

The Bendigo Tramways

by William F. Scott

'Transporting history into the 21st century'



The centenary celebrations procession of tramcars to the city, commemorating the inauguration of tramway services on the first section of the battery-electric tramway in June 1890. The cars illustrated are 275, 25, 11, 15, 18, 23, 30 and 122. June 1990.

Foreword

Bendigo, almost 100 miles [161 km] north-west of Melbourne, recently celebrated its 'Centenary of Trams 1890-1990', when special events were held nearly every month of the calendar year. On the centenary of the June 1890 first public service, the largest number of tramcars ever seen in Pall Mall, the principal city thoroughfare, occurred with 23 electric cars. In August the depot approach road had its name changed from Arnold Street to Tramways Avenue.

Last year (the 21st anniversary of The Bendigo Trust's tramway services), extensive development of the main terminus occurred at a cost of \$1,000,000.

Origins of Bendigo

The chronicle of Bendigo commenced in 1851 with the discovery of gold and the location was referred to as the Bendigo Diggings. The gold drew prospectors from all the colonies in Australia and overseas. A township developed rapidly. In

1852 a Goldfields Commission was appointed to ensure orderly growth, with the first streets being surveyed and named in 1854.

Gold digging by individuals was soon replaced with gold mining by companies. The gold that they discovered brought great wealth to the township along with permanency and stability not known initially. (However, as the mines became progressively deeper, they were increasingly expensive to work. The industry generally declined after the turn of the century and ceased altogether in 1954.)

The First Tramway

By the 1880s there was talk of establishing a passenger transport service between Sandhurst, as Bendigo was called between 1855 and 1891, and Eaglehawk, a neighbouring borough. In 1887 the respective Councils held their first tramway conference, when horse, cable, battery-electric and overhead wire electric lines were discussed.

Firm proposals for horse and cable systems were made after the rejection of overhead wires on the basis that their visual impact was unacceptable.

None of these proposals was agreed to and battery-electric cars became the preferred choice. In 1888 the Sandhurst and Eaglehawk Electric Tramway Company Ltd was formed. A trial run was made on 10 April 1890 and services commenced on 14 June 1890, offering half-hour headways along part of the route, with eight cars. The first was built by George F. Milnes and Company Ltd of England with Reckenzaun motors. Nos 2 to 8 were from the Brush Electrical Engineering Company Ltd. Another car was constructed locally by the tramway company. In July 1890 a full service commenced on the 41/4 mile [7 km] route from the Sandhurst railway station to Eaglehawk. The depot was in Mollison Street near the station.

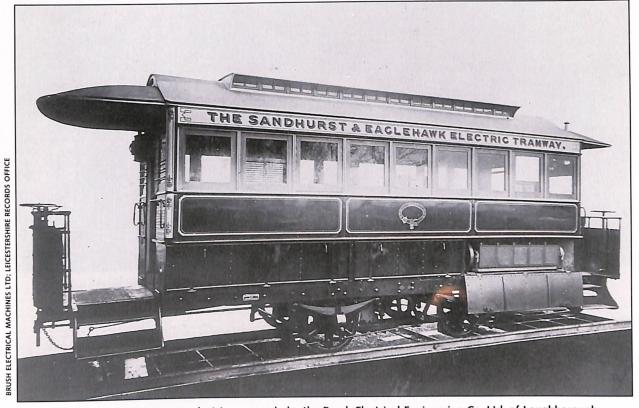
The batteries were found to be of insufficient capacity for the steep

June 1994

hills. They were meant to power the cars for 30 miles [48 km] on each charging, but usually lasted for only one return trip of 8½ miles [14 km]. It was not uncommon for the trams to be hauled to the depot on their return journeys. Latterly, the Com-

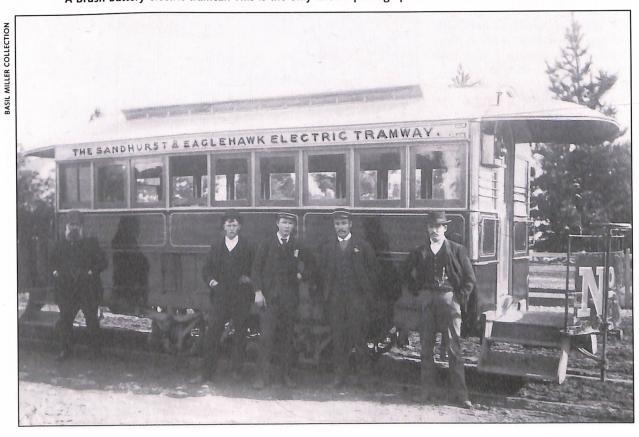
pany constructed the ninth car, which was smaller than the others, in an attempt to provide one that would operate successfully on batteries. It ran well, but could not carry sufficient passengers to cover its operating costs.

The Councils were remarkably forward thinking in selecting electric traction at such an early date. However, an improved electric tramway service had to wait until overhead wire construction was permitted, in order to obtain an

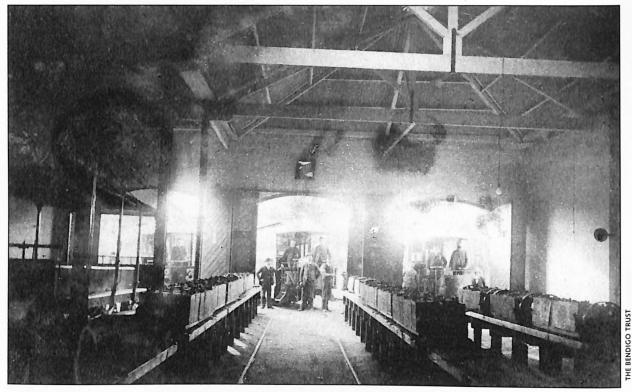


One of the original battery-electric cars made by the Brush Electrical Engineering Co. Ltd, of Loughborough, England, for the Sandhurst and Eaglehawk Electric Tramway Co., which ran from June to September 1890. The car is observed at the manufacturer's plant, the Falcon Engine and Car Works, with a side cover lowered to illustrate how the banks of batteries were positioned.

A Brush battery-electric tramcar. This is the only known photograph of these cars in the street. 1890.



June 1994



Above: The battery-electric tramway depot in Mollison Street near the railway station, illustrating the banks of batteries for the trams, and three cars at the entrance. On the far left is No.3 which survives as the remains of steam tram trailer No.2.

adequate source of power. Even to this day, the conundrum of providing an effective on-board power supply for electric vehicles has yet to be fully resolved.

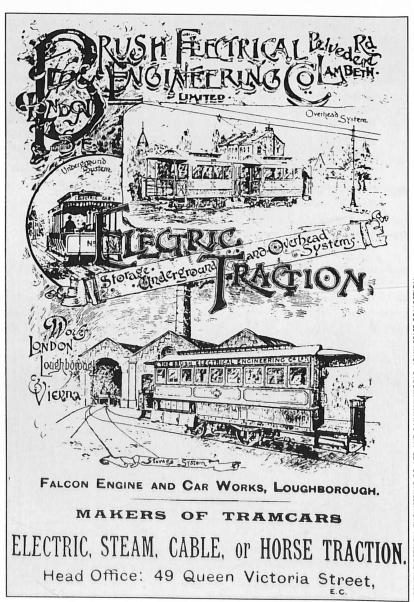
The Company ceased operations in September 1890 and sold its assets to a new enterprise, the Bendigo Tramway Company Ltd.

The Second Tramway

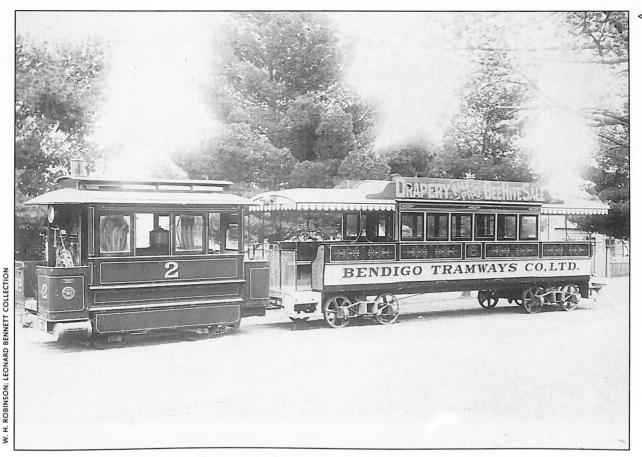
The City of Sandhurst Council was still against overhead wires in their streets, which comprised over half the entire route, so the new company suggested steam traction, which was agreed to. Five steam tram motors, from the Baldwin Locomotive Works, USA, were purchased and the Bendigo Rolling Stock Company converted single truck battery-electric cars to bogie trailers by extending the platforms to accommodate the bogies.

The steam tram service commenced on 1 February 1892 and was popular with the travelling public. Three more and larger steam tram motors were ordered, this time from the Phoenix Foundry at Ballarat. The Bendigo Rolling Stock Company converted additional battery-electric cars to bogie trailers. Subsequently, several additional two axle trailers were placed in service by the Company.

However, the depression of the 1890s affected patronage and the



June 1994 Page 6 BRUSH ELECTRICAL ENGINEERING CO. LTD AND RAILWAY WORLD; JOHN PRICE COLLECTION



Steam tram motor No.2 with trailer No.6. The first steam trailers were former battery-electric cars, converted by extending the underframes and fitting bogies. As the car illustrated has only six side-windows, it must be the former battery car No.1 built by George F. Milnes. Brush cars displayed nine side-windows and the conversions had correspondingly shorter end platforms, though were otherwise similar. Circa 1892.

Two steam tram sets at Charing Cross, the city centre. These trailers, as mentioned above, were former Brush battery cars and numbered 3 and 4 in the steam tram fleet. The Golden Square to Lake Weeroona route had yet to be constructed. 1898.



Left: Brush advertisement from the Railway World journals of 1892 to 1894 in which they describe themselves as makers of tramcars for 'Electric, Steam, Cable or Horse Traction'. However, even by the early dates of this advertisement, all three illustrations refer only to various forms of electric traction. The lower sketch portrays a Sandhurst and Eaglehawk battery-electric car though the operator's name over the side windows has been replaced by that of the manufacturer.

June 1994



Company was unable to meet its commitments of track maintenance and planned extensions, neither did it run at a profit. The tramway was offered for sale but there were no buyers, so the Company kept the service operating to make it more saleable at a later date as a going concern.

The Third Tramway

In 1900 the Electric Supply Company of Victoria Ltd was formed to carry on business in the State of Victoria of electrical engineers as well as producers and suppliers of electricity. They were permitted to operate electric tramcars on the

overhead wire system. The original depot in Mollison Street was considered too small by the new company, so a replacement was erected at the Arnold Street, now Tramways Avenue, and Hargreaves Street intersection.

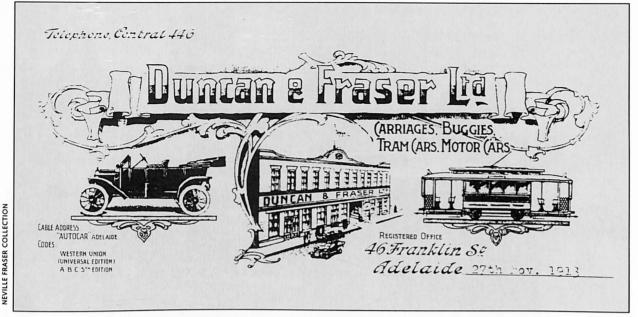
Electric services commenced on 10 April 1903 between Arnold Street

A night view of Charing Cross. Comparison of the car ends indicates the improved lighting arrangements added by the Commission to make the cars more visible after dark and thus reduce accidents. 1971.



June 1994 Page 8

Left: The classic Bendigo scene of four tramcars on layover at Charing Cross, viewed almost from the same position as the steam tram sets 3 and 4 over 70 years previously. The nearest car, No.26, became the last tram in April 1972 and carries the final livery of the Commission. January 1972.



Duncan and Fraser Ltd constructed or converted all the bodies of the Company electric passenger cars and around two-thirds of the Commission trams. This letterhead of the builders indicates that tramcars were not the only products made by them.

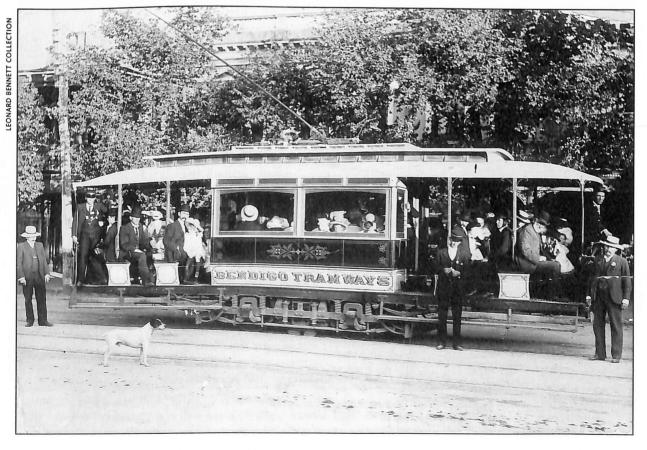
and Charing Cross, the city centre. By the end of that year the system was complete and remained unchanged until the Lake Weeroona to North Bendigo extension was constructed in 1942, to provide a service for the many employees of the Commonwealth Government Ordnance Factory. The fleet comprised 12 new

California combination cars built by Duncan and Fraser Ltd of Adelaide, on Brill 21 E trucks. Four similar cars were reconstructed from steam trailers and five ex-Ballarat horse cars were run as trailers during busy periods, after that system was electrified in 1905. The electric cars had initially towed the former steam

trailers but they were heavier than the horse cars. In 1913 two new crossbench cars were supplied by Duncan and Fraser Ltd on Brush trucks and given the fleet numbers 17 and 18.

Even the electric system was not making profits, so six of the California combination cars were

One of the first 12 Company cars of 1903 performing a test run on the Golden Square route, two days before the official opening of 10 April 1903.



June 1994



One of the original electric cars outside the Eaglehawk Town Hall early this century. Notice the drawn curtains, a welcome feature in a place where summer temperatures can peak at 43°C with a typical maximum of 30°C.

converted to one man operation, commencing in 1913, for running the Lake Weeroona to Golden Square route. The power supply business was profitable and subsidised the tramways.

The Victorian State Government Takes Over

In 1919 the Government of Victoria established the Electricity Commissioners and in 1921 this organisation became the State Electricity Commission of Victoria, charged with the task of providing a statewide electricity supply and distribution system. The Commission assumed control of privately owned electricity



Car 23, after painting by The Bendigo Trust in the Commission's immediate post-war livery. This was the first double truck electric car to enter service in Bendigo, in 1945. The tram is about to enter Tramways Avenue from the direction of North Bendigo.



Car 23 outside the Eaglehawk Town Hall, over 60 years after the Company electric car was photographed at the same location.

generating enterprises, including those of the Electric Supply Company of Victoria. However, this company also owned the Bendigo tramways for which it had a 30 year franchise and the Commission had no powers to operate tramways.

The Company also owned the power generating enterprise at Ballarat, south-west of Bendigo, and the Ballarat tramways. A similar arrangement existed at Geelong, some 45 miles [72 km] south-west of Melbourne, where the Melbourne Electric Supply Company Ltd functioned. These three cities had the only provincial tramways in Victoria and all were taken over by the Commission, together with the associated power supply pursuits.

In 1929, enabling legislation was passed which included protection from motorbus competition and the Commission ran the Bendigo tramways from July 1934, though held a supervisory role from 1931.

By 1934 the tramways were 30 years old and generally in poor condition. The Commission was unable to find another operator in those depression years, so a comprehensive programme of rehabilitation was put into effect, though rolling stock replacement commenced in 1930 with the acquisition of second-hand single truck tramcars from Melbourne. After World War 2 the fleet became augmented with

double truck cars, also from Melbourne, as well as all six Birney cars from Geelong, two of which had been purchased new by Geelong from the USA and four obtained second-hand from Adelaide.

When the Geelong tramways closed in 1956, additional cars were transferred to Bendigo. In 1960 an exchange of cars took place, not involving the Birneys, between Bendigo and Ballarat.

With increasing motor traffic in the 1950s there were more road accidents involving the tramcars. Thereafter, the Commission began a programme of progressively illuminating the trams so that by the 1960s the car ends had three rows of zebra stripes in green and yellow, the upper half of the dashes painted white and brightened with lighting additional to the single headlamps.

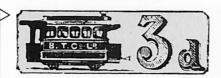
Also by the 1960s the system had become a financial embarrassment to the Commission. Applications for closure had occurred in the early and late 1960s, but another attempt in September 1970 was successful and services ceased on 16 April 1972.

As a result of the Commission being an unwilling owner there was no reinvestment in new trams, only the second-hand ones from Melbourne, Geelong and Ballarat, which cars otherwise faced scrapping. This explains why the fleet, essentially, consists of tramcars dating back to the general period of World War 1. The announcement to close was therefore made against a tramway time capsule.

The Bendigo Trust Steps In

During the last few months of the Commission's services, many groups visited Bendigo and hired trams. This level of activity caused the residents to realise that they were about to lose a major attraction. A conservation group, The Bendigo Trust, had been formed in 1970 and in August 1971 submitted a plan to the Bendigo City Council for retaining that section of the tramway system between two tourist locations then being renovated, the Central Deborah Gold Mine, by The Bendigo Trust and the Chinese Joss House, by the National Trust of Australia. Both buildings were on the Golden Square to North Bendigo route, which had other points of historic interest along the way. The Trust met opposition from the Country Roads Board and the Commission, so it sent a deputation to the State Government in February 1972. The Government, seemingly not unmindful that Bendigo was a marginal parliamentary seat, directed that no part of the tramway requested by the Trust be dismantled after closure, pending an inquiry. The Enquiry Committee reported their findings to the Victorian Minister for Local Govern-

June 1994



A ticket from the steam tram era. They were printed in strips of 12. A bank was cleaning out its vaults when some bundles of ticket strips were found, around 70 years after the steam trams ceased running.

Basil Miller Collection

ment in favour of a tourist tramway concept.

In September 1972 the State Government announced that The Bendigo Trust would be allowed to operate between the Central Deborah Gold Mine and the Joss House for a trial period to Easter 1974, during which time the car fleet was to remain in Bendigo. Government funds were made available to prepare four cars for the tourist service. A curve was laid from High Street into Violet Street generally south of the Myrtle Street loop and the North Bendigo terminus was resurfaced.

In October 1972 members of the Australian Electric Transport Museum, at St Kilda near Adelaide, arrived in Bendigo with a letter dated well before the closure of the system from the Victorian Minister for Fuel and Power, authorising them to remove Birney car 29, but were prevented by Trust members. This was one of the cars which had originally run in Adelaide. The incident was referred to as an attempted hijack and made headlines throughout Australia. Its value

as free publicity was enormous and came at a most opportune time as a promotion for the Trust.

The Trust's preserved line of 21/2 miles [4 km] was formally opened by the Premier of Victoria on 9 December 1972 as the Bendigo Tourist Tramway, at first on weekends and public holidays only, though subsequently became a regular feature. The initial running fleet comprised cars 19, 25, 30 and afterwards, car 28, the last two being Birneys. Each was fitted with a cassette tape system for playing a commentary describing places of interest when being driven past. For this reason they are referred to as 'talking' trams.

The Bendigo Trust Takes Over

By the end of the trial period, Easter 1974, the line had carried 50,000 passengers. In May 1974 the State Government declared that the tramway could continue indefinitely and all cars still on the roster were to remain in Bendigo provided that the tourist line operated. Thus the Government rescinded a prior

arrangement whereby Birney car 29 could be collected from the depot by the Adelaide preservationists for their museum. The impasse was resolved by retrieving from Maryborough the body of Birney car 27 which had been disposed of in 1958 after an accident, though the truck was still in the depot. The Trust restored the car with a grant from the Victorian Government as Municipal Tramways Trust, Adelaide, G class car 303 and handed over at Bendigo to the Australian Electric Transport Museum in July 1976. Subsequently, Birney 29 was refurbished as Municipal Tramways Trust G class 302 for operation in Bendigo.

The track cleaning car, originally No. 17, a Brush trucked car, was returned in 1976 to its pre-1953 form as a crossbench car. Being open sided, it is popular with passengers and runs often throughout summer.

Car 26, the last one to Eaglehawk which thus closed the tramways, had been placed on public display at Eaglehawk though was recovered by the Trust in 1977, and restored in its final Commission livery as part of the regular operating fleet.

The next major restoration after the crossbench car was the second No. 17, which reverted to its original form as Prahran and Malvern Tramways Trust car 44 and reentered service in 1981.

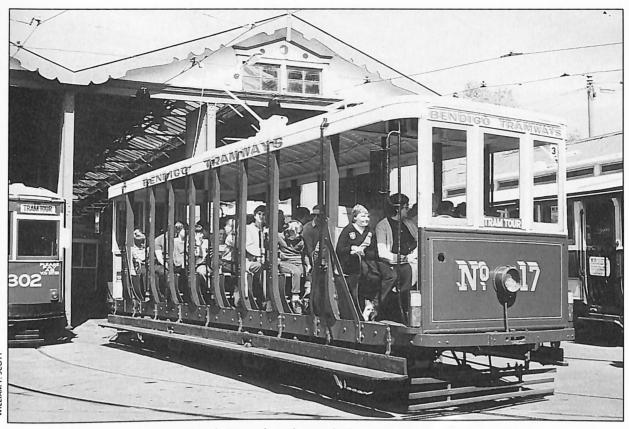
In the early years of the Trust, more grants were available for funding car restoration than presently. In 1980 the Trust commenced another major conversion. This time a drop end and centre double truck tram was to be rebuilt as an all round vision car like a Birney. No. 18 was selected for this purpose and first ran in service in its new form in 1983. The conversion made an ideal car for large groups, thereby providing a significant contribution to the economic viability of the tramway.

Car 18 was the last car to date to be rebuilt in a form different from the latter period of Commission running, though others have been restored without modifications to their body structures. Birney 11 has reappeared in its former Geelong tramways Commission colour scheme. Birney car 15 now carries



Tram 28, a Birney safety car, displaying signs celebrating the 75th anniversary of tramways in Bendigo, from the battery-electric services of 1890 to the Commission's of 1965. Five of the six Birney cars which ran for the Commission are still in service in Bendigo — Nos 11, 15, 28, 302 (ex-29) and 30.

June 1994 Page 12



Brush trucked crossbench car 17, of 1913 — the only tram built new for Bendigo still in service. The car ran as a track cleaner with a 1020 gallon [4637 litre] horizontal, cylindrical water tank in place of the seats (from 1953) and was converted to its original form by the Trust in 1976. There were two crossbench cars, both with Brush trucks. The other car, No.18, was withdrawn in 1948.

the striking bright red livery of the Melbourne Electric Supply Company Ltd, operators of the Geelong tramway system until taken over by the Commission in 1930.

One of the original 1903 cars, No. 7, has been discovered locally at a private address in restorable condition and it is planned to renovate the car to ply the thoroughfares again.

Another finding was steam tram trailer No. 2, which commenced life as Brush battery-electric car No. 3. For some years it had been towed behind a tractor as a mobile home by share farmers in an area 30 miles [48 km] north-east of Bendigo, finally coming to rest under trees on a farm. Unfortunately, before retrieval for preservation a tree fell on it. This steam trailer includes the now crushed saloon of the only batteryelectric car known to have survived. It is planned to reconstruct the car to its original form when funding can be secured.

With some of the fleet placed on display in the depot, there was insufficient space for all the cars and maintenance areas. In February 1989 a three road, nine car storage depot was commissioned in the former gasworks, with the entrance at the Weeroona Avenue and Caledonia Street intersection, though the depot

track fan is not yet wired. There is the added feature that now not all cars are in one depot, thus reducing the risk of a total car loss in the event of fire.

The permanent way needed replacements. The first section to be relaid was in High Street between Charing Cross and Violet Street during 1975, being set in mass



Car 30 at the Central Deborah Gold Mine in readiness for the visit of HRH Prince of Wales, before the double track terminus was laid. In December 1972 this car inaugurated the Trust's operations. 26.10.74.

June 1994



Tramcar 21 displayed on the Trust's depot track fan, when it carried the first Commission livery of 1935.

This car was illuminated for the coronation of King George VI in 1937.

concrete using second-hand rails. In 1976 the double track traversing Charing Cross was relaid as a single track with the pointwork relocated in Pall Mall, thus improving the flow of motor traffic at Charing Cross.

The next extensive track renewal, commencing in 1983, took place in McCrae and Napier Streets, undertaken by the Country Roads Board in mass concrete between the north-eastern end of Pall Mall and Nolan Street, with singling of the double track section, though a loop near Arnold Street, now Tramways Avenue, was installed. The special work connecting the depot access track to the main line was also relaid. The works provided a four lane highway for motor vehicles with the tramcars running between the two sets of lanes for each direction without conflicting with other traffic.

The Bendigo Trust Digs In

In the mid 1980s the Trust realised that it could not continue to operate

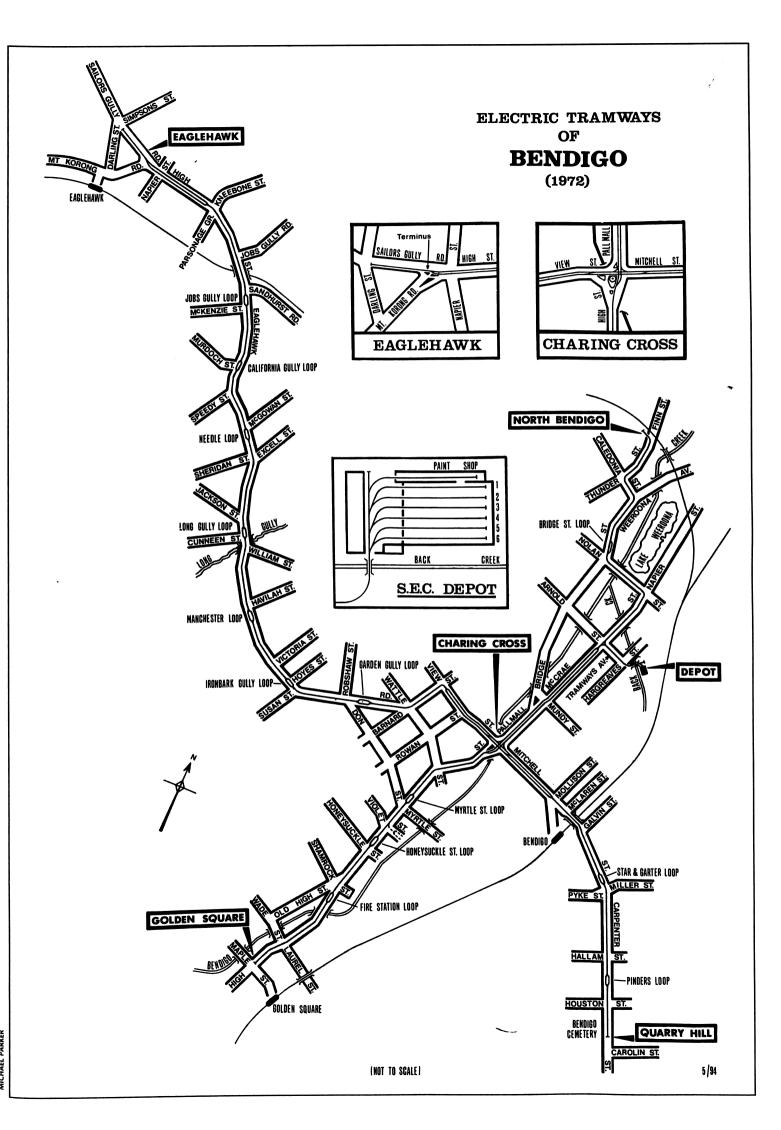
continually at present levels and increase them while providing only tramcars which predominantly dated back to the First World War period, without enormous sums being spent on progressive total rebuilding of the fleet. In the current financial climate, such sums are not available.

The Trust therefore had an about face, in that additional cars which never ran for the Commission and are of more robust construction were acquired, in the form of five W 2 class cars from Melbourne. These cars could be added to the operating fleet at small cost compared to restoration of the ex-Commission ones. The most significant car to thus enter service was No. 275 which had been rebuilt by the former Melbourne and Metropolitan Tramways Board, now the Public Transport Corporation, from W2 to SW2 style in 1955 following accident damage. When the external sliding doors were installed, the open centre section was thereby enclosed, and the internal saloon sliding doors removed. This car then gave Bendigo a second double truck car, along with No. 18, having one saloon suitable for large groups and it entered service in April 1989.

During 1991 a reciprocal loan agreement was entered into with the Public Transport Corporation whereby Bendigo car 138, a former Melbourne tramcar, became exchanged for Melbourne SW 5 car 808. The arrangement gave Melbourne an early type of tram for their heritage fleet, and Bendigo a third saloon car appropriate for large groups and as a winter car.

Three W class cars now carry the Trust's livery and are part of the regular fleet. One is in 'pop art' colours from the sesquicentenary of Melbourne. They share the traffic with the ex-Commission trams and thereby ease the load on the vintage

Right: The Bendigo tramways at their maximum extent before closure in 1972. The battery and steam tramways ran from the railway station to Eaglehawk. The Electric Supply Company operated from Cemetery (Quarry Hill) to Eaglehawk and from Golden Square to Lake Weeroona. The Commission's services were likewise until 1942 when they were extended to North Bendigo. The Bendigo Trust's line runs from the Central Deborah Gold Mine in Violet Street, off the former Golden Square route, to North Bendigo via the depot in Tramways Avenue.



Railway **Enthusiast**

Australian \triangleright cars. The remaining two W class cars will be restored when finances permit.

> The most recent substantial development took place in 1993, the 21st anniversary of The Bendigo Trust's tramway services. A large shelter was erected spanning both tracks of the main terminus at

the Central Deborah Gold Mine together with an associated two storey building to provide improved facilities for passengers and staff. The cost was met from local fund raising and a Commonwealth Government grant.

With the commissioning of W class tramcars, the tram shelter and adjacent building, The Bendigo Trust has announced that it is committed to its maxim of 'Transporting history into the 21st century'.

For further information about the Trust, enquiries can be made by contacting the Executive Officer, The Bendigo Trust, P.O. Box 333, Bendigo 3550, Australia.

Summary of The Bendigo Trust's Fleet

All cars other than steam tram trailer No. 2, Company electric cars 7 (first) and 17 and the Birney cars, originally ran in Melbourne for one of the tramway trusts which preceded the Melbourne and Metropolitan Tramways Board (predecessors of the Public Transport Corporation) or the Board itself.

Car No.	First Operator	Date in Service	Туре	Date to Bendigo	Comments
2	ВТС	1892	Double truck	1892	Steam tram trailer. To be reconstructed to original form as battery-electric car No.3 of 1890.
2	HTT	1916	Double truck	1956	Ex Geelong No.34. To be restored as HTT No.20.
122 (ex-3)	HTT	1916	Double truck	1956	Ex Geelong No.32. Restored as MMTB No.122.
4	HTT	1916	Double truck	1956	Ex Geelong No.33. To be restored as Geelong No.33.
5	PMTT	1913	Double truck	1956	Ex Geelong No.36. Will retain the final State Electrici Commission of Victoria's livery.
6	HTT	1916	Single truck	1960	Ex Ballarat No.25. To be restored as MMTB No.110.
7 (first)	ESCV	1903	Single truck	1903	To be reconstructed at a future date.
7	PMTT	1915	Single truck	1960	Ex Ballarat No.19. Restored to 1960s SECV livery.
11	MESC	1924	Single truck	1949	Ex Geelong No.14. Restored to Geelong SECV livery.
12	HTT	1916	Single truck	1930	To be reconstructed to its original form as HTT No.1.
15	MESC	1924	Single truck	1948	Ex Geelong No.15. Restored to MESC livery.
16	PMTT	1917	Single truck	1931	To be restored as PMTT No.84.
17	ESCV	1913	Single truck	1913	Converted to track cleaner in 1953. Reconstructed to former crossbench style in 1975. In BT livery.
44 (ex-17)	PMTT	1914	Double truck	1951	The second No.17. Reconstructed to former style as PMTT No.44.
18	PMTT	1914	Double truck	1951	Converted from original form as a drop centre car in a saloon car. In BT livery.
19	ММТВ	1920	Single truck	1935	Reconstructed to original form as a California combination car. In BT livery.
20	MMTB	1920	Single truck	1935	To be restored to final SECV livery.
21	MMTB	1920	Single truck	1935	Initially restored to first SECV livery of 1935. Current carries French grey with blue trim and white roof colour scheme.
23	HTT	1916	Double truck	1945	Restored to 1945 SECV livery. First double truck electric tramcar in Bendigo.
138 (ex-24)	НТТ	1918	Double truck	1945	On loan to the Public Transport Corporation, Melbourne, in exchange for SW 5 808.
25	HTT	1917	Double truck	1947	One of the first 'talking' trams. In BT livery.
26	HTT	1917	Double truck	1947	Last car to run for SECV in April 1972. Restored to final SECV livery.
28	MTT	1925	Single truck	1947	Ex Geelong No.28. In BT livery.
302 (ex-29)	MTT	1925	Single truck	1947	Ex Geelong No.29. Restored to MTT livery.
30	MTT	1925	Single truck	1947	Ex Geelong No.30. In BT livery.
275	ММТВ	1925	Double truck	1988	Converted from original form as a drop centre combination car to drop centre saloon by MMTB in 1955. In BT livery.
421	ММТВ	1927	Double truck	1985	To be reconstructed to MMTB W1 style at a future date.
441	ММТВ	1927	Double truck	1988	Retains livery for sesquicentenary of Melbourne.
456	MMTB	1928	Double truck	1988	To retain the MMTB livery.
470	MMTB	1928	Double truck	1988	In BT livery.
808	MMTB	1937	Double truck	1991	On loan from the PTC in exchange for 138 (ex-No.24) In BT livery.

BTC - Bendigo Tramways Co. Ltd HTT - Hawthorn Tramways Trust PMTT - Prahran and Malvern Tramways Trust