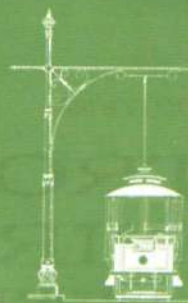


TROLLEY WIRE



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ARE TRAMWAY MUSEUMS RESTORING TRAMS ?

TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

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FRONT COVER

Nagasaki 1054 running a trial on the main line at Loftus prior to the temporary replacement of the pantograph with a trolley pole. This view is taken from the rear; the driver's mirror is in the folded position.

R.I. MERCHANT

BACK PAGE

Top: Bendigo 21 bound for Footscray on 14 March 1993. The car's visit to Melbourne was arranged by the Footscray City Council.

R.J. MARSH

Bottom: Evening peak at Swanston Walk and Flinders Street, Melbourne, on 8 December 1992. Only W class trams are visible as SW6 class 926 (left), 949 and SW5 class 807 head south and SW6 class 896 leads the lineup northwards into the city.

M. STUKELY



The crew of Bendigo (Footscray) 21 pose with their charge at Footscray on 14 March 1993.

RAY MARSH

ARE TRAMWAY MUSEUMS RESTORING TRAMS

By Warren Doubleday*

without the introduction of new material'²

Introduction

This paper was initially prompted by a photo caption and news item in the May 1992 issue of *Trolley Wire*, that said 'Car 1040, Melbourne's last W7 to be built, has joined the heritage fleet and is in process of being magnificently restored to original condition at Preston Workshops.' Restored in original condition?; the tram still has the marker lights that were fitted in the early '70s, but missing the resilient wheels in its trucks, and no doubt a few other items, which the experts could tell of. Am I being pedantic? Yes I am, but is the statement 'restored to original condition' correct? Well...No, but repainted into the original colour scheme would be. The photo caption on page 23 of the August 1992 issue of *Trolley Wire*, showing SW6 class 900 and saying 'Car 900 has joined 1040 in being painted in the 1950s green and cream livery' would be correct.

Often railway or tramway groups along with their associated publications confuse the terminology and do things that are against basic conservation principles or practices without realising it. The purpose of this paper is to examine:-

- * the definitions that professional conservators use
- * conservation plans
- * whether non-authentic colour schemes etc., are advisable in a museum context.

While we may have made errors in our past, we should not persist in them, but learn so as we do not repeat them. This certainly is the case for myself.

What is restoration?

The Burra Charter¹ defines restoration as:-

'...returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components

If this definition was used, and it is typical of most museum conservation doctrines then what we call restoration would not fit this definition. The work we do, would come under the classification of reconstruction:-

'...returning a place as nearly as possible to a known earlier state and is distinguished by the introduction of materials (new or old) into the fabric. This is not to be confused with either recreation or conjectural reconstruction...'³

And Preservation?

'...maintaining the fabric of a place in its existing state and retarding deterioration.'⁴

Sharon Towers, the Director, Victorian Centre for the Conservation of Cultural Material Inc. defines restoration as:-

'...for most professional conservators, is either the cosmetic process to assist our viewing of an object, or a process necessary to present a particular period in an object's life.'⁵

Towers warns that to do this work, may require the removal of original elements, and once removed they are lost forever. Restoration is a final act in its actions, and is thereby considered to be 'heavy interference.' In conclusion the author says:-

'Restoration is considered an interpretive and aesthetic tool rather than a preservation activity. It is not my intention, however, to imply that restoration is not a valid activity; although I believe it requires significant consideration before it is enacted.'⁶

These definitions have been written for the conservation of places of cultural significance. Are

* Warren is the Engineering Manager for the Ballarat Tramway Preservation Society. Opinions expressed in this paper are his, and not necessarily those of the BTPS.

they applicable to trams or other historic vehicles? Yes they are, with some minor extensions of definition of a place, to include equipment, machinery or other moveable engineering objects. It provides a structural framework for conservation practices that is understood by professional practitioners around the world.

My meaning of 'restoration' in a tramway sense is the act of bringing a vehicle back to service that would include reconstruction or maintenance of elements in order to achieve safe serviceable condition. By doing this, we are preserving the spirit of essence of the vehicle. An excellent example in another field would be 3801; the spirit of the locomotive was preserved, through its restoration back to a serviceable condition, by an extensive reconstruction of the firebox, tender, etc.

For the Ballarat Tramway Preservation Society, the museum for which I am most familiar, the work done on No. 26 and horse tram No. 1 would not fit the strict definition of restoration, but that of reconstruction. Tram No. 26 was reconstructed to an earlier state and No. 1 tends towards to virtually recreation status, given the small amount of original

material that survived or was able to be re-used.

Does all this matter anyway? I think it does, for we must understand what definitions professional conservators use, and if we call ourselves museums, be attuned to the principles of conservation practice. What we call restoration may not be acceptable as such by others.

Conservation

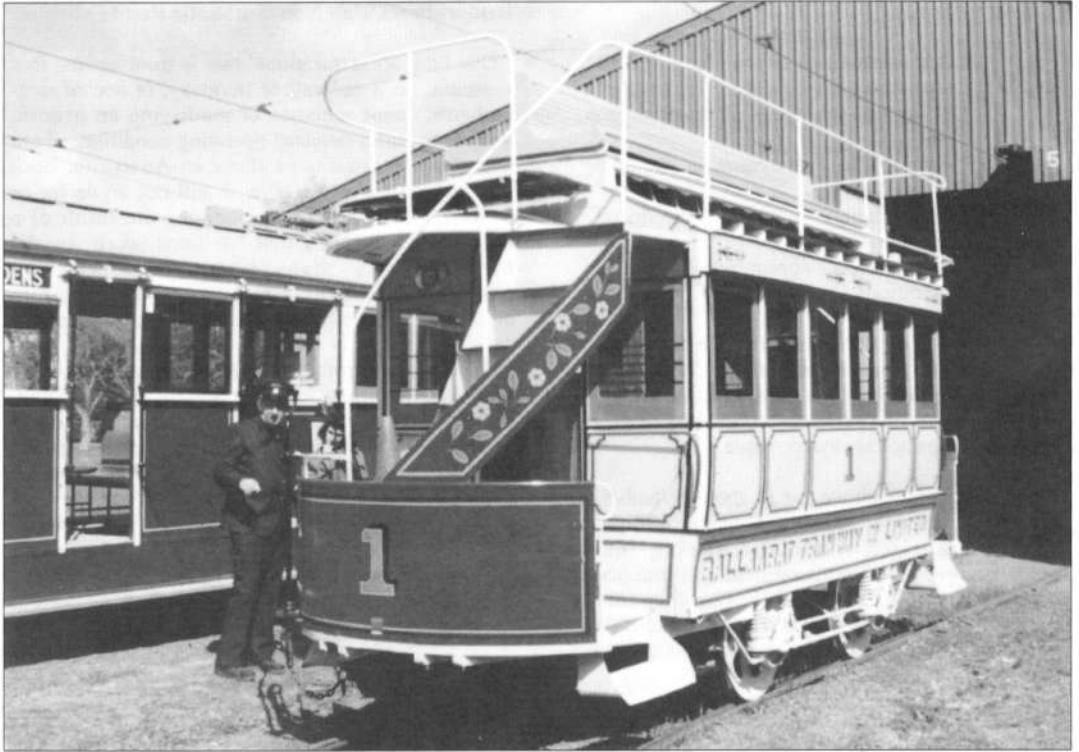
'...all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstance include preservation, restoration, reconstruction and adaptation and will be commonly a combination of more than one of these.'⁷

In tramway museums the principal aim is generally to conserve the memory of electric street tramways that served our cities for many years. They formed an important part of the cultural development of many of our cities and are therefore significant in appreciating the past. Generally most, if not all COTMA museums have recognised this, though often expressed in different ways.



Looking more like a shed than a horse tram, No. 1 leaves its resting place on a trailer in November 1985. Had this body been 'restored', all the BTPS would have done was remove the roof, the sheets covering the windows and other non-horse tram days material.

J. LEVISTON



The almost completed product. Photographed in September 1992, the advertising boards, tow bars and the destination boards are yet to be fitted.

CAROLYN DEAN

One document that is most helpful in understanding what we are doing is the Institution of Engineers Australia *Engineering Heritage and Conservation Guidelines*. This 20 page booklet features locomotive 3801 on the front cover, to epitomise the problems of conserving a moving engineering heritage object. They have taken the Burra Charter and extended it to cover machinery, equipment, systems, processes and functions. It also includes documents relating to engineering activities.

The Guidelines recommend that before commencing any work on a historic object or place, a conservation plan should be prepared. Such a plan is not necessarily an onerous document that leads to excessive controls, but one that establishes whether or not there is a need for controls. Central to the plan is a statement of cultural significance, this forms the key to all future work. The statement sets out to answer the question of why the object is significant. Now the tram museums have prepared such a statement in a manner for their trams, though not necessarily a formal written conservation plan for their 'restorations'.

From the statement of significance, policies can be developed for the conservation work to be undertaken including such things as:-

- * Identify constraints and requirements to retain significance
- * assessment of the physical and structural condition
- * resources available, and user requirements
- * recommendations for conservation of the object
- * recommendations for implementation of the plan.⁹

In a paper presented to the 1991 Railway Heritage Conference in Sydney, Roger Parris of the Powerhouse Museum outlined some of the standard procedures that conservators employ, or should employ, but that are not always followed outside of professional museums.¹⁰

These are:-

- * Documentation - of the object and all procedures employed
- * Retention - storage of all original parts removed
- * Reversibility - all treatments should be reversible
- * Identification - of all parts introduced either new or old
- * Environment - appropriate storage conditions.

Now whether all these are possible for tramway museums to carry out is questionable. The goal is to return the vehicle to an operable condition, but given the lack of resources, both physical and financial, this is not always possible.

Conservation is what we are all about. Whether we are carrying this out to the best of our abilities is unknown, but we should be aiming for it. Understanding both the theoretical and practicable aspects will help us in our work. Carrying out our work to professional standards will lift the acceptance of our work in the professional and general community.

Restoration Using Non-Authentic Paint Schemes

One area of 'restorations' that is troublesome to a museum, be it railway or tramway, is one of non-authentic paint schemes or modifying an historic vehicle to suit a required operating condition. There are many examples of these in Australia, both railway and tramway. Now, I will not argue for or against these, they are sometimes the result of a commercial decision that has been taken by the organisation's management. However, an examination of their relevancy in a museum environment is useful to understand the problem.

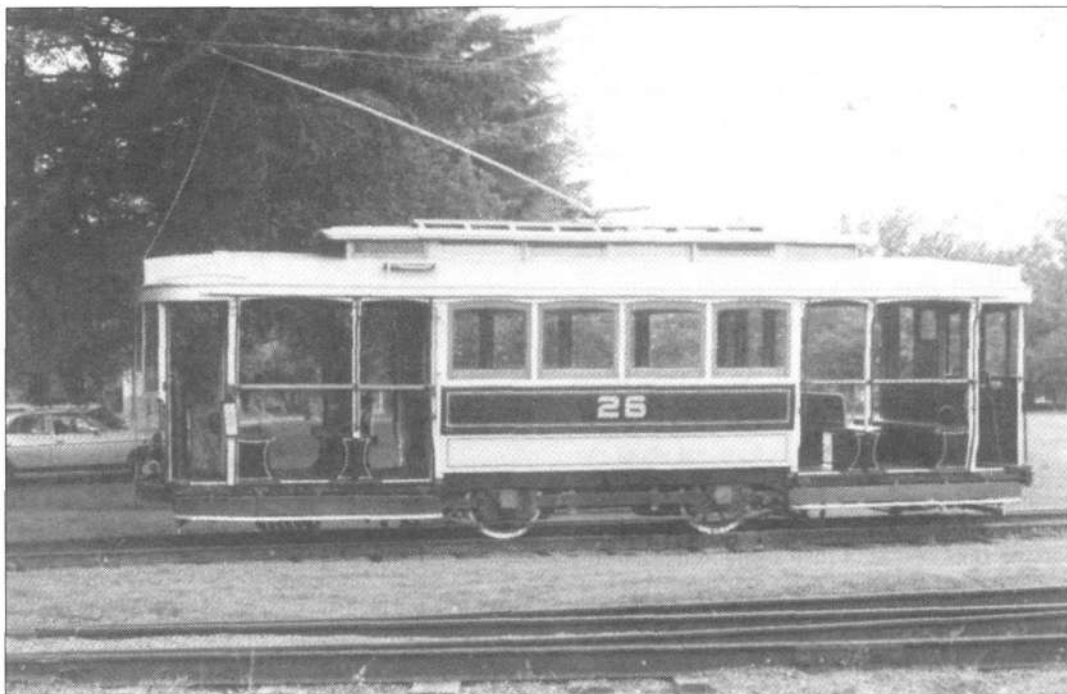
Having been modified in one way or another, are they the 'real thing'? If they are not the real thing, are we then imparting the wrong message to the visitor, and misinterpreting how these vehicles looked and operated? Again does it matter? For example we may have several examples of the 'real thing' and the one we modified was just another duplicate anyway!



Single trucker No. 26 which began its life as a California combination tramcar in Melbourne in 1916, photographed in 1976 before the Society reconstructed it back to its previous style.

BILL KINGSLEY

<None>



No. 26 after reconstruction back to the style of the California combination car and repainted in the colours of the Electric Supply Co. of Victoria.

CAROLYN DEAN

In an essay recently published that examined the use of replicas or reproductions of the real thing by museums in order to protect the 'real thing', the author said:

'Our real things are important not for their 'thingness', but for the information and meaning they provide. For this reason, replicas and reproductions are useful adjunct to the real thing.'¹¹

The words 'information and the meaning they provide' is the fundamental portion of the quotation relevant to this paper. If, for example, I took a Melbourne W2 and modified it to one having a single central entrance and continued to call it a Melbourne W2, then I would be imparting the wrong information to the visitor. Another example would be repainting, say, a Brisbane tramcar in, say, Melbourne colours, but continuing to call it a Brisbane tram. A visitor who went to the Brisbane Tramway Museum Society's museum would then be confused. If I used ex-Melbourne electrical equipment and bogies to restore a bogie tram back

to operation, then I believe, we are imparting more meaning to the tram. This is a superior state to having a body beautifully done up and sitting on stands unable to go anywhere. However, the museum should state where it obtained its equipment from and why.

One of the purposes of a museum is to provide material evidence of something that existed.¹² When we provide the wrong information, then we are not being responsible to Society. If a 'museum' must alter physically the appearance of a tramcar in order for it to operate, then it should be truthful in its description of that object. Such a physical alteration of a tramcar body recovered from the 'chicken coop' situation would not even be a reconstruction, taking the Burra definition, let alone be what most of us call a restoration.

Conclusions

Are tram museums restoring tramcars and then telling the visitor the truth about them? It all depends on the definitions and the honesty we

convey to our visitors through the story we tell them, or don't tell them. In Ballarat we say that we reconstructed the horse tram using a few original but not many components. We would be untruthful if we said it was the real thing of 1887, most of it is circa 1990!

The preparation of conservation plans for our vehicles will increase the understanding of their cultural significance to ourselves and thus the visitor. It should enable a better job to be done on the conservation work itself with all participants understanding why certain things are being done in a particular manner. I would recommend that COTMA museums adopt the IE Aust. Conservation and Heritage guidelines as a policy document.

If we are to appear to be professional about our works, we must know and understand the definitions and practices of the professionals. With this, our 'museums' will be recognised as such. As part of this, we should present our exhibits truthfully and not fancifully as something that may have existed. Otherwise we are likely to convey the wrong information about the object and not fulfil our responsibilities.

References

1. *The Burra Charter* prepared and adopted by the Australian Committee of the International Council on Monuments and Sites, for the Conservation of Places of Cultural Significance. It is generally accepted by heritage authorities and professional conservation practitioners in Australia as the methodological basis for identifying and managing heritage places and objects. The Institution of Engineers Australia has adopted it as basis for the conservation of engineering works with minor amendments to cover engineering objects.
2. *Ibid.*, Article 1.7.
3. *Ibid.*, Article 1.8.
4. *Ibid.*, Article 1.6.
5. Towers, S., *Museum News*, Museums Association of Australia Inc. Victorian Branch, June 1992, p.5.
6. *Ibid.*, p.6.
7. *The Burra Charter*, Article 1.4.
8. Institution of Engineers Australia, *Engineering Heritage and Conservation Guidelines*, Canberra, 1992, p.5.
9. *Ibid.*, p.11
10. Parris, R., *Museum Conservation and Heavy Engineering*, Australia ICOMOS inc., Railway Heritage Conference Papers, Sydney, October 1991.
11. Wels, B., *Uneasy Rivals or Logical Accomplices, Museums' Use of Reproductions, Replicas and the Real Thing*, MAA Vic Branch, Op Cit., P.9 of supplement.
12. *Ibid.*, p.5.



The Society's next reconstruction project is Electric Supply Co. No. 12. Photographed emerging from an old house in December 1990, is the body of the tram which started its life as a Sydney cable tram trailer in 1892, and rebuilt to an electric tram in 1905. The Society aims to 'restore' the tram back to a serviceable condition in about 5 - 7 years time.

CAROLYN DEAN

PARKLINK - ACROSS HIGHWAY ONE

By Greg Sutherland

On Saturday, 1 May 1993, a milestone in Sydney's tramway history will be achieved when Transport Minister Bruce Baird officially opens the Sydney Tramway Museum's line to the Royal National Park and the Parklink service of the Sutherland Tourist Tramway commences operation.

The Sydney Tramway Museum has long been interested in operating over what was the New South Wales Railways' Royal National Park branch line. Following the Museum's relocation from the former National Park location at Rawson Avenue to the present Loftus site, changes in the Museum's priorities occurred but the National Park line was not forgotten. Indeed, the current developments represent the culmination of considerable Museum activity on many fronts.

The first major step occurred when reports relating to the rebuilding of the Princes Highway, the possible closure of the railway level crossing and the discontinuation of the branch line service began to circulate in late 1990. The Minister for Transport issued a press release advising that local MP Allan Andrews would be closely involved in the consideration of the road safety and public transport aspects of any changes.

The Museum approached Mr Andrews concerning the future of passenger rail services to the Royal National Park and Allan convened a meeting of interested parties at Sutherland Shire Council Chambers on 2 November 1990. The meeting was attended by representatives of the State Rail Authority, including CityRail's Illawarra line General Manager, National Parks & Wildlife Service, Roads & Traffic Authority, Sutherland Chamber of Commerce, the Member for Hughes in whose electorate the line falls, Sutherland Shire Council, South Trans Bus Company, the Tourism Commission and the Department of Transport.

Museum representatives outlined the approach they were proposing in the light of the Minister for Transport's announcement of a review of the National Park rail service by the State Rail Authority. The outline involved a general description of the written proposal that the Museum would be making to the Minister.

Wide ranging discussion ensued and a number of those present suggested amendments and/or variations in the content of the Museum's proposed correspondence. The Museum agreed to incorporate these suggestions and forward copies of the correspondence to the concerned parties.

The State Rail representatives undertook to ensure that no changes or action would be taken by the Authority prior to a decision on the Museum's proposal by the Minister. The Museum then formally wrote to the Minister on 19 November 1990.

A period of intense activity by museum supporters, including Chris Downy, MP and local shire councillor, then followed, and strong evidence of local media and community support for the Museum's proposal that trams take over the operation of the branch line was produced.

With technical support provided by Melbourne track experts, the Museum's engineers were able to convince the Roads & Traffic Authority that a tramway/light rail level crossing set in mass concrete would significantly improve road safety at the crossing by not only providing a first class surface but also enabled the curved highway to be correctly cambered, which was not possible with the existing railway crossing. Museum members were able to provide the required guarantees for museum capital works.

As a result of these negotiations, the agreement of Sutherland Shire Council that the extension of the tramway to the National Park should be supported, and the support of the Minister for Tourism who advised the Minister for Roads of his backing for the operation of historic trams to the Royal National Park, the RTA agreed to reconstruct the level crossing on the basis of respective costs being met by the RTA, the SRA and the Museum. The SRA at the same time formally accepted the Museum's Expression of Interest to operate the National Park line.

The formalities for the line having been established, attention was directed to the physical works required. The first major step was the RTA's reconstruction of the level crossing.

Commencement of this project caused great consternation for the museum's supporters as it involved the complete removal of the old railway level crossing and the provision of a temporary tarred surface whilst the new crossing was fabricated off-site. The museum's phones ran hot but everyone was able to be assured that the RTA was not "pulling a swifty" but working to a programme agreed to by all parties.

Wednesday and Thursday 12 and 13 August 1992 were nights of high activity as, between 8pm and 5am, the RTA closed first the northbound and then the southbound lanes on the Princes Highway to enable the prefabricated crossing segments to be lifted into place. With police assistance, traffic was diverted via Old Bush Road, Wheatley Road, Loftus Avenue, Linden Street and the Grand Parade to enable the RTA's heavy lift crane to have free reign. The floodlights provided to enable the work to be carried out at night proved more than adequate for the Museum's video cameraman as he recorded the dramatic scenes.

Working in cold, wet and miserable conditions, the RTA staff carried out a complex and highly effective operation and, for the first time in over thirty years, tram tracks were installed in a major Sydney thoroughfare. In conjunction with the new crossing, the RTA resurfaced the road and provided cambering to significantly improve the safety of this section of the Princes Highway. Subsequent works saw the installation of early warning traffic lights

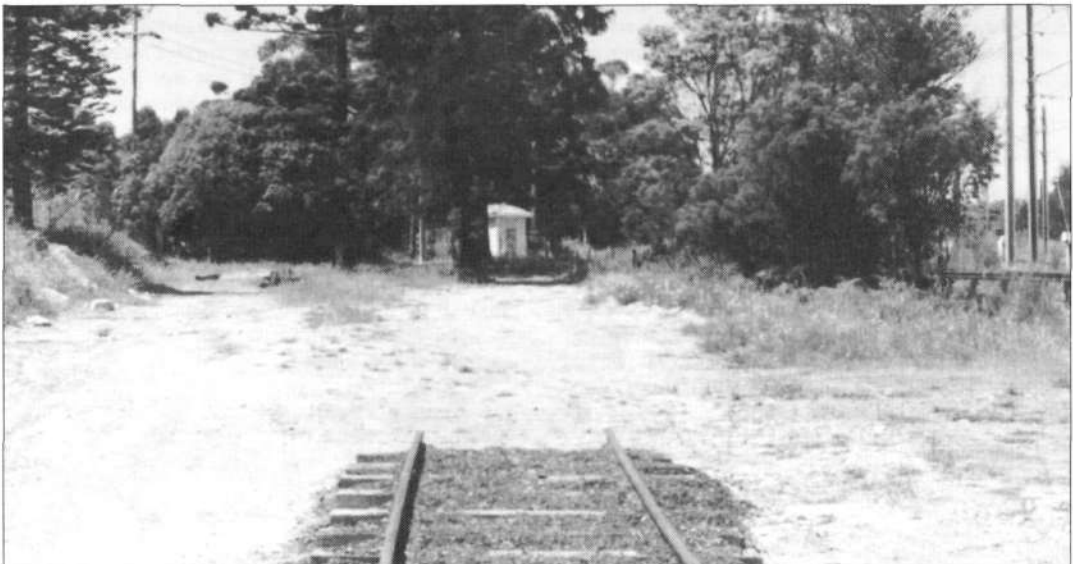
linked into the level crossing signals which the Museum has taken over from the SRA and upgraded with state of the art electronic controls.

Following on from the RTA work, museum electrical staff are installing cables in ducts within the level crossing to provide power for the signals and to the new substation which provides power to the tramway extension.

Museum track gangs meanwhile are proceeding with the heavy work of installing the new track link between the existing museum southern terminus and the branch rail line which the SRA has disconnected from the Illawarra main line.

The completion of this trackwork will enable works vehicles to operate over the line and erection of the overhead will follow.

Meanwhile, the Museum's traffic operations planners are drawing up the timetables designed to ensure a smooth marriage of the new Parklink service into the Museum's current operational timetable. Training, to ensure that crew standards are up to the requirements of the Government Accreditation Standards, have commenced and as traffic staff successfully complete their courses, they will be endorsed to operate public services on the Parklink connection. New tickets have been drawn up and printed in traditional tramway style so that from Day 1 all will be ready to ensure a passenger-friendly operation over the new line.



The gap between the museum railhead and the National Park line. The former railway signal section hut in the background is being converted to the substation for the park line.

BOB MERCHANT

CAR 1054's HOME SYSTEMS

Compiled by Bob Merchant

Sendai City

Electric traction came rather late to Sendai, the largest city north of Tokyo on the eastern coast of the main Japanese island of Honshu. Sendai is a major industrial centre and is located some 352km north of the capital.

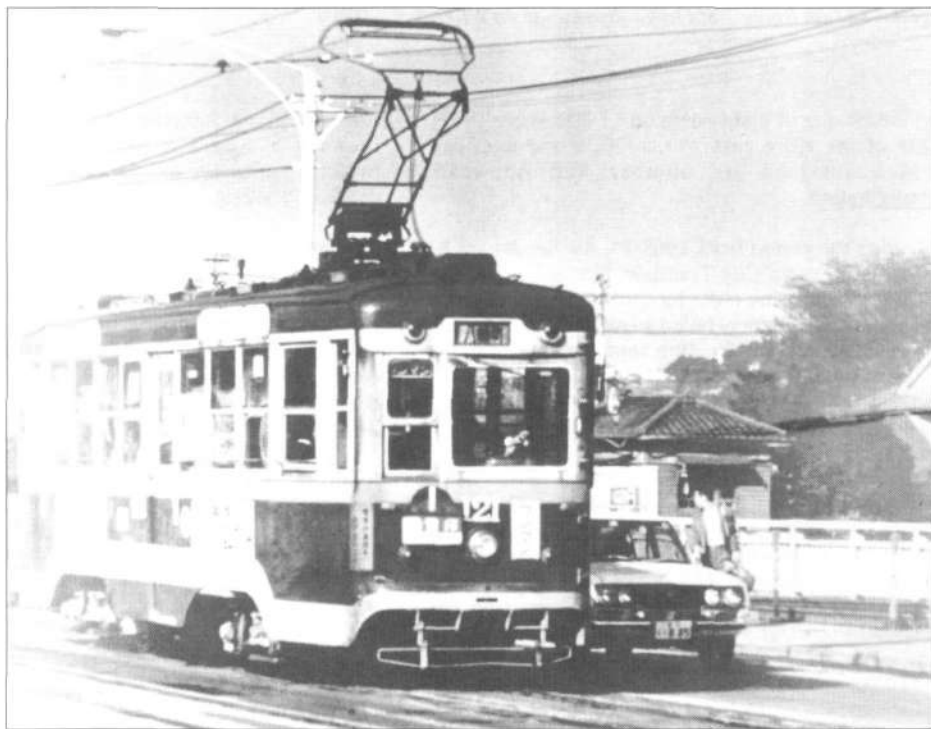
Construction of the tramway system began in 1925 and the first short section of 1067mm (3ft 6in) gauge track opened on 11 November 1926. As in many other Japanese cities during this period, expansion progressed rapidly until the final four-route system, all double track laid in the street, totalled 15.9km.

Over the years, tramway operation remained fairly stagnant as the city grew and acquired additional importance. In addition to its commercial activity,

Sendai is the cultural and prefectural capital of Miyagi Prefecture.

New bogie cars were acquired in 1948-1952 and 1959, and the 1960s brought further rolling stock development to Sendai's tramways. In 1963 the fleet consisted of 31 single-truck cars of wooden or steel construction, 49 double-truck steel cars and one home-built wooden articulated unit, with operations conducted from two depots.

By this time the single-truck cars were being replaced by double-truck cars purchased on the second-hand market. A total of 24 came from three systems. Five came from the closed Kotohira-Sangu Railway on North Shikoku, ten bogie steel cars were obtained after the Mito system closed on 1 June 1966, and nine bogie cars arrived from Kure



Sendai 121 (later Nagasaki 1054) in its original configuration and livery.

Courtesy NAGASAKI DENKI KIDO



Sendai 121 on Route 1 at Daigaubyoenmae on 2 February 1964.

RALPH FORTY

on the closing of that system on 17 December 1967. One of the Kure cars was 3006, a one-man car which retained its number and one-man configuration.

During the period from 1968-71, the Sendai-shi K ts -kyoku (Sendai City Transport Bureau) attempted to hold down rising costs by converting to one-man operation. This action failed to stem the increasing financial losses and the 1km route between Sendai railway station and Kitayonbancho was replaced by buses on 1 April 1969. 75 cars were still in operation over the 14.9 route-km of double track at this time.

The final day of tramway service was 31 March 1976. Five of the 100-type cars (Nos 117-119, 121 and 124) were sold to Nagasaki, three trams, numbers 1, 123 and 415, were kept as museum pieces and the remaining 45 cars were put up for disposal.

The tramway was eventually replaced by a metro which opened on 15 July 1987.

Nagasaki

Nagasaki, Japan's westernmost port, lies around a bay hemmed in by mountains on the western side of

the island of Kyushu. The company-owned tramway system has four standard-gauge tram routes, running around the bay and into the short dead-end valleys.

On 16 November 1915, the Nagasaki Denki Kido (Nagasaki Electric Tramway) began operation with a 3.7km long standard gauge (1435mm) line from Byoinshita to Tsukimachi. By 1921 the route length had grown to 8km. In 1934 the system was completed with the opening of the 1.4km branch to Hotarujaya.

Major track alterations came about in 1947 following the reconstruction in Urakami, the district devastated by the atom bomb dropped on the city on 9 August 1945, and in 1953 when the area around Nagasaki railway station was rebuilt. The north end of town, laid waste by the atom bomb, now has a wide and busy main road with trams stopping at fenced loading-islands reached only by concrete footbridges.

In 1950, a new 1.6km-long section from Ohashi to Akasako was opened, being followed by an extension of a further 300 metres in 1960, and in the south another 300 metres in 1968 on the line to Shokakujishita. By 1985 the undertaking comprised a route length of 11.5km. In the north, an extension

of 3.2km from Akasako to Terakawauchi was planned but was later dropped because of cost, or for being too steeply graded, or perhaps for both reasons.

In regular service the following routes are operated:

1. Akasako - Shokakujishita 7.3km . Journey time 29 mins.
3. Akasako - Hotarujaya 7.4km . Journey time 28 mins.
4. Shokakujishita - Hotarujaya . 2.9km . Journey time 12 mins.
5. Ishibaschi - Hotarujaya 3.5km . Journey time 15 mins.

On routes 2 (Akasako - Tsukimachi - Hotarujaya) and 7 (Akasako - Ishibaschi) odd journeys only are run as required.

The first bogie cars came to Nagasaki among the second-hand cars bought after 1945 as replacements for war losses. The last single-truck cars disappeared from service in 1962. One, No. 134 of 1911, was donated to the Seashore Trolley Museum in 1959. It was said to be the oldest car in the fleet at that time.

Numerous cars originated from other systems and many can still be found in the Nagasaki fleet. The fleet of five bogie cars used on the small Odawara system were built in 1925 for service in Kanawaga, near Tokyo. They were sold to Nagasaki following closure on 19 January 1956 and were substantially rebuilt. They became Nagasaki's 150 class. Car 151 is the last of its class and has been retained for museum purposes.

Car 168, built for the Kitakyushu system in 1911 and acquired in 1959 from the Nishi Nippon Railway at Fukuoka, is mounted on Brill 27GE-1 trucks. It is the last of the 160 class cars and has been retained in the fleet as a working museum car. It was restored to period livery for the 70th anniversary of the Nagasaki Tramways. Car 162 of the same class still exists in dark green, complete and on rails at a kindergarten in Nagayo, about 30 minutes journey by Nagasaki Bus route 1.

Six of Osaka's 1700 class bogie cars were purchased and rebodied in 1966; they became the 500 class. Cars also came from Kumamoto to become the 600 class. The five 1050 class cars came from the Sendai system in 1976.

Cars 701 to 706 are of special interest. Originally built for the 1067mm gauge route 14 in Tokyo, they were re-gauged after its abandonment to 1372mm for use on the rest of the Tokyo system. In Nagasaki they are now running on their third gauge, 1435mm.

In 1980, the first prototypes of the new Japanese bogie car with chopper control were delivered as cars 2001 and 2002, but five externally almost identical 1200 class cars built in 1982 reverted to traditional electrical equipment; they lack the monomotor bogie of 2001-2.



Car 121 operating in Sendai on route 1.

Courtesy NAGASAKI DENKI KIDO



Nagasaki 1054 waits for departure time at the loading island at Hotarujaya terminus on 10 May 1980.

ERNST LASSBACHER

Nagasaki 2001 was the first completely new bogie tram to be built in Japan for a decade. Further new cars, the 1300 class, were delivered in 1987 and 1988.

The livery of Nagasaki's older trams is dark green and cream, apart from some half a dozen in bright advertising liveries. Class leaders of each class have been restored to the liveries of their original systems, providing interest for the tourist and a nice sense of history. The new cars are all-over cream and all one-man cars are marked by a red stripe across the front of the car. In 1991, the fleet consisted of 70 passenger cars, two museum cars and 2 single-truck works cars.

Australian electric traction enthusiasts provided suggestions during a visit in October 1980 that a one-day ticket would encourage tourist traffic and ex-Fukuoka car 168 could become a tourist car. On a return visit in early 1983, Nagasaki Denki Kido had introduced a one-day ticket and was moving towards restoring car 168. Nagasakiden is a thoughtful, helpful and friendly company.

The Nagasaki Tramways carry 25,000,000 passengers and run 2,500,000km each year. The flat

fare is ¥100 and a one-day pass costs ¥500. Cars are one-man operated with centre entrance and front exit, with fares being collected by the driver.

The Sendai 100 Type / Nagasaki 1050 Class Trams

The first bogie cars in Sendai were obtained between 1948 and 1952. They were built by Niigata Ironworks (or Engineering Co.) in four groups and were first known as 80-type bogie cars. Cars 101-105 were built in 1948, 106-110 in 1949, 111-115 in 1950 and 116-124 arrived in 1952. They were reclassified as the 100 series in 1954. As built, they were saloon cars with entrance/exit via doors located at each end of the car. Power was collected by a bow collector mounted towards one end of the car. They were rebuilt as one-man trams between 1968-1971. The rebuilding included removing the rear door on each side and replacing it with a centre door, replacing two of the three narrow front windscreens with a single large screen for better visibility, and replacing the bow collector with a Z type pantograph.

The cars are 11,400mm in length, 2,174mm wide, 3,685mm high and weigh 14 tons. Their rebuilt

capacity is 84 passengers. Seating is provided for 28 on longitudinal seats.

Cars 117-119, 121 and 124 were sold in April 1976 for use in Nagasaki and 123 is on display at the transport museum in Sendai.

The five cars for Nagasaki were shipped south to Hakata, a port on the northern coast of Kyushu, and taken to the Kurume workshops of the Nishi Nippon Railway for refurbishing before being delivered to Nagasaki. The pantograph was repositioned in the centre of the car, the dash-mounted marker lights were removed and air-operated driver's mirrors were fitted in place of the hand-operated ones. The standard gauge trucks came from Nishi Nippon's Kitakyushu system vehicles. The re-assembly of the carbodies and trucks was undertaken at Nishi Nippon's Futsukaichi shops. They were repainted in Nagasaki's dark green and cream livery and entered service in Nagasaki as cars 1051-1055 of the 1050 class.

Tramcar Sendai 121 / Nagasaki 1054

Car 121, now at Loftus, was built for Sendai City in July 1952 and was rebuilt to the one-man

configuration in 1969. It was sold to the Nagasaki Denki Kido Company and re-entered service in Nagasaki as car 1054 on 6 October 1976 following a tape cutting ceremony at Urakami car shed.

After fifteen years serving the people of Nagasaki, 1054 was taken out of service in December 1991. It had received its last overhaul in February of that year.

Nagasaki 1054 was loaded aboard the *Nichigoh Maru* at Hakata (North Kyushu) on 14 November 1992 and was unloaded at Port Botany, Sydney 14 days later. After some customs delays, it finally arrived at the Sydney Tramway Museum at Loftus on 12 December 1992.

Acknowledgments

The compiler of these notes would like to acknowledge the information provided by M. Ajiro and S. Kobayashi in various issues of *Modern Tramway*, Ralph Forty and his book *Sayonara Streetcar* (Interurban Press, Glendale, 1969), Ernst Lassbacher and his book *Tramways in Japan* (Verlag Pospischil, Vienna, 1987), Nagasaki Denki Kido Co., and additional notes supplied by Arthur Perry, Don Campbell and Laurie Gordon.



Car 1054 crosses the river between Urakamishakomae and Ohashi on its way to Hotarujaya (Route 3). The bridge in the background carries the main line of the Japanese National Railways into Nagasaki station.

WILLIAM A. PIERCE

KENNETH ALFRED JOHN MCCARTHY

It is with deep regret we report that Ken McCarthy passed away peacefully on Saturday morning, 23 February 1993 at the age of 58 after a long battle with cancer.

Ken attended Drummoyne Public School between 1940-1946 which probably sparked his interest in trams as the Ryde tramline passed the school. He continued his education at Sydney Technical High School and Sydney Technical College, where he received his Diploma of Manual Arts. Ken obtained his Diploma of Education at the University of Sydney in 1955.

After moving from Drummoyne to Loftus, and whilst still a student, Ken became the first secretary of the Loftus Bush Fire Brigade, a position he held until 1956.

His first teaching appointment was to the High School at Narrabri in the NSW north-west, where he organised school visits to Narrabri West locomotive depot. He made use of his talents by constructing props for the local theatrical company in his spare time.

From 1961 Ken was appointed to Port Kembla High School in the Illawarra region of the NSW south coast, a region where he was to spend the rest of his educational career and make his home. In 1966 Ken moved to Woonona High School as Industrial Arts Master. During the 1960s Ken also taught woodwork at Illawarra Grammar School after hours, and was actively involved with the local Industrial Arts Teachers Association.

Ken was appointed Deputy Principal at Kanahooka High School in 1974. As part of the industrial arts course at this school, Ken ran a course during 1977 in industrial archaeology. The following year, he conducted an evening class in industrial archaeology for the Workers' Educational Association of NSW. This led to him giving a visiting lecture on the subject at the University of Sydney for Judy Birmingham later that year.

Interest in the WEA course resulted in Ken forming the Illawarra Environmental Heritage Committee for whom he researched and collated information on the many mining and industrial railway and tramway systems in the Illawarra region. The committee ceased when the Illawarra Heritage Council was formed in 1979 with Ken as a founding member. The Council's governing body comprised a member from each of the three local councils and interested groups in the community, and Ken remained a member of the Heritage Council until his death.

Ken commenced the 1978 academic year as Principal of Warrawong High School, a position he held until ill health forced his retirement in 1991. From 1978 to 1988 he also managed Elmwood Public School near Fitzroy Falls. This school was run and maintained by teachers and staff at Warrawong High School. Ken put together a book and organised celebrations to commemorate the school's centenary in 1986. Ken was also an active and vocal member of the South Coast Principals Council.

Ken was also on a number of committees during his years at Warrawong. He was a member of the south coast committee which helped organise the commemoration of 100 years of public education in NSW during 1979, was a member of the Disadvantaged Schools Committee and on the committee which oversaw the distribution of funding for the Participation & Equity Programme which promoted and implemented alternate education programmes in state schools.

Ken pioneered the alternate education programme designed for academically disadvantaged students wishing to continue through to years 11 and 12 at high school. The course was geared towards teaching skills which would be useful in jobs and trades. The programme was run at Warrawong High in conjunction with the University of Wollongong. Students learning trade skills overhauled the Sydney Tramway Museum's Sprague electric crane and reconstructed the Museum's Sydney cable tram trailer, together with two railway pump trolleys for the ILRMS at Albion Park.

The year 1976 began a 14-year involvement with The Scout Association of Australia when his son Stephen joined the 1st Keiraville Group. Ken held many positions on the group committee and, together with his wife Mary, was a very active fundraiser and supporter in all group activities. In 1989 the Scout Association cited Ken and granted him their highest award for a non-uniformed member.

Model trams were an early interest and he built an operating fleet of Sydney trams from sheet tinplate which, he used to delight in telling anyone who asked, came from flattened powdered baby milk tins. The trams ran on O gauge track with electrical pick-up from overhead wire, even the model of a steam tram which had a trolley pole hidden with cotton wool smoke!

Ken joined the NSW branch of the Australian Electric Traction Association after the Enfield tramway system in Sydney closed in 1948. Ken's interest in tramways had a strong historical leaning and it was mainly due to Ken's efforts and tenacity that the NSW branch of the AETA, which was advocating retention and modernisation of Sydney's tramways, started running tram tours using old vehicles.

In January 1952, Ken suggested that the AETA (NSW) should have its own magazine as a counter to the strong Victorian bias of the Melbourne-based Association's own journal, *Electric Traction*. The first issues of *Trolley Wire* were printed on newsprint scrounged by another member, cut to size by hand and printed on a spirit duplicator. The magazine was edited by Ken until his move to Narrabri in 1956.

Despite opposition from those wishing to continue the push for retention of the Sydney tramways, Ken formed an historical group within the AETA (NSW). Ken was also a leading light, together with two lifelong friends, Norm Chinn and Ben Parle, in the formation of the Australian Electric Transport Museum which later was incorporated as the South Pacific Electric Railway Co-operative Society Ltd., better known as the Sydney Tramway Museum. He held the position of chairman on the Museum's board for a number of years.

In 1972, Ken became the foundation chairman of the Illawarra Light Railway Museum Society, a position he held for four years. He later held the position of secretary. He surveyed and mapped the ILRMS's Albion Park site and produced the Society's magazine, *ILRMS Review*, for some years. He was responsible for the reconstruction of a number of vehicles for operation on the light railway as well as trolleys and other artifacts.

The push to establish an industrial museum at Port Kembla was also initiated by Ken and he completed a major cost and feasibility study in support of such a museum. He also led the efforts to restore an historic railway bridge at North Wollongong.

One great pleasure for Ken was being the inspiration behind the committee which restored Rockhampton City Council's Purrey steam tram. Ken's continuing research and field work enabled him to supply the Council with drawings and location of spare parts which resulted in the reconstructed steam tram operating in Denison Street, Rockhampton in June 1988.

Ken was arguably the premier tramway historian in Australia. He travelled widely throughout eastern and south Australia and was renowned for pacing things out on the ground. He never accepted the 'missing links' in tramway history and persisted in searching for historical accuracy. He had the ability to nose out elusive records and could interpret as well as record. He was a prolific writer and drew all his own maps and diagrams to illustrate his research. He took his own pictorial records on black & white film and 9.5mm movies.

Ken will probably be best remembered for his well-researched historical articles in light railway magazines and *Trolley Wire*, including histories of the Newcastle and Manly Tramways, South Australian Railways horse lines and one still to be published on Melbourne cable tramcars. He wrote the history of the Broken Hill tramway system as well as co-authoring a number of books on NSW tramcars with Norm Chinn, and one dealing with the Maitland tramways with Ross Willson. All these works were published by the SPER. His two gazeteers, dealing with industrial sites of the Wollongong-Shellharbour-Kiama district and on industrial steam locomotives in the Illawarra region, have also been published. He also compiled a book commemorating the centenary of his old school, Drummoyne Public, and wrote the chapter dealing with the years 1930 to 1945. Other published works have also benefited from Ken's research with contributed chapters on tramways or industrial archaeology.

Ken had a sense of humour, described by some as 'quirky', which was enjoyed by his friends at Loftus and Albion Park. He did not suffer fools gladly but was ever ready to share his knowledge with those who had an interest in his favourite subjects. Ken did not live to see the culmination of many years of planning come to fruition with the opening of the Sydney Tramway Museum's Parklink service, but would certainly have found humorous delight in the irony of running trams past the site where it all began so many years ago.

Ken's family was of paramount importance to him and always came first, ahead of his enthusiast activities. We extend our deepest sympathy to his wife Mary, son Stephen and daughter Alexandra for their loss of a loving and caring husband and father.

- R.I.M.

HERE AND THERE

NEWS ITEMS OF INTEREST FROM ALL OVER

Perth-Joondalup Service Begins

Full high-frequency services between Perth and Joondalup on the new Northern Suburbs Railway commenced on Sunday, 21 March, replacing the limited "Discoverides" service which began on 21 December.

In spite of a few 'teething problems', the trains appear to be very well patronised. It was reported that an average of 20,000 passengers per day used the new service in its first week - this is 10,000 more than when buses were the only service available.

Trains run at an average interval of 3.75 minutes on the busiest part of the line (Perth-Whitfords). About 50 new bus routes now feed directly into the

railway's interchange stations, and bus services on the Mitchell Freeway have ceased.

Dapto Electrification Opens

The \$10 million extension of electrification project from Coniston to Dapto on the NSW Illawarra line was officially opened to traffic on Sunday, 24 January 1993. The project was completed on time and on budget.

The newly electrified 12.15km section was opened by NSW Minister of Transport Bruce Baird. Opening ceremonies were held at Wollongong, Unanderra and Dapto, and souvenir tickets entitling the purchaser to unlimited travel between Wollongong and Dapto on the opening day were



Traffic on the Mitchell Freeway just south of Glendalough Station at 5.23pm on Tuesday 30 March 1993. AEA 222/AEB 322 (left) are bound for Perth, while AEA 221/AEB 321 are heading north. two- and four-car sets are used on the line.

MICHAEL STUKELY

available.

It is expected that electrification will be further extended to Shellharbour and Kiama as funds become available.

Expressions of Interest

In November 1992, the NSW Department of Transport, as Project Co-ordinator for the Ultimo Pyrmont Light Rail Project, invited individuals or companies to nominate suitably qualified persons to be considered for inclusion on a selected list of tenderers to receive detailed terms of reference for a contract to project manage Sydney's first modern light rail system. The line will extend from the Central Station Colonnade via Hay Street and the Entertainment Centre, Darling Harbour, thence along the existing rail corridor to the Sydney Fish Markets. The Project Manager's engagement is scheduled to extend to 30 June 1996.

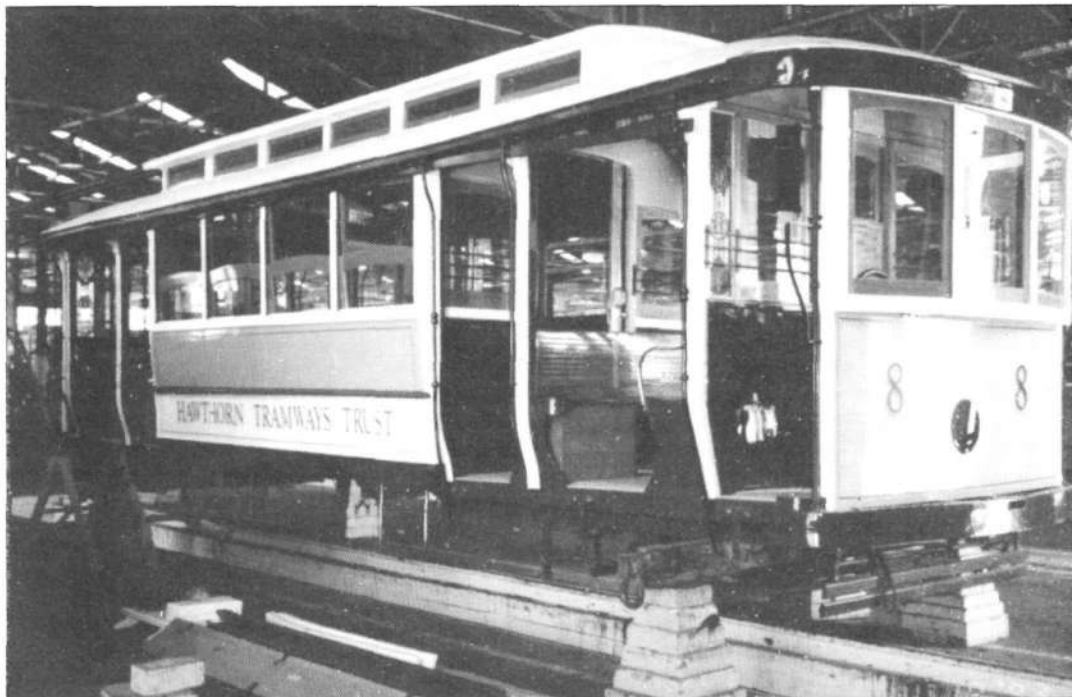
The Public Transport Corporation of Victoria has invited expressions of interest from experienced parties for the design of modifications to the existing tram depot and office facilities at Hawthorn

to convert the complex into a tramway museum with complimentary facilities. The existing facility, located on the corner of Power Street and Riversdale Road, Hawthorn, consists of an office building and tram storage sheds and is of historical significance. The primary intent of the redevelopment is to create a tramway museum of world class standard supplemented by complementary facilities such as convention rooms, theatre, library/research facility, coffee shop and offices. The development will also provide a base for stabling and running vintage trams.

The Public Transport Corporation of Victoria has invited interested parties to submit an expression of interest for the operation of a tourist tram business in Melbourne. Proposals using the existing PTC tourist tram or proposals with other trams would be considered.

Melbourne News

In a remarkable turn of events, meetings between transport unions and Transport Minister Alan Brown have resulted in the abandonment of much of the Victorian Government's plans listed in the



Hawthorn Tramways Trust No. 8 as it appeared at Preston Workshops on 19 January 1993. It carries a blue and white livery and the leadlights in the motorman's bulkhead have been produced by a Preston 'shops staff member versed in the art.

PETER DUCKETT



A class 231 still carries its distinctive chocolate and cream livery and historic logos but was outshopped in January 1993 with the wording on the cream band altered to acknowledge the 50th anniversary of the Australian Electric Traction Association which was formed in Melbourne in 1943.

RAY MARSH

last issue of *TW*. The economies are now coming largely from the removal of tram conductors, train guards and 'more flexible rostering' of train drivers. Trams will continue to run at night and weekends, but during March one-person-operation (OPO) was introduced on the lines to be affected. The Moonee Ponds-Footscray service will remain, but the 'hump' shuttle beside Preston Workshops ran for the last time on Saturday night, 13 March. The event was low-key and no notices were attached to trams to advise intending passengers of the service demise. The tracks will remain in use for depot access.

The reasons for the considerable compromising on issues that had previously been described as 'not negotiable' by the Minister are not known in detail, but apparently a well researched proposal, based on official figures, was used by the Tramways union to prove to the Minister that private buses would save little money compared with OPO trams, and keeping trams would of course save the Government from already building opposition by

the travelling public to the use of these buses. Other factors to be considered are that private bus operators may not have been too interested in, particularly, the late night work and may have indicated the requirement of a heavy subsidy to operate such services. The Government also wished to sub-let the Met buses to private operators, but indications are that such a move is not permitted under the lease-back agreements under which these buses are operated.

The chain of events surrounding the breakthrough is as follows:

6 January 1993 - Government announces cuts (see *TW* Feb. 1993).

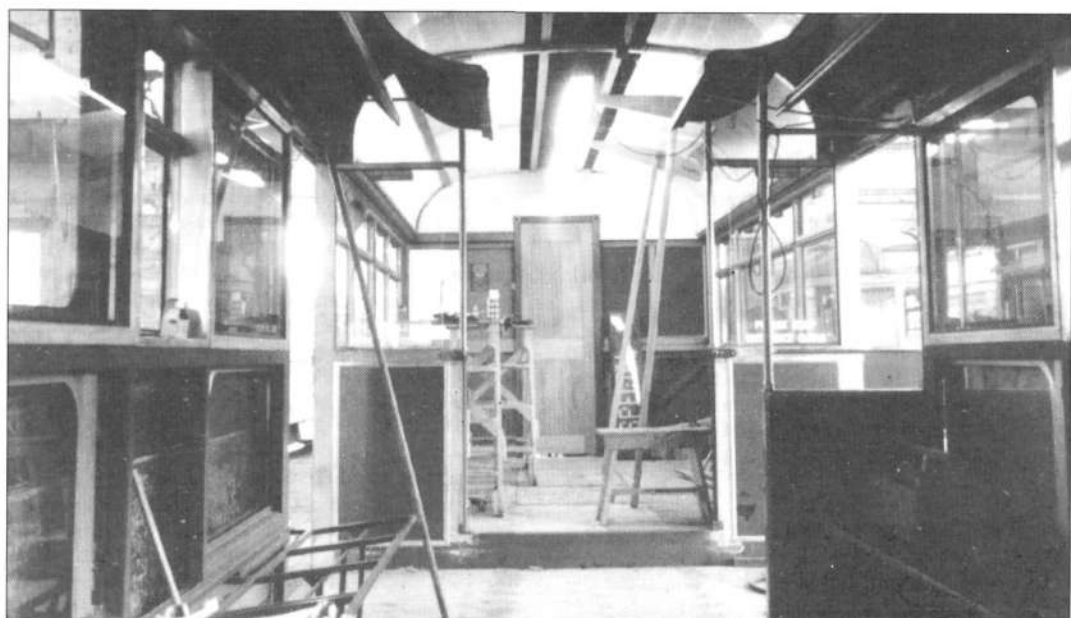
8 January - Tramway union Secretary Lou DiGregorio approaches Transport Minister Alan Brown for a meeting.

9 January - Mr DiGregorio threatens a 'war' which will dwarf the scratch ticket dispute of 1990.

11 January - Mr Brown, with PTC Chief Executive John McMillan and adviser, meet Mr DiGregorio



A tram/bus interchange in St Georges Road at Arthurton Street.



The interior of 922 which is undergoing modernisation at Preston Workshops. This view was taken on 11 March 1993.

RAY MARSH



SW5 class 741 running the 'Hump Shuttle' over the Miller Street bridge on 13 March 1993. This was the last day the service ran on a regular basis.

JEFF BOUNDS

and Sam Branciforte. Mr Brown announces changes will go ahead "no matter what". Meeting collapses.

13 January - Mr Brown and Mr DiGregorio have the first of a number of secret meetings, minus assistants. Meeting is later described as 'friendly'.

27 January - Joint statement issued announcing that agreement was near. This news shatters Trades Hall, who had been banking on a co-ordinated programme of industrial action.

31 January - The *Sunday Herald-Sun* newspaper, which has a particularly pro-government leaning, congratulates Mr DiGregorio on his deal and for 'going it alone'.

4 February - The deal is ratified by stop-work meetings of tramway workers.

Early in February, other transport unions decided that they would be best advised to try to obtain an equally good deal for their members. Fourteen meetings over a six week period then followed between these unions and the Transport Minister.

By mid-March, savings of \$240 million had been negotiated, \$5 million short of the government's target. Without this \$5 million, there would be no deal. In desperation, the rail unions contacted the Public Transport Users Association, who suggested deletion of the City Circle rail service. The city loop would still be served by trains travelling to and from suburban destinations.

16 March 1993 - The rail deal is announced and later accepted by rail workers.

Mr Brown has been quoted as saying "I was dumbfounded to be sitting opposite Lou DiGregorio who was basically saying 'I'll give you this, if you give me that.'"

The introduction of a state-of-the-art magnetically encoded ticketing system will eventually result in 1000 jobs being lost on the tramways, while total job losses in the railways will eventually amount to 4500. All suburban rail routes will remain as at present, but the Upfield rail line will be reviewed in six months, after studies have been undertaken. The six most profitable country rail lines will remain, but those to Mildura, Leongatha and Dimboola will go. It was agreed there would be no industrial action on these agreements before they expire in 1997.

It was not long before the one person operation of trams began in earnest. Sunday 28 February saw its commencement on Route 70 which had continued to operate some services without a conductor since the 1990 dispute. On that line, conductors are used from 7.30 to 9.00am and 4.30 to 6.00pm on weekdays only. At other times the conductors used during those limited hours are utilised to fill vacancies on Route 75 services.



In conjunction with the East Burwood extension, both tracks between Sommers Street and Middleborough Road were used as independent tracks to allow construction crews access to the new crossover being installed at Middleborough Road. Here car 116, driven by driver Dean, is being run "bang road" towards East Burwood.

RAY MARSH



Blind-fitted W5 class 763 at Brunswick Depot on 12 March 1993. This car was finally withdrawn due to controller defects.

JEFF BOUNDS

Sunday 14 March saw OPO introduced on Route 68, the Sunday version of Route 55 to West Coburg, and the next day it was introduced on Route 57 West Maribyrnong and Route 82 Moonee Ponds-Footscray. At the same time, the weekday evening service on Route 82 was curtailed, the last tram leaving Footscray at 8.30pm (10.30pm on Fridays for late night shopping). There is no replacement bus service, although weekend bus replacement services continue to operate.

Routes 69 and 79 (St Kilda to Kew and East Richmond) and Route 72 Camberwell were converted to OPO on 21 March, with Route 3 (East Malvern) starting the following day.

The introduction of OPO trams has not been without problems. Although the lines chosen have light evening patronage and delays are comparatively minor, operations at weekends have proven to be chaotic on some routes. Route 72 suffers serious delays in the city as drivers struggle to check tickets, and sell them to passengers requiring one. It is not unusual for a Route 72 car to be stuck at a city intersection for four changes of traffic lights, and this has a snowballing effect as at each successive stop the gap from the tram in front becomes greater, and passengers travelling just a short distance get on the first tram to arrive, thus delaying it further. With the large number of services using Swanston Street, it is not long before other services catch up, and they are also delayed. There has been no co-ordinated attempt to provide a notice in the front of the trams to warn passengers that they need to have money ready for the driver, although at least one depot has made signs themselves. Once out of the city, delays continue. Although not normally carrying large numbers of passengers at any one time, Route 72 cars in daylight hours carry many short distance passengers, so there are many tickets to be checked during the journey. Route 69 is similarly affected, and on a Sunday it is not unusual for a tram leaving St Kilda Beach to take 45 minutes to get as far as Malvern Depot, a journey that took just 15 minutes with a conductor.

As routes in Melbourne are operated with the absolute minimum number of trams, recovery time at a terminus is often just a few minutes, so once a tram runs late there is little chance of it regaining its timetabled running. When a spare driver has been available, a 'block car' has been sent to an affected terminus to get a tram back on time. The block car departs at the scheduled time of a tram running late, and when it meets the late tram coming the other way, crews swap trams. Thus the late driver is back on time and the block car driver continues to the terminus with the remaining passengers, then



With the sudden allocation of Z type trams to new routes, the fitting of destination equipment to cover the new routes has lagged far behind. As many Z1 and Z2 class trams did not have a blank indication, many were showing random destinations including 'Special', which caused much confusion to intending passengers. Trams without a blank indicator have had the destination glass painted white until new signs can be made.

returns to the depot or 'blocks' the next late tram. On occasion the late tram has been so late that if the block car 'blocked' it, it would not be back at the terminus in time to 'block' the following service. The other alternative is to terminate a service short of its intended destination and put the passengers off.

After the first Sunday, urgent talks were held between the Union and Transport Minister, and it was agreed that conductors would be placed at a few city stops to help out.

The final solution, however, rests with the introduction of a modern ticketing system where drivers check no tickets and sell a minimum of 'emergency' tickets. However, press reports state that two major suppliers of such equipment have threatened to pull out of the tendering process as they need more time to prepare a tender in view of the Government's requirement that the system not only be supplied, but also managed and operated. On the same day it was admitted by the Transport Ministry that the 10% fare increase introduced in January had provided no extra revenue to date.

As conductors are no longer required for the second portion of the shift on routes now running OPO trams, their rosters have been changed so that they come to work about four hours earlier and are used for vacancies on other services at their depot, and they complete duty when they previously would have stopped for a meal break.

At times, idealism has overruled common sense, as on at least one occasion a service did not run because the driver had not been OPO trained, but was forbidden to run with a conductor who was available.



A number of Z cars have been fitted with stop signs riveted to the doors to warn motorists that alighting passengers will be crossing the roadway. They become visible to motorists when the doors open.

Modifications to trams for OPO has been minimal. A shallow tray, into which a basic coin tray sits, has been installed on the shelf to the left of the driver. It is protected from intruding hands by a screen about 30mm high. A small ticket holding wallet hung from the inside of the half-height cab door. If a driver has to leave the tram for any reason, including to replace a derailed trolley pole, he is expected to take tickets and cash too! This situation has brought some criticism from drivers and the Union, and it has been revealed that the large number of full size cab doors constructed for the previous attempt at OPO in 1990, have since been scrapped.

Further economies are being made in maintenance, with many workers taking the retirement package offered. For example, North Fitzroy Depot no longer has a mechanic, and all but the smallest repairs must be done at South Melbourne. Overhead wire crews have also been considerably reduced.

On 25 March, it was announced that Ian Dobbs would take up as Chief Executive of the PTC from 3 May. He comes from British Rail where he was successful in saving money.



Bendigo 21 (ex-Melbourne M class 188 in Hopkins Street, Footscray on 14 March 1993 during the Back to Footscray celebrations. This is the first time an M class tram has run in Footscray since November 1923.

JEFF BOUNDS

Melbourne Tramcar News

The introduction of OPO trams has seen the transfer of 16 B class trams to Essendon Depot, displacing a number of Z type trams to Malvern and Glen Huntly Depots, including a number of Z3 class cars. Essendon now has enough B class for weekend Route 59 service and now has no seated conductors at weekends. From Monday 25 January, Routes 86 Bundoora and 19 North Coburg became fully B class operated, resulting in Bourke Street now being operated entirely by that class of tram. All of Brunswick's Z class cars were transferred away, but nine Z1 cars are stored at Preston Depot and their future is uncertain owing to rough riding. The B class only operation resulted in the need to transfer to other depots or duties conductors who are unfit for roving duties. As management wanted all of those conductors to operate out of Preston Depot, the limited number of Z type trams used on the West Preston route ceased and once more only W types are used.

The decision to close North Fitzroy and Preston Depots has been reversed, but the final destiny of Preston Workshops has yet to be decided. Already traction motors are being repaired at Spotswood railway workshops.

The experimentally modified Z class 67 still has not entered service, and is in Preston Workshops having security screens fitted to drivers cabs, similar to those fitted to Met buses. Tram crews are pushing for this type of security device to be fitted to OPO trams, but the cost would be high.

Work on upgrading car 922 continues at the Workshops and the body is now being externally finished. Work includes a large reduction in the amount of wood in the tram, a pantograph, dot-matrix destination signs, fluorescent lights, heaters, a 24 volt electrical system, and entirely longitudinal seating to accommodate the additional electrical equipment.

A class trams 245 and 254 have received 03 overhauls following the discovery of bodywork rust around the saloon windows. The rest of the class will have to be similarly treated.

W7 class tram 1013 has been fitted with an alarm which sounds when air pressure drops below 45 psi. It has not, however, been fitted with a notice to tell the driver what the noise means!

It has been decided to phase out the 'Theme' Z type trams. Already 8 and 101 have been repainted into standard colours. It is expected that the pop-art and illuminated advertising cars will remain.

Not all W cars involved in collisions are subsequently stored. On 7 January, advertising tram 1018 collided with the rear of 1039. The former car returned to service on 22 March, but not so the latter. The last W7 class car to be built, 1040 has been withdrawn from traffic and placed in the heritage fleet, thus making 1037 the highest numbered W car in service.

The number of W cars stored in Henderson's at North Melbourne has risen to 39 and the building is virtually full.

Old Thornbury Depot, which was empty in February, is once more almost full of withdrawn W cars and an alternative storage site will have to be found if many more W cars are to be withdrawn.

W5 class 763 (see *TW* Feb 1993) made a surprise return to traffic at South Melbourne on 25 February, but continuing complaints from drivers over controller faults led to its withdrawal on 23 March.

An intensive shuttle service along Flinders Street and Batman Avenue, using B class cars where possible, served the Melbourne Cricket Ground where concerts by Paul McCartney were held on 9 and 10 March. The special cars came from all depots except Glen Huntly.

Bendigo 21, recently restored, painted in a white livery and lettered Footscray Tramways, operated between Footscray terminus and the Williamson Road crossover on 14 March. The free shuttle was sponsored by Footscray City Council. The tram ran from and to Preston Workshops under its own power for the event.

The bodies of a Brisbane four-motor tram and a Melbourne bogie cable trailer are at Preston Workshops.

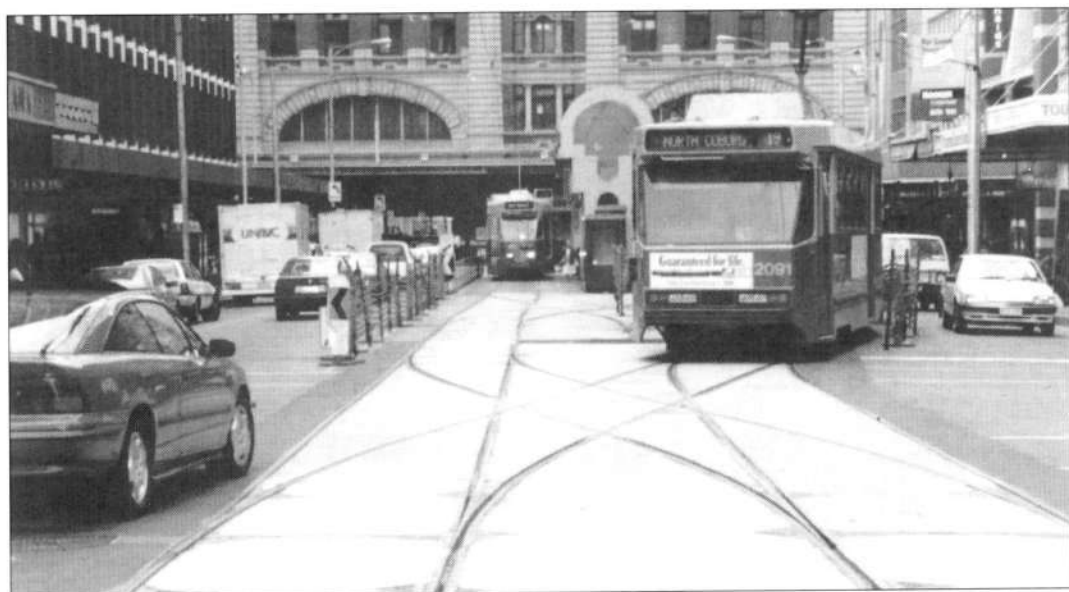
Trackwork in Melbourne

Friday 21 January saw the commissioning of the east-west connection in Miller Street, Thornbury which had been installed mid-1992. The delay was caused by the need to install 'V-Tag' type automatic points at this location, and rephasing of traffic lights. Also in connection with the St Georges Road upgrading, several tram/bus mini-interchanges have been constructed in the space between the up and down tracks, allowing passengers easy access when transferring between the two modes of transport where they cross at right angles.

In connection with the new East Burwood



Installation of the new scissors crossover in Elizabeth Street in early February 1993.



The new scissors crossover in Elizabeth Street is centred across the Flinders Lane intersection. The old crossover in the background was removed in March 1993.



Above: The line-up mentioned in the text. Right: The cars are again shown in the depot yard. Left to right are Stuttgart 735, Oslo 198, Graz 320 ex 204, Lisbon 533 and Kochi 7.
GUEN NISHIO



extension, single track working as used between the last crossover at Somers Street and the existing terminus while a new crossover was installed at that point.

On 20 and 21 March, buses replaced trams on the outer portion of Route 48 while a new tram/bus interchange was installed in High Street, Kew, at Harp Street.

Newspaper reports continue to make mention of the Government's plans to create a circular tram loop in the city. Tracks will be constructed in Spring Street between Collins and Bourke Streets and survey work was to commence over Easter. It was also stated that the introduction of such a service, which will include both old and modern trams, will coincide with the introduction of free city travel promised in the last election, but it is again not clear if the free travel will be on all city services, or just the loop.

The Victorian road rule whereby right-turning traffic had priority over oncoming left-turning traffic, was reversed to become standard with other Australian states on 28 February. The law was introduced in the 1950s to help clear the centre of the road, and thus expedite trams blocked by right-turning traffic, the change has not been detrimental to trams as expected, probably because of the introduction of fairways and a large number of safety zones in the intervening years.

In view of Victoria's bad financial situation, it is curious that once a tram driver is trained for OPO, the allowance will be paid every week, even if OPO duties are not performed. It is thus cheaper to maintain a conductor on services like the short and poorly patronised shuttle on the East Coburg and Moreland routes, than to pay every driver in Brunswick Depot the OPO allowance!

Careless Remark

Victoria's most senior transport bureaucrat, Mr Alan Reiher, Acting Secretary of the Transport Department, came under heavy fire on 24 March 1992 for suggesting that Melbourne trams were a luxury that the State could ill afford.

Mr Reiher made the statement to the Equal Opportunity Board which is hearing a dispute between five disabled people and the Government over the discontinuance of tram conductors.

Mr Reiher said "On one view it can be plainly seen that the retention of the tram service represents a luxury which the people of Victoria can ill-afford.

However ... the service is retained for historical, environmental and tourist reasons and in recognition of the fact that Victorians are very attached to their trams."

Transport Minister Alan Brown, however, was quick to defend the trams, and stated that Melbourne's tramway system had a bright and guaranteed future as a safe, reliable, efficient service. The Government was committed to expanding the system, including a new city loop, free city tram travel and extensions to East Burwood and Mill Hill.

j26Report from Japan

On Sunday morning, 10 January 1993, two large ceremonies were held in Tosa Dentetsu's (Tosa Electric Railway, or Tosaden) Sambashi tram depot yard. One was the awarding of the valued 6,000-member Japan Railfan Club's "Gloria Prize" to Tosaden for good management of this 89-year-old company and its continuing addition of vintage foreign cars to its tram fleet.

The second ceremony was the handing-over of car 204 from Graz, Austria, a 1949 "Aufbau" single truck saloon car, renumbered 320 to avoid confusion with Tosaden's own 204.

The ceremony was attended by Mr & Mrs Andreas Herdiana of the Austrian Embassy; Mr & Mrs Franz Gollner, Graz Municipal Council; Daijiro Hashimoto, Mayor of Kochi City; Yoshinosuke Yasoshima, JRC Chairman; and 150 guests from all over Japan.

Car 320 departed Hamburg on 20 December 1991, arriving in Kobe 35 days later. It was transferred to a coastal ship to arrive in Kochi on 4 February 1992. On 20 March 1992 Graz and Kochi were twinned as "Sister Cities".

320 was regauged from 1435mm standard gauge to 1067mm gauge and brought up to Japanese Government standards, fitting non-flammable interior, improved braking and automatic safety doors. The work was carried out by Tosaden's staff in the Sambashi workshop, taking nine months and costing about ¥50 million. The car was passed by the Ministry of Transportation on 21 December 1992. Riders are favourably impressed by 320's riding quality.

It has long been the desire of Tosaden's President, Toshio Omashi and General Managers Atsuo Oishi and Hiroshi Hamada, to collect vintage overseas tramcars to operate as a tourist attraction.

Enthusiasts Ernst Lassbacher in Vienna and Guen Nishio (who has visited Loftus) in Tokyo assisted in negotiations for Graz 204, now Tosaden 320.

The depot yard line-up shows Graz 204, Oslo "Goldfish" 198 of 1939, Tosaden "Ishin-go" (Revolution) 7, Lisbon 533 of 1928, and Stuttgart GT-4 type 735 of 1965. These cars paraded the streets of Kochi after the 10 January ceremony. Normally one or more of these cars can be seen in daylight revenue service. Car 7 has a new steel body built to an historical design in 1984 for the 80th anniversary of the tramway. It is mounted on a 1909 vintage two-axle truck and is used as a museum car and for special hirings. Stuttgart 735 consists of the A-ends of cars 714 and 735 connected back to back and was obtained in 1990. Oslo 198 joined the special fleet in May 1992 and is in a dark blue livery decorated with coloured balloons.

A fifth car, Lisbon bogie car 910, built with English equipment, is now undergoing rehabilitation prior to joining the fleet.

In Japan, land is expensive and hard to find, and the working week long, making it difficult for amateur fan-operated rail and tram museums to come into existence.

Photos and news by Guen Nishio in Tokyo.

BALLARAT

Ballarat Tramway Preservation Society

After its heavy financial losses of 1992, the Ballarat Begonia Festival took on a new look this year, with a new director and a much more stringent budget. In order to eliminate the traffic chaos that characterises the event, it was decided to close Wendouree Parade to through traffic on the weekends, and provide additional car parking at either end of the Gardens. The whole of the area south of the Depot to Carlton Street was roped off for this purpose. As the bulk of the Festival attractions are towards the other end of the Gardens, the tramway was approached to provide a transport service between Depot Junction and the Loop for arriving motorists. Real passengers at last!

Barricades were erected at the ends of the Gardens, as in previous years, and a two dollar parking fee extracted, but a second row of barriers a third of the way in from either end marked the limit of motor car operation. The middle third of the Gardens was

pedestrians only, and trams, of course, which resulted in a vastly improved ambience around all the major festival attractions. In the event, many motorists jibbed at forking out two dollars to travel only a short distance into the Gardens, and parked in the adjacent streets, causing a certain amount of chaos there, and resulting in the car parks never being more than a fraction full. This probably benefited the tramway even more, as people were walking in from even greater distances than originally envisaged.

A shuttle car was provided from the access track at Depot Junction to the Loop for a fifty cent fare, and was integrated with the regular service, which ran the full length of the line. The shuttle was to have been provided from 9.00am to 7.00pm, but it was quickly found that the first and last hours were not patronised, so were dropped. With the greatly reduced motor traffic, it was possible to keep to some semblance of a timetable, unlike previous

years, and drivers were coming in without that shell-shocked look of the past. For many of the locals it was their first tram ride since 1971, and it was probably the highest profile activity we have undertaken in the town since operations commenced. Over the nine days of the Festival more than 3500 people rode the trams, so the bank balance is looking good at the beginning of another long Ballarat winter, and the staff had the satisfaction of running the tramway to something like its full potential for a few days.

Back at the depot, work continues slowly on 671. Those big flat body panels show up every imperfection, so a great deal of body filling and sanding has been necessary. Work has also been proceeding on the windows and various other small fittings removed from the car. No. 40 is on jacks at the moment, with the No.1 motor out for repairs following a failure somewhere in the armature. Work on ESCo No. 12 has been confined to a little more sanding of the body panels, revealing more of the intricate lining originally applied to this car.

LOFTUS

South Pacific Electric Railway

National Park Line Progress

After many months of frustrating negotiations with CityRail, our patience was finally rewarded on Friday, 5 March when the branch line track was disconnected at the mainline turnout at Loftus Junction.

Bob Cowing and Greg Sutherland were on hand shortly after to supervise as Alex Canini moved in to regrade the roadbed to the alignment required for the connection of our tracks to the level crossing. The remaining rails between the railway main line boundary and the level crossing had been previously de-spiked and these were slewed over to the required alignment.

The track on the park side of the level crossing has been jacked up to the required level ready for repacking. The level crossing track has been welded on both sides to our new main line and the remaining rails are being located and laid out on the museum side ready for connection.

All remaining span poles were erected on Saturday, 13 March and good progress is being made on the electrical substation and crossing protection work at the highway.

Arrangements are in hand for a contractor to install the bracket arms and other fittings in preparation for the stringing of overhead wire. Our main concern is now the laying and packing of the missing link between the end of the museum track and the level crossing.

Works Report

Further concreting of the floor in the display hall extension has been carried out with Road 5 being completed on 4 February and much of the area between Roads 3 and 4, which separates the running shed tracks from the display area, being covered on 6 February. In each instance, surplus concrete was laid around the scissors crossover and the recently installed track drains nearby, which has also greatly improved the appearance of this area.

The remaining point mechanisms have been installed at the scissors crossover and wooden covers, Sydney style, have been placed over the pits, allowing the ugly barricade to be finally removed on 6 February. Further concreting around the crossover on 27 February made the area even more presentable for our annual tramway day on 28 February.

Our Society is leading the way once again with the use of a special biodegradable tramway lubricating grease for track and points. This product is imported from Germany and to the best of our knowledge has not yet been used elsewhere in Australia.

Due to the space limitations imposed by our former bookshop, R1 class 1933 has been converted to a temporary book/souvenir shop. The guttering around the roof has been renewed and down pipes installed, wooden steps provided and the floor covered with secondhand carpet tiles. The car remains parked in Cross Street and has been painted a non-standard green and cream with a red band and



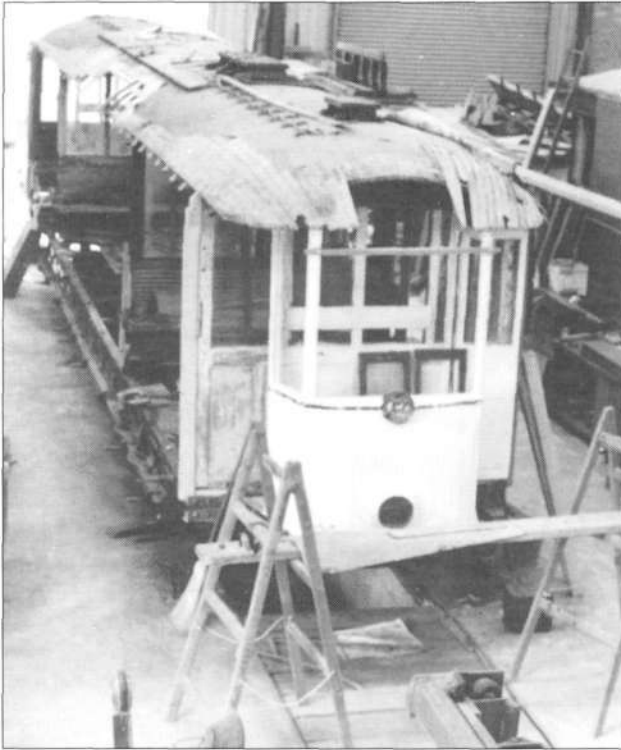
The last of the poles being erected for the extension from the museum's southern limit to the proposed connection with the National Park line.

BOB MERCHANT



Dick Clarke and Peter Hallen test two of the reconditioned solid state rectifiers destined for our new National Park line substation. 30 January 1993.

BOB MERCHANT



O/P class 1089 as it appeared on 30 January 1993. The reconstruction work has progressed considerably under Geoff Spalding's expert craftsmanship since this view was taken.

BOB MERCHANT

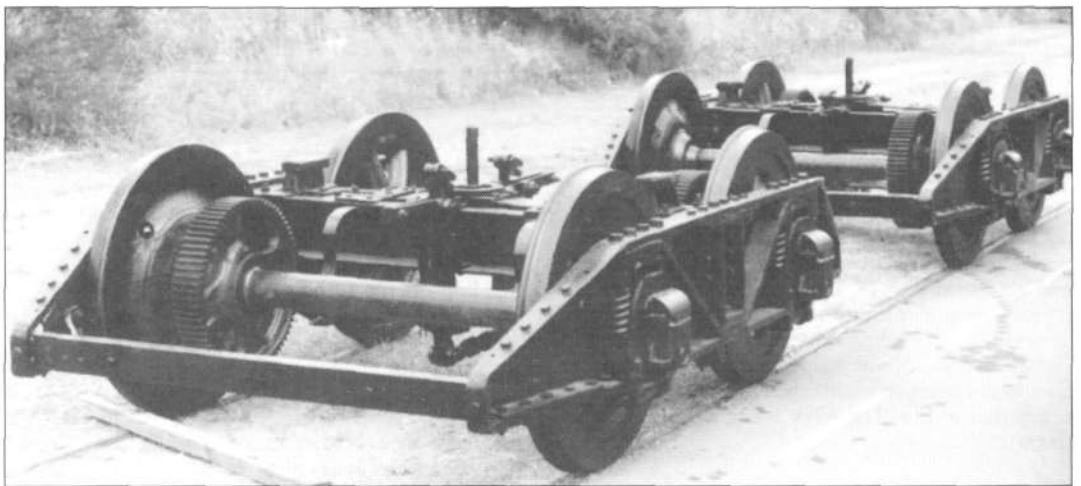
yellow numbers. The change from the previous cramped quarters is most satisfactory.

Car News

Peter Held and Wayne Armitage have been catching up on the maintenance of our trams, and cars which do not see much use in traffic are now receiving attention.

Work on O/P 1089 is progressing well and both cabs have now been replaced and painted with primer. Unlike O class 957, 1089 was quite badly affected with dry rot in parts and it has been necessary to completely replace the cant rails on both sides. The new right hand side cant rail has now been completed and refitted and this will allow the side timbers to be refitted. Work will then commence on the new cant rail for the left hand side. Although some of the timber for the sides has been resurrected by splicing in new material, many pieces have been completely replaced. Construction of a new car must certainly have been easier than our task of rebuilding.

Tony Cody has been making good progress with Brisbane dropcentre 295 and he has been receiving assistance from other members in an effort to return this car to service within the next two months.



The museum took delivery of a set of newly constructed O class bogies from the Hunter Valley Training Co. during February. The museum provided only the wheel and axle sets and axleboxes.

BOB MERCHANT

Nagasaki 1054

Following the decision to have this car re-enter service on Sunday, 4 April, arrangements were made for its railway profile wheels to be reprofiled. On Saturday, 6 February, the car was lifted and the wheel and axle sets were removed from its trucks. The first two sets were transported to the Illawarra Light Railway Museum at Albion Park to be turned on that Society's wheel lathe. These were returned on 20 February and reunited with their truck. The other two sets were then sent to Albion Park, these being returned on 6 March.

The car was reunited with its trucks on Saturday, 13 March and successfully tested through our pointwork.

1054's pantograph has also been a problem as Nagasaki's overhead is lower than the nominal 18 feet used at Loftus. Modifications are also required to the Sydney-style bow ears used within the museum site to prevent them fouling the pantograph. As an interim measure, a single trolley base has been constructed, using the spare trolley pole for PCC 1014. It is, however, intended to re-install the pantograph once a suitable method of extending it to increase its reach, without unbalancing the pantograph or placing it on an unprototypical and unsightly 'tower', has been devised.



The Museum has taken delivery of an old style police call box which will be located in Tramway Avenue after its rebuilding and repainting to the original black and yellow colours.

B O B

ST KILDA

Australian Electric Transport Museum

Concrete Track Relay

The major project for the first few months of 1993 has been the reconstruction of 290 metres of track in concrete. Fortunately, this project has required minimal member work as it is a Salisbury Council project using Commonwealth Government unemployment funding. Our main input was from Christopher Steele who helped the council draw up the concept plans to enable the contract engineer to turn it into reality. The work was carried out by a contractor to Salisbury Council.

The track relay extends from pole 40 at the eastern end of Shell Street, which is just past the mangrove Street Loop and road crossing, to the playground tram stop.

The track is 60lb rail with full width concrete 'Melbourne style'. The rail was retrieved by the contractors from the Defence, Science and Technology Organisation (DSTO) at Salisbury from a siding off the former Penfield railway line. All sleepers have been returned to the museum. Some are reusable, which will reduce expenditure on new sleepers in the coming year.

The new section of track was rejoined by AETM members on Thursday 1 April 1993, allowing our new diesel electric service vehicle to clean up the rail before use by our trams. Further clean-up work continued on the following Saturday, allowing trams to return to the playground stop for passengers on Sunday 4 April. The sound of trams

rumbling along the concrete section will be a novelty for a while. "Sounds just like Swanston Street."

Prior to the project commencing, the council closed off the playground road crossing following complaints from the St Kilda Progressive Association about the roadway being used as a 'race track'. This coincided with our concerns that the location provided a poor view of oncoming cars for our motormen.

The project follows a number of approaches to council over the past few years expressing our concerns about the condition of the Shell Street track and the track approaching the playground from the museum. A combination of poor drainage and silt from the playground earth mounds had caused the sleepers to deteriorate considerably. We are grateful of council's support, especially the Mayor, Ms Pat St Clair-Dixon, who is a keen supporter of the museum. Thanks must also go to the project engineer/surveyor and council engineer John Hutton for successfully making the project

happen.

While the track relay proceeded, trams terminating at the temporary terminus in Shell Street just over the Mangrove Street crossing displayed 'Hotel/Mangrove Street'. This is the first time that the intermediate destination sign has been used since operations began in 1974, except for the occasional special trip.

During this period, visitors were issued with 'Come Again Free' (until 30 June 1993) tickets to compensate for the shorter tram rides. Old MTT tickets from the 1969-1976 issues were suitably overprinted as Adult and Concession versions of the free tickets.

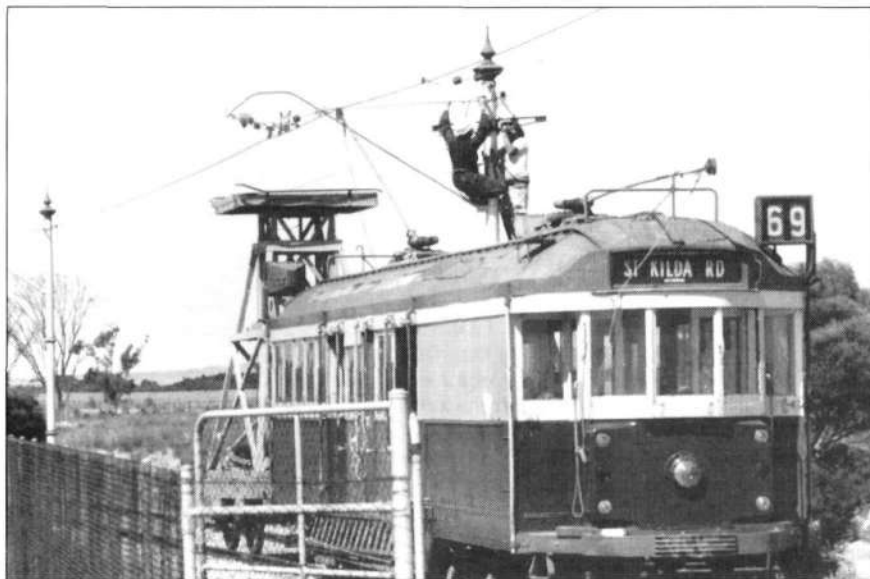
Further repair work is required on the existing track before trams can continue the final 200 metres to the beach terminus. This will depend on availability of finance and labour resources.

Meanwhile, John Pennack's track gang have been busy welding some long lengths of 80lb rail on the



A line-up of cars bearing the sign 'Hotel/Mangrove Street'. A temporary terminus was established in Shell Street just beyond the Mangrove Loop during the track reconstruction period. The crew are Jim Burke and Bill Edmonds.

JOHN RADCLIFFE



As the works area extended some metres past the section indicator at Shell Street, a switch was fitted to the Samphire Road section insulator to isolate all of the overhead during working hours except that near the museum. Max Fenner and Peter Letheby are doing the installation. Note the Murray magpie nest on the span wire insulator on the left of the bracket suspension.

JOHN RADCLIFFE



The last trip over the old track. Max Fenner, assisted by Roger Wheaton, locks the gate over the track at Fooks Terrace, 10 January 1993.

JOHN RADCLIFFE



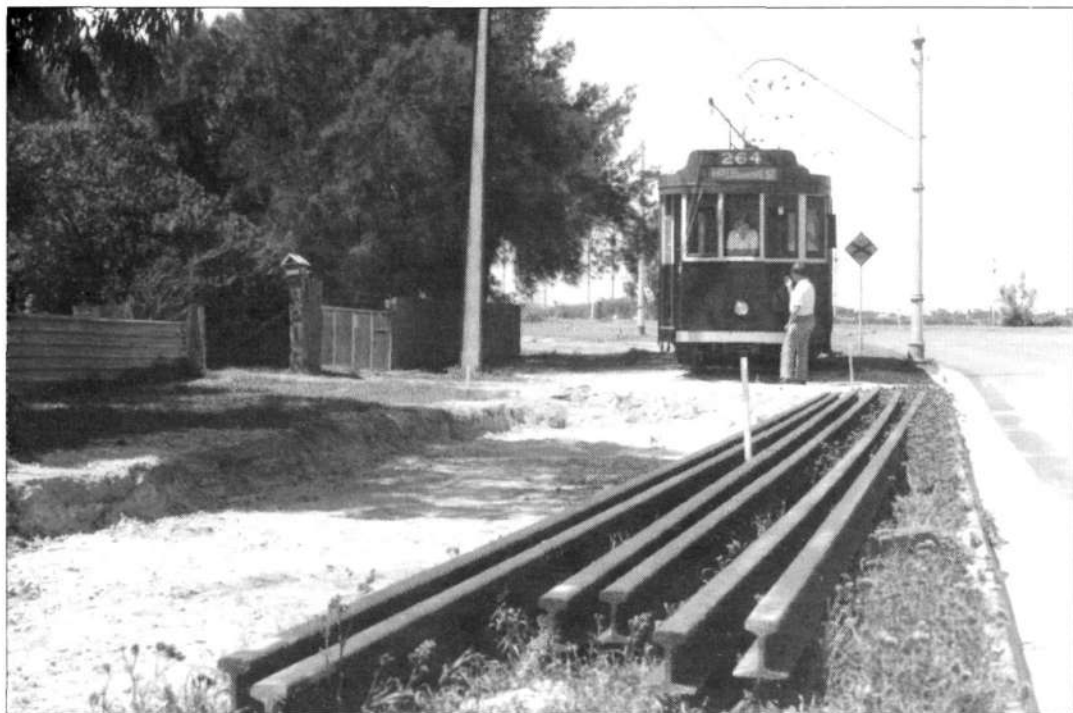
Ian Seymour (right) observing the Salisbury Council's contractors removing the old track, January 1993.

JOHN RADCLIFFE



The track bed has been excavated by mechanical shovel.

JOHN RADCLIFFE



John Eastaff discusses the newly delivered rails (foreground) with a passenger at the temporary terminus, 1 February 1993.

JOHN RADCLIFFE

lake section of track. All the 80lb rail obtained from the DSTO (approx. 400 metres) has now been laid.

Tram Restorations

The end cabins of B 42 have now been constructed by Kym Smith. Chris Dunbar, Peter Letheby, John Pennack and Kym Smith have fitted the new barge boards to each side of the tram. One end apron has been trial fitted. Several of the small wooden beadings are being scraped and revarnished by Peter Keynes. Car 42 is starting to look like a tram again!

Peter Letheby continues to work on the interior framework and floor of E1 type 111. John Pennack has sanded, filled and painted the northern side to almost final coat stage.

Around the Depot

Work carried out recently includes:

- The sealing of leaks on the old depot roof and west wall.



A view of the track excavation with reinforcing and the first of the rails in place. The amount of reinforcing would appear to be excessive for the traffic using the line.

J O H N

- White ant treatment of posts in the old depot.
- Extensions and improvements to the compressed air system in the workshop and bodyshop.
- Tidying and moving of outside stores items.
- Construction of shelving in the bodyshop. The

north wall shelves will house all woodwork screws, nails, etc., while the large south wall shelves are for storage of tramcar body parts.
 -Sorting of the bolt, nut and pipe fitting collection for eventual storage on the shelving.

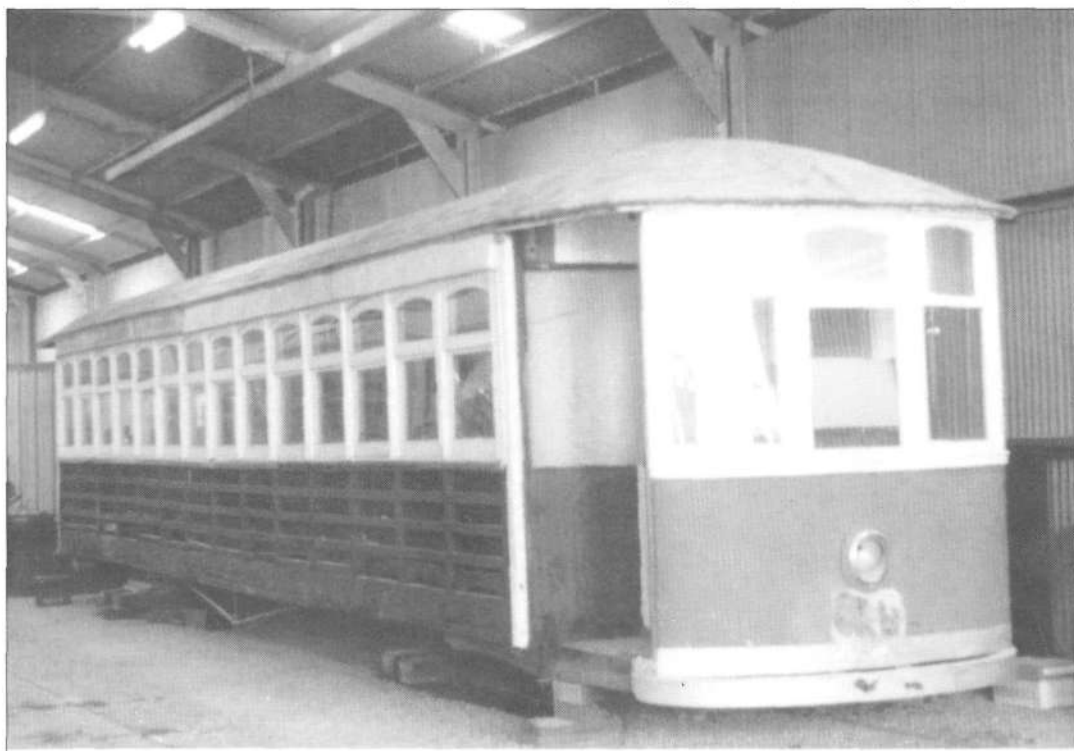
WHITEMAN PARK

Perth Electric Tramway Society

Perth E Class 64 Departs

Further to the report in TW Feb. 1993, the refurbishment of the body of Perth E class tram no. 64 was completed in February by McDonald's contractor, with advice and assistance from Ric Francis. The body was painted in grey undercoat at Whiteman Park.

The move of no. 64 to its new home a few kilometres away at McDonald's Restaurant in Walter Road, Morley, took place on 15 February. The two newly-painted, ex-Westrail 1067mm gauge railway bogies were moved first. On arrival at McDonald's, they were unloaded and positioned on the car-length of track (60lb railway rail) which had



The body of Perth E class 64 as it will be remembered in its former role as 'dormitory car' for PETS members on no. 1 road in the car barn. Although it appears to be fairly good condition, the extent of its structural deterioration became clear only after the removal of the tongue-and-groove timbers from the sides. June 1992.

BILL KINGSLEY

been installed alongside the children's playground under the supervision of Lindsay Richardson the previous week. Trevor Phillips of Bunbury House Transporters then continued his most generous support of the Society by shifting the car body free of charge. It was towed from the Lindsay Richardson Car barn and loaded onto the low-loader using Trevor's house-jacks. At McDonald's, due to the confined space, the unloading was done by two 25 tonne cranes, and the body was placed directly on the bogies.

Final fitting-out and painting of the tram were carried out at McDonald's. Access ramps have been constructed at both ends of the car. Seating and tables have been installed inside and two separate dining areas created by adding a central bulkhead with sliding door. No. 64 is now probably the first and only WA tram ever to be airconditioned. The cabs are fitted with dummy controller tops and hand-brake wheels - these were cast in aluminium from patterns supplied by PETS. The exterior is painted in the 1940s Perth livery of green and cream with red lining, with red diamonds on the aprons.

No. 64 was opened to the public on 27 March, and it has attracted a good deal of favourable comment and publicity. (A colour photo of no. 64 in service in Perth in 1958 appeared on the back cover of *TW* Nov. 1992).

Operations at Whiteman Park

The Classic Car Show was again staged at the Park on 21 March, with over 800 exhibits at the Village and Mussel Pool attracting a large crowd. Five trams were in service all afternoon and were loaded to capacity. The operating pattern used at other recent major events, when all cars terminated at Stockmans Crossing, was altered. On this occasion, two pairs of trams ran between the Village and Mussel Pool; crossings required one pair to shunt at Stockmans Crossing, the fifth car ran Village-Entrance, operating in tandem with the other cars between Village and Stockmans Crossing. Entrance services were boosted during the 'peak periods' early and late in the afternoon. Cars in service were W2 class 393, W4 class 674, W2 class 329, SW2 class 426 and W2 class 368.

The services ran very smoothly, and while the day was an exhausting one for the tram crews and support staff involved, it was a great success.

Trackwork

Following the success of the first track maintenance camp last spring (*TW* Feb. 1993), another camp was held from 26-29 January. The time put in by the team of Lindsay Richardson, Kevin Clarke, Paul Edwards, and junior members



The track panel for E class 64 is lowered in place ready for concreting at McDonald's Restaurant, Morley, in February 1993.

LINDSAY RICHARDSON



A refurbished E class 64, painted in grey undercoat, is loaded at Whiteman Park for transfer to McDonald's on 15 February. The body of B class 15 is visible in the background.

PAUL EDWARDS



At Macdonald's, E class 64 is lowered onto the 1067mm gauge railway bogies.

PAUL EDWARDS



As completed - E class 64 at McDonald's, Morley, carrying destination number 18 (Grand Promenade, Inglewood), March 1993.

MICHAEL STUKELY

Michael Parry and Craig Winslow was again highly productive. Lifting and packing of the remaining ten rail joints on the Village curve between the Country Kitchen and the administration building was completed, and the full length of the curve between the Village and Whiteman Village Junction was lifted and packed, with the outer rail lifted to a 50mm superelevation. After the camp, our regular track workers carried out further lifting, levelling and packing in the Swamp Straight-Bennett Brook section.

On Thursday 11 February, a major bushfire burnt out 250ha of bushland in the Park before being brought under control. Although both the tram and railway workshops area and the Village were threatened, there was fortunately no major damage to property. The fire jumped the tramway at the newly-upgraded Village Junction curve, resulting in some damage - one sleeper was badly burnt and two others were broken by fire-fighting units driving over the track in this rather inaccessible area. Kevin Clarke's team responded to the call and managed to replace these sleepers and attend to some further lifting and packing so that the section could be



E class 64 with her 1940s green livery, as seen from Walter Road, Morley, on 7 March.

MICHAEL STUKELY



The carbarn fan is a hive of activity on 14 March 1993 as work progresses on the installation of the new pit-road turnout on no. 4 road - Trevor Dennhardt (left), Terry Verney, Martin Grant, Kevin Clarke, John Shaw, Lindsay Richardson.

MICHAEL STUKELY



Classic Car Show day in Whiteman Park, 21 March 1993. W2 class 393 and 329, and SW2 class 426, passing through Stockmans Crossing on their way to the Village.

TERRY VERNEY

reopened in time for the March 1 resumption of services following the February shutdown.

During February, work began on the installation of the new pit-road turnout from no. 4 road on the main carbarn fan, near the per-way shed. The appropriate section of 4 road was lifted; new crossing timbers were installed, and the remaining sleepers lowered to accommodate the extra height of the grooved rail which is to be used throughout in place of the 60lb railway rail. Final positioning of the components of the turnout, and crowing of the rail, was being done at the end of March.

The new set of points, acquired from Adelaide some years ago, makes an interesting addition to the diverse collection already in use in the fan. The 1-to-4 road points came from Fremantle; 1-to-2 road from Melbourne, and 4-to-3 road from Kalgoorlie.

A passing loop is at last to be constructed immediately north of Stockmans Crossing, using modified Ex-Westrail 60lb railway points. This will

be of great benefit during major events such as the Classic Car Show, as it will no longer be necessary to shunt cars at Stockmans Crossing.

Around the Carbarn

Concreting the floor in the first section of the engineering shed was done in February. Electrical conduits were being installed in the cable trenches in the traction sub-shed in March-April by Noel Blackmore.

Charlie Bite and Bill Gilbert were progressing well with the re-wiring of W5 class 766 in March.

Fremantle 29 was taken out of service in late December with a faulty motor bearing. The overhaul of a spare 77E truck is under way so that an exchange can be done and the fault rectified. Whilst trackwork on the fan continues on road 4, no. 29 has been 'marooned' on this road in front of its unrestored sister car, no. 28, which is now the members' dormitory car - they make an interesting



W2 class 393, SW2 class 426 and W2 class 368 are ready to leave the Village with passengers for Mussel Pool and the Entrance during the Classic Car Show, 21 March 1993.

TERRY VERNEY



Before: PETS tow truck in its yellow livery, partly masked up for respraying late in 1992.

VIC SWEETLOVE

contrast.

The departure of E class 64 to McDonald's in Morley has enabled the body of Perth B class 15 to be brought into 7 road in the Lindsay Richardson Carbarn. It had been stored in the open since its arrival from Armadale in January 1992 (TW May 1992).

Noel Blackmore has fully overhauled the Honda generator which is an essential piece of equipment for track and other maintenance.

In the motor vehicle department, the ex-MTT tow truck, which was recently repainted from yellow to its original green and cream livery by Peter McPhee, is undergoing mechanical repairs. Vic Sweetlove and Eddie Vagg are now rebuilding one of the ex-WAGT tower trucks (PETS no. 2).

PETS has received another grant from the Lotteries Commission of WA, thanks to the efforts of David Brown. This will be used to provide storage of archival standard for the Museum's growing collection of historic tramway photographs.



After: On 14 March 1993, the tow truck, now PETS no. 3, looks resplendent in its new green and cream livery after the spraypainting was completed by Peter McPhee. Originally a Leyland Tiger OPS4 of 1949, it was one of four such vehicles converted from ex-Melbourne buses by the MTT.

MICHAEL STUKELY

FERNY GROVE

Brisbane Tramway Museum Society

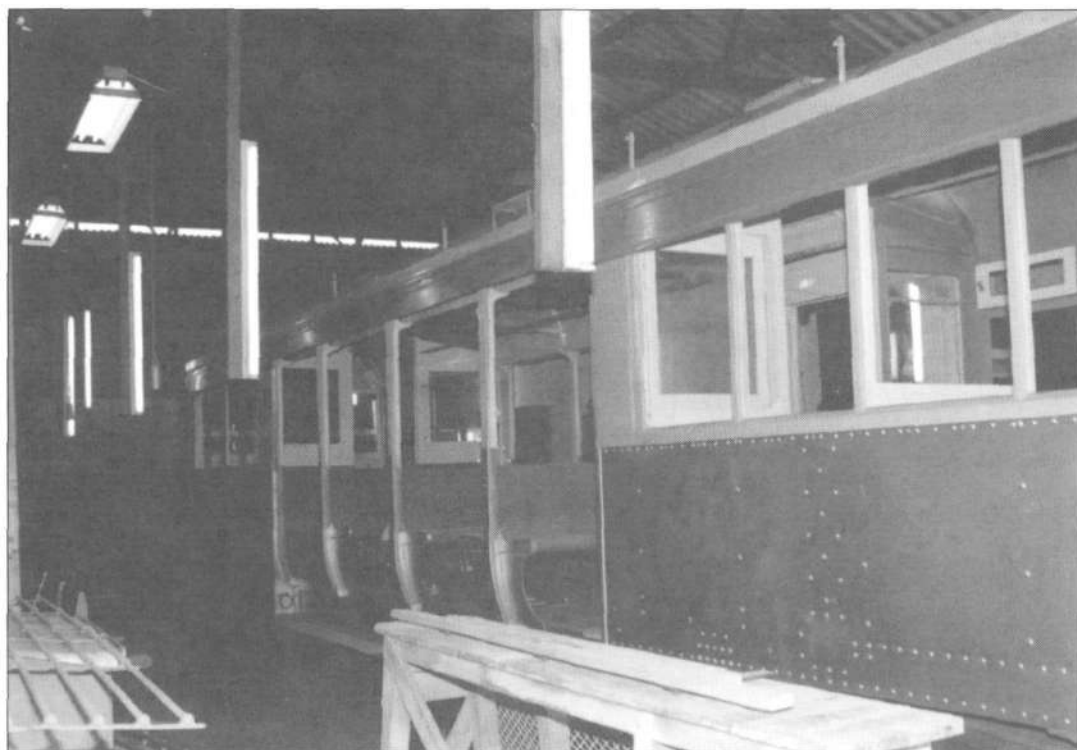
Workshops

Dropcentre car 341 has been returned to the workshops from Depot 1 to have further interior restoration work carried out while the air brake equipment is being overhauled by John Lambert and Wayne Chaseling. Troy Thomas and Peter Hyde have been busy sanding and preparing the ceiling in the No. 2 saloon for spray painting.

To assist the weeknight restoration work parties, Mick Topp and John Lambert have installed an additional twelve single 40W florescent lights spaced evenly around bay 2, the restoration bay in

the workshop. The additional lights virtually eliminate shadows within dropcentre 341 and also reduce the need for portable lighting. In conjunction with this work, the interior and exterior lighting in the workshops area was tidied up, resulting in a more efficient use of available light fittings.

All trams in service have received regular maintenance inspections, while all non-service trams in Depot 1 have been made more presentable for the increasing visits of enthusiasts and official visitors/guests. Depot 2, the storage depot, is next on the list of areas for a level two clean-up.



Dropcentre 341 in the workshops with some of the additional florescent lights installed recently.

J. LAMBERT

Substation

The substation control circuitry is being modified to provide reverse sequence operation when the traction power is switched off at the end of a day's operations. At present, when power is switched off, the 11kV switchgear operates and de-energises all the remaining equipment irrespective of what load may be on line at the time of the switch-off. It is desirable for the 11kV switchgear to operate with minimal current and the new reverse sequence will be, (1) at the time of turn-off, the high speed circuit breaker will immediately operate and de-energise all 600 volt feeder panels and ancillary equipment, and (2) approximately twenty seconds later, the 11kV switchgear will operate and de-energise the main rectifier transformer. Design work has taken several weeks and amended circuit plans are now being drawn.

Vandalism

A 16 year old youth, the first of two offenders who caused in excess of \$16,000 damage to the Museum's bus fleet, has been sentenced to the maximum of 240 hours community service work. The second offender, a 17 year old, has not yet been before the Court and the Museum is still awaiting

notice regarding restitution. Under Queensland law, the community service order must be performed within twelve months of sentencing, usually in eight hour days and usually at weekends.

Sand

The Museum is carrying out trials with paving sand for use in the tram fleet. Chemical tests indicate that it is reasonably safe to use in the sanding mechanisms where corrosion problems could occur, and it is of a good grade suitable for the different types of sanders in our fleet. The ARHS (Qld Division) has been using this sand in their A10 class locomotive for a number of years and no problems have been reported. The sand comes in 40kg bags which are relatively easy to handle. Sanding on curves doesn't work as the sanding gear is mounted on the tram body so the best thing to use is an old watering can with the sprinkler head removed. This results in the sand going right onto the rail head and reduces wastage.

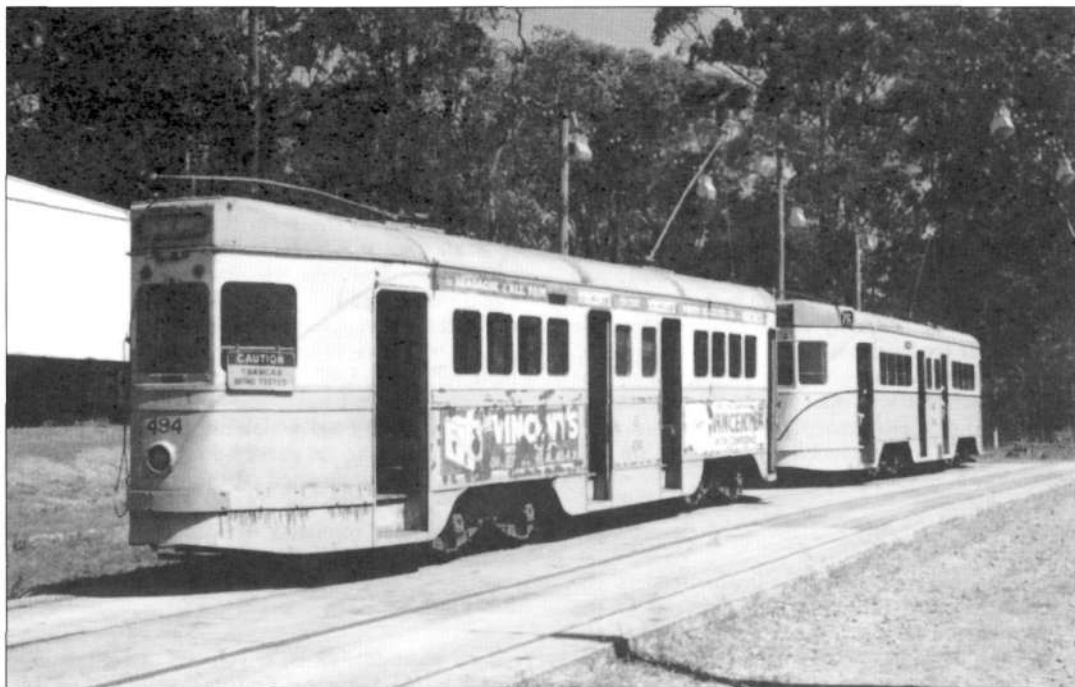
Bus Fleet

Two additional ex-BCC vehicles arrived to join our bus fleet during February 1993. The Mt Gravatt-Capalba Bus Company donated Nos 228



The new additions to our bus fleet are 228 (left) and 229 (right).

J. LAMBERT



Four-motor cars 494 and 554 stand in the terminus area. 494 is undergoing cleaning and testing.

I. MARTIN



Missing glass in these vehicles indicates some of the vandalism inflicted on our bus fleet.

J. LAMBERT

and 229 to the Museum following their withdrawal from service.

Bus 80 suffered some of the worst vandalism in the recent attack and is being repaired by the Brisbane City Council at Toowong bus workshops under the watchful eye of Alan Marment, who appeared in the ABC's Channel 2 report on the museum in January 1992.

Bus 722 has had new fuel tanks installed by Bob Winterbottom and is now mobile again after the vandalism attack. It is waiting its turn to go to Toowong workshops for some minor repairs.

Bus Committee

Due to an almost complete lack of interest, the Museum Board dissolved this committee. Bob Winterbottom, the only interested member, will report directly to the Board on matters relating to the bus fleet, particularly buses 80 and 722.

Mowers

Denis Crump has been busy during the summer months with his fleet of mowers and slashers, keeping the grounds tidy and presentable. After many hours 'restoration', the ride-on mower is now fully functional and is a great benefit in assisting with the above tasks.

PARRAMATTA

Steam Tram & Railway Preservation Society

General News

March 31st marked the 50th anniversary of the last steam tramway in New South Wales, that from Parramatta Park Gates to Redbank Wharf. We marked the occasion with a special running day on Wednesday, 31 March, finishing the day with a special commemorative run commencing at 5.05pm, the time that the last tram departed from the Park Gates on that day 50 years ago. The anniversary was concluded on the following Sunday 4 April, in conjunction with Heritage Week. The 4 April operations were also run in conjunction with the Parramatta Branch of the National Trust who organised an historic walk which included a ride on the trams. A special commemorative adult ticket, similar to the Sydney Ferries Ltd tram tickets used on the line, was issued on both days.

The Society has made representations to the Minister for Land Management and Conservation concerning a variation of the Plan of Management for Parramatta Park in respect of the steam tramway. The Department of Conservation and Land Management has investigated the proposal by the Society to reconstruct the depot on the existing site rather than a new site. The Department and Parramatta City Council both support the proposal. Council has been authorised to prepare a suitable draft amendment to allow consideration of the variation to the Plan following advertising for public comment.

Parramatta City Council has formed a Recreation Services division within its Community Services Department and one of the new division's responsibilities is Parramatta Park and, consequently, the operation of our steam tramway. An informal meeting was held on site with representatives of the new division on 2 March so it could familiarise itself with our organisation and discuss the tramway's position and role in the park.

Works Report

Our Stephenson locomotive is to go to the Rail Transport Museum at Thirlmere for some much needed attention. The Army is going to move the locomotive for us on a date yet to be decided.

Once the Stephenson has left, 1022 will be moved to the front of the shed so the valve gear, reconditioned by the RTM and returned to us recently, can be refitted.

All the wiring and lighting on steam motor 103A has been completed and it all works well. The motor now has headlights at both ends, to internal cab lights and one water gauge light. Night-time trips are now something to behold!

Address Change

As from 1 April 1993, the postal address of the Society will be PO Box 3179, Parramatta NSW 2124.

HADDON

Melbourne Tramcar Preservation Association

Trackwork stage 3

Recent work on the main line has seen the rails along the straight section bolted to the steel sleepers and levelled utilising packing blocks pending final filling. Our track gang, led by Tony Smith, has been concentrating on bending the south-east curve into the terminus area. This has now been completed.

During February, we obtained a quantity of good used red gum point timbers from the Public Transport Corporation. These sleepers were cut to length and placed in position, allowing the assembly of the terminus points to commence. Final sizing and cutting work is being carried out on the closure rails to allow final assembly and adjustment of the pointwork in this area.

Eight truck loads of filling have been delivered to the museum in preparation for filling and packing the main line track.

Bogie Storage Road

Work has been completed on the levelling and filling of the bogie storage road on the north side of the museum and it has been placed in service.

All our spare bogies, both motored and unmotored, have been placed on this storage road and suitable covers have been placed over the traction motors on the motored bogies to protect them from the weather.

The brakeshoe turnbuckles on all the bogies placed on the storage road were removed to allow easy movement of the bogies and prevent brakeshoes binding on the wheels.

Slight modification work was required to the removable point blades fabricated for connecting the storage road to the main line track and was carried out satisfactorily prior to the bogie transfer operation.

Spare Motors and Compressors

Tony Smith and Con Schroeder succeeded in moving 21 traction motors and 4 compressors from the former bus garage into the rear of the truck shop in one day. The transfer has been undertaken to allow easier access to these items should they be required.

Signalling System

Installation of the cables forming our signalling system has been completed despite the work being carried out during two very wet December days. It is a credit to Tony Smith, John Withers, Arthur Ireland and Noel Gipps that this project has been completed in a most efficient manner.



General Manager Tony Smith spreading filling on the completed bogie storage road.

CRAIG TOOKE



Rails and sleepers in position for the construction of the south-east curve leading into the terminus.

CRAIG TOOKE



One of the two recently installed former railway signal cabinets which will be used to house the signalling equipment.

CRAIG TOOKE

The two ex-railway signalling cabinets purchased some time ago have been overhauled and positioned near the south-east curve and just west of the entrance level crossing. Craig Tooke and Lindsay Bounds have given the cabinets their first coat of internal and external paint.

The two style 'R' signal heads previously obtained from the PTC have been dismantled for overhaul. This proved to be a particularly difficult job due to the rusted nature of the signals and the necessity not to damage the optic lenses. The metal components have been sand-blasted and primed, and the main bodies of the signals have been modified to accept the 110 volt lighting we will be using.

As part of this work, Tony Smith has been modifying three former track telephone boxes in which to house the panels once they are mounted on the overhead poles.

Noel Gipps has been busy designing the circuitry for the signalling system, including an overhead coil/contactor system to operate our point motor remotely from the cabin of an approaching tram. This work has involved the design and winding of a coil which will pick up under light traction load but would not be affected by the starting of a tram air compressor.

When completed, we will be one of the few tramway museums in the world to have electrically operated automatic points in operation.

W2 Class 407

Restoration work on this tram is making steady progress and Arthur Ireland has completed the sealing of the new metal gutter along the sides of the tram. Overhaul of the motorman's cabin doors and centre windows has been completed. Work continues on the plugging, filling and sanding back of the external saloon panels.

Museum Tractor

Each year for the past four years, our museum tractor has developed a mechanical fault of some kind prior to the annual grass slashing, and this year proved to be no exception. The problem this year

was a bent valve push rod which was repaired by Frank Schroeder and Tony Smith. When grass slashing started, we had a blowout! Who said life was not meant to be easy?

Historical Society Visit

Our Association was very pleased to welcome thirty members of the local Woody Yaloak Historical Society on a visit to our museum on 20 January. Our visitors were shown around the museum and were impressed with what we have achieved.

W2 class 357, W3 class 663 and W4 class 670 were in service providing rides around the museum for our visitors.

It was a pleasure to have them visit and no doubt a return visit will be arranged in the not too distant future.

NEWCASTLE

Maitland Tramway Park & Museum

Delays and More Delays

December and January had both gone and our Newcastle site was still not operating. We were disappointed and frustrated.

Parking was an issue towards the end of last year. There is half a kilometre of street parking opposite the line and loads of off-street parking, but the demand of one committee was that parking had to be provided on our side of the road. This is a bit awkward as the line runs down the side of the road but we did find nine spaces near the central terminus. Suddenly, the topic was dropped and there are now no requirements regarding parking.

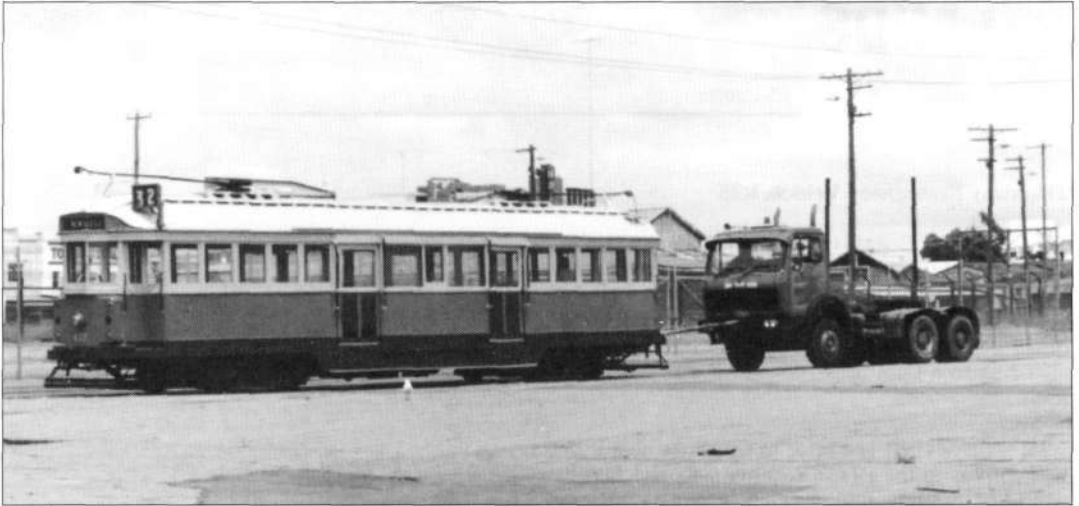
An official in Sydney then thought we should have \$100 million (that is correct) of insurance cover. We had arranged for \$5 million with the Government Insurance Office. There has been a lot of discussion about the amount of cover required and when a satisfactory arrangement has been reached, we can begin running. However, on 4 March we were told that problems concerning public liability insurance will not be resolved for up to another two months. Any decision will involve

two meetings of the Honeysuckle Development Board which occur monthly. Running might not be approved until June!

The delay does not lie with the Honeysuckle Development Corporation, nor with any other instrumentality in Newcastle but with officials in Sydney, especially with a private risk assessment firm. The Museum has appealed to the Minister for Planning.

The Infamous White Line

The development approval required that a white line be painted alongside the site but it did not say precisely where the line should be. Enquiries revealed that a committee would decide but it was not known when the committee would meet. On 1 December, the *Newcastle Herald* asked for a photo of the tram on the waterfront and the reporter inquired about the line. Jack Nyman made a factual statement but the coloured photo was given the title "Red tape over white line stalls tourist tram" and that brought some action. The Council decided that it should define the position of the line and the letter concerning the line took a fortnight to arrive - it was received on the 16th. We had to pay \$300 to have



SW2 class 432 during its testing of the rail tracks on 26 January 1993. The tram was towed over the full length of the track proposed for our operation in Newcastle.

the location spots put on the road and the Roads and Traffic Authority promised to paint the line early in the new year. It did so. The issue was kept alive when, on 7 December, a cartoon by Lewis appeared in the *Herald* (reproduced on page 54, TW Feb 93).

The location spots were very close to the second track and we asked whether we could use part of that as well. For another \$200 we could have the spots changed. There are now two white lines. Traffic is moved further from the track and we can now use part of the second track. These changes did not delay progress.

Why Two Tracks?

Cars park all day, every day, on the track at the Merewether Street end of the line. No one will take responsibility for enforcing the prohibition on parking and our members are reluctant to engage in conflict with motorists who have been allowed to break the law for years. The second track will allow us to swing around the parked cars and use almost all of the line. It is also the least interesting part of the trip as it has wharf sheds on one side.

The Track

Every set of points on the main line has been adjusted to allow tram wheels to negotiate the frogs easily. On 26 January, Ross used his prime mover

to tow the tram over all of the line not parked on. We found two small adjustments were needed to ensure smooth running. On Wharf Road the two points making the crossover have been freed and the frogs adjusted.

Tram 432

Tram 432 was taken to the waterfront on 18 December as part of our attempts to obtain advertising. We were warned about vandalism and entry to the tram was attempted on at least three occasions, probably by homeless men. Two of the sliding doors have been damaged and repairs have been made although replacement would be better. Rot was found in the bottom of the doors. There was no more damage after a more obvious method of securing the tram was adopted.

Display Room

Part of the original offer made by the Maritime Services Board was the use of former office of the foreman. This has a toilet, shower and a room 24ft x 24ft. The display room has been reconnected to electricity and water. There is a full kitchen along one side of the room. The replica L/P tram front has been erected in the room, tables left behind have been rearranged, display boards placed on the walls and other exhibits placed on the tables. Three manikins display clothing.

BYLANDS

Tramway Museum Society of Victoria

Tramway Emergency Vehicle R25

Our Society's Board is pleased to announce that it has taken delivery from the Public Transport Corporation of the former Tramways emergency vehicle, R25. This vehicle was used as an extra tram break-down truck when either the old R10 was attending to a tram break-down or it was defective itself.

We were advised just prior to Christmas that R25 was surplus to the PTC's requirements and that it would be of tremendous value to our activities. Following negotiations with the Ministry of Transport, we were advised by our good friend Alan Brown, who is now the Minister for Transport, that R25 would be made available to our Society on the same basis as the two PTC trucks the Society already has in its possession.

We wish to extend thanks to Mr Andrew Scannell of the Ministry for Transport and Russell Nathan and Les Jean from the PTC for their invaluable assistance in enabling us to obtain this vehicle.

AEC Regal Mk VI Bus 759

Our AEC Regal bus 759 is now registered on historical plates. This happened just prior to Christmas when the bus was driven from the North Fitzroy motorbus garage to Bylands by Geoff Dean, Keith Kings and Andrew Hall.

The bus was at North Fitzroy to have the engine and gearbox attended to and we extend our appreciation to the staff at North Fitzroy, especially Foreman Albert Giancola, for the excellent work that has been done on the bus. Our thanks also to Russell Nathan, General Manager, Tram & Bus, for approving the work to be undertaken on 759.

New Patron

The Minister for Transport, Mr Alan Brown, has happily accepted our invitation to be Patron of our Society. Our members would be aware that it has been customary for the incumbent Minister for Transport to be our Patron.

Alan and his family will be visiting Bylands to receive his certificate and to open the new museum tram interchange located outside the front of the Max McDonald Visitor Reception Centre.



Andrew Hall presents Albert Giancola, service foreman at North Fitzroy bus depot, a mounted piece of cable tram rail in appreciation of his work on bus 759 to enable it to be placed on 'classic historic' permit plates. Geoff Dean looks on. Geoff Dean looks on. 23 December 1992.

KEITH KINGS



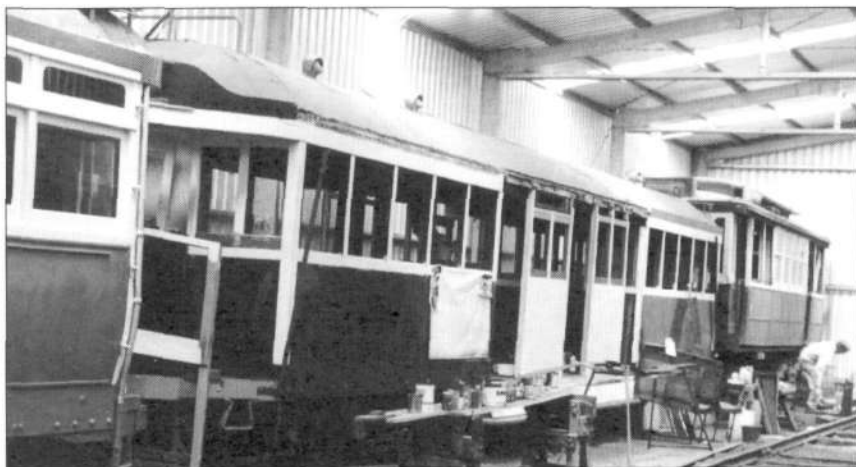
Geelong 22 and F class 46 on the site of the new shed. 46 is sitting on a 21E truck from A class 17 and is the first time it has been mounted on a truck since 1929.

JEFF BOUNDS



Victorian Railways car 34 at Bylands on 7 February. No. 34 is an unpowered no. 1 truck and it is the first time it has been on the main line since 1977.

D. WHITE



Progress is being made on W class 220 and it is hoped to have the car completed for the 70th anniversary.

JEFF BOUNDS

