg Wilson, Ian Phemister, Russ Phemister (conductor), and Alistair McIntire. GMR



Melbourne Z2 car 111 at the Sydney Tramway Museum has been brought out for final touch-up painting and cleaning out of the interior, prior to the refitting of repaired seats. It is accompanied by Sydney R1 car 2001 in RAAF livery.

Martin Pinches



Following its refurbishment by Bendigo Tramways, Victorian Railways car 53 is seen in the Bendigo depot yard, .

Bendigo Tramways