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## THE STORY OF MILAN 1692

# TROLLEY WIRE

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

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PO Box 103, Sutherland, NSW 1499  
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Ken Butt (left), Colin Rhodes (right) and M>Tram  
driver Hugh Waldron, all members of the Sydney  
Tramway Museum, pose at 4:30am at Preston  
Workshops on the getaway 'tram' from the film  
'Malcolm', on loan from the Tramway Museum Society  
of Victoria's collection for the Moomba parade on  
11 March 2002. Howard Clark

## Front Cover:

Milan Peter Witt 1692 passes SW5 class 842 in the Victoria Street reservation on 28 April whilst operating in  
Melbourne's City Circle service. Dale Budd

## Back Page Top:

The horse 'Bear' with Ballarat Horse Tram No. 1 leads the annual Moomba parade along St Kilda Road in  
brilliant sunshine on 11 March 2002. Robert Merchant

## Back Page Bottom:

Milan 1692 heads east along Flinders Street in City Circle service on 28 April 2002. It is crossing Swanston Street  
with Melbourne's famous Young and Jackson Princes Bridge Hotel as a backdrop. Gregory Sutherland



# THE STORY OF MILAN 1692

By Howard Clark and Dale Budd

## In the Beginning

Around late 1995 the Museum was reminded of the continued existence of the large fleet of Peter Witt cars in Milan, and also of the fact that moves were under way for their replacement.

There was no doubt that the addition of one of these cars to the Sydney Tramway Museum's collection would be highly desirable, for it would represent a design which had been distinctive and successful in the USA and which had been adopted in Europe. A Peter Witt car from Milan would be a very appropriate enhancement to the Museum's collection of representative examples of tramcar designs from around the world.

At this time the Museum was also following up the possible acquisition of Berlin four-wheel cars, and in April 1996 Howard Clark visited Berlin to select these cars but without time to include Milan on his itinerary. However a business trip for Dale Budd provided the opportunity to visit Milan and to discover first hand the availability of a Peter Witt car. A letter to Azienda Trasporti Municipali (ATM), the operator of Milan's public transport, resulted in a cordial response and Dale arrived in Milan one afternoon late in May 1996.

(ATM later changed its name to Azienda Trasporti Milanesi.)

Travelling on the airport bus, Dale's first sight of a Milan tram was a Peter Witt car at a suburban terminus. His hotel was in a street so narrow that a tram had to wait while he removed himself and his luggage from a taxi.

From his first late-afternoon observations it was obvious that there were many Peter Witts in service, as well as more modern cars. The following morning Dale arrived at ATM's headquarters to be met by Mrs Nives Castenetto of the General Affairs Department. They went by car to the Teodosio workshops, where the guided tour provided by Mr Alberto Garrone, head of the warehouse at the workshops, was both fascinating and informative. The range of cars undergoing overhaul was reminiscent of Preston a few years ago, or of Randwick in bygone days. Of special interest was Peter Witt car 1503, in the process of restoration to near-original condition and colour scheme. It was learned that a number of Peter Witt cars were out of service and available for disposal.



*The highest-numbered of its class, Milan Peter Witt 2002 is still running in the year 2002.*

Howard Clark

From the workshops the visiting party walked through a doorway in a wall, into the adjacent Leoncavallo depot. In the depot were many Peter Witt cars both active and stored. The overall condition of the cars was generally good, with the stored cars mostly having only trivial accident damage. It was stated that the damaged cars were those for disposal. One of the active cars was in a tempting position, pantograph up, lights on, compressor pumping, and Dale was given the opportunity to drive it for a short distance. Thus his first trip on a Peter Witt was as driver!

Return to the city was by an ATM truck, then by metro. Dale had been received most hospitably, and had been given books and drawings of Peter Witts and other trams, and a free pass to travel throughout the ATM network. Further, a request was made for the Sydney Tramway Museum to provide details of restoration techniques, to assist ATM in its program of restoring historic cars.

The next few hours were spent riding and photographing Milan's trams, concentrating on the Peter Witts. Everything about the cars – their design, their varnished longitudinal seats, and their overall character – confirmed the view that one of them would be a worthy addition to the Sydney Tramway Museum's exhibits. Little was it realised that it would take no less than seven more visits to Milan for this to be accomplished.

Following this first visit a correspondence began with ATM, to clarify and then respond to their request for restoration information, and an inquiry was made as to the acquisition of a Peter Witt car by the Museum. In July we sought advice from TMSV Chairman, Rod Atkins, then employed by P&O Nedlloyd, on whether the company would assist with the shipping of a tram from Milan in lieu of an earlier inquiry about the Berlin cars. The response from London was positive, and information was provided on likely available ships and sailing dates, long before we had received any formal response from ATM. On 24 December 1996 a fax was received from ATM, confirming the availability of a complete car together with a non-operational or 'scrap' car as a source of parts. ATM could not help with other parts.

Unlike many additions to the Museum's fleet, the car from Milan would not come as a gift. By May 1996 it had occurred to us that the Peter Witt cars with their rugged well-maintained equipment including K35 controllers would be very attractive to North American

buyers as a replacement for the Melbourne Ws whose export has been prohibited since 1990. Sure enough, *Light Rail and Modern Tramway* for March 1997 revealed that Gomaco had bought 31 Peter Witts, 6 for export to the USA and 25 for dismantling for their equipment. Accordingly the tram and parts for Sydney would be made available at a modest price, set by market opportunities and expressed, regrettably, in US dollars.

### Selecting the car (1)

In the meanwhile arrangements had been made for us to return to Milan in April 1997 to progress the acquisition of the tram. In the event Howard had to undertake the task on his own, with assistance from his daughter Sonia. On this occasion entry to the ATM office proved difficult, with passports requested – impossible as they were held by the hotel. Finally Mrs Castenetto came to the rescue. Mrs Battista from ATM's commercial department was keen to assist as the manager, Dr Pierluigi Silvestri, was running late. When he made his appearance he produced a list of available trams and their condition. How many did the museum want, he enquired. Another 30 would be released for sale soon! From the bottom of his heart he wanted "a little bit of Milan to end up in Australia!"

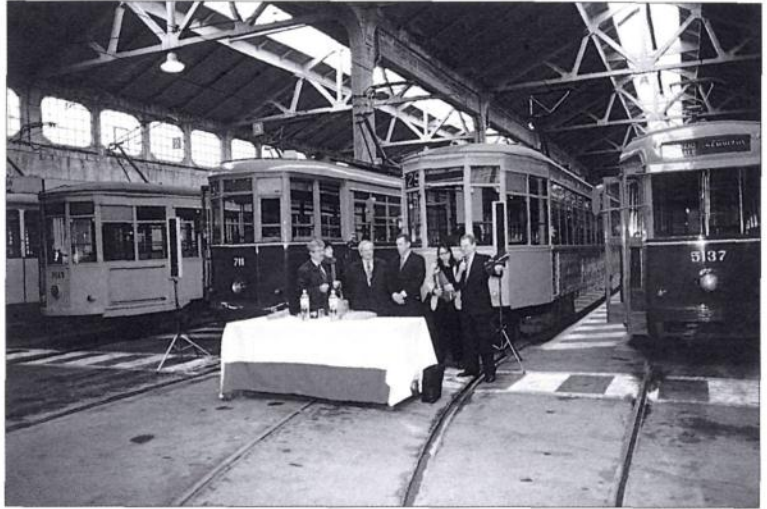
The list revealed 21 Peter Witt cars currently available for disposal, with detailed information on the condition of each car. Fortunately, and in contrast to the indication from the earlier visit, several were free of accident damage. Nine cars were listed as operational, but only two were shown as having all equipment intact, 1815 and 1832. Inspections at two depots showed that both cars were indeed complete except for a few light fittings, but 1832 showed greater signs of rust in the end aprons. It was decided that 1815 should be first preference as the car for Sydney. The choice had been made – or had it?

From the outset we had realised that it would be necessary for a car from Milan to be converted to double-ended operation for use in Australia. Even at Loftus the operation of a single-ended car would be impractical, let alone on another system such as in Melbourne. The acquisition of parts to enable the conversion was canvassed with ATM, and a second tram was proposed as a source of these parts. So a second car was selected from ATM's list: 1692. It was the better of only two 'scrap' cars which were available for disposal, and was complete with most components including its pantograph. A spare pantograph was not otherwise available.



*The handover ceremony was held at Baggio depot on 15 April 1998. Car 1815, at left, was joined by trams from ATM's historic fleet: 609 at extreme left, 711, experimental articulated Peter Witt 4500 and 5137.*

Stuart Clark



Another ATM contact from Dale's earlier visit, Mrs Carmen De Cicco, met us to discuss restoration programs. She explained that funding for the restoration of the many historic cars held by ATM was sadly still not available.

### **Sale and Handover**

During the remainder of 1997 correspondence continued with ATM on the possibility of them

removing parts from 1692. Some of this correspondence was in Italian, involving translation delays. It emerged that ATM's workshop was too busy to undertake this task. On 28 January 1998 ATM formally confirmed the sale of the two cars to the Museum, and provided a quotation for removal of the pantographs for transport.

Meanwhile plans were in hand for a formal handover of car 1815 to the Museum. The assistance of the



*Pictured in front of 1815 at the hand-over ceremony are Dr Pierluigi Silvestri, Howard Clark, Dr Bruno Soresina, Mr David Buckley and Gregory Sutherland.*

Stuart Clark

Australian Trade Commissioner in Milan and his staff was enlisted. The handover took place at Baggio depot on 15 April 1998. Those present included Dr Bruno Soresina, President of ATM; Dr Silvestri, Commercial Director; Mr David Buckley, Australian Trade Commissioner; Ms Loredana Di Bernado, Rapid Response Manager at Austrade's Milan office; and Mr Ewen Robertson, Cargo Care Manager from P&O Nedlloyd London, who flew to Milan for the event. Representing the Museum were Howard Clark and his son Stuart, and Greg and Caroline Sutherland, together with the unlikeliest of interpreters: Ms Kristin Riise, a Norwegian based in Howard's office in Sydney and previously a student in Milan, who coordinated a trip to Europe for the event. After appropriate speeches, those present partook of refreshments, all against the background of an operating depot. The handover of the tram was reported in a Milan newspaper on the following day.

Also present at the ceremony was Mr Guido Boreani, author and unparalleled expert on the tramways of Milan, who was to play an exceptionally important role during the lengthy following period before a Peter Witt car left Milan for Australia.

At the time of this visit it appeared that ATM could assist with converting the car to a double-ender. Mrs Lella Bondanza from ATM's commercial department told us that within a month ATM would fax us a price for fitting controls (but not the handbrake) to the No. 2 (former rear) end.

Later the same month, April 1998, Dale visited both San Francisco, where he inspected ex-Milan Peter Witt 1834, and San Jose, where Fred Bennett and Mac Gaddis of the San Jose Historical Museum at Kelley Park arranged for him to examine car 2001 and the remains of 1943, from which major parts had been removed to make 2001 a fully symmetrical double-ender. Fred generously supplied copies of the wiring diagrams of 2001.

During 1998 correspondence continued with ATM on the issue of parts for the double-ended conversion, and the provision of spares (of which a suggested list had been drawn up by Guido Boreani). As already noted, ATM indicated that it was unable to remove parts from 1692. In August we received advice from ATM that "due to organisational problems in our enterprise it is not possible to build a double-ended car in our workshop". It was difficult to obtain clarification of the availability of any spares at all. So in October 1998 Dale again visited Milan, to seek



**AL MUSEO DI SYDNEY DUE VECCHI TRAM.** Due vecchi tram degli anni '30 dell'Atm saranno esposti al Sydney Tramway Museum in Australia. La cerimonia della consegna delle due vetture tranviarie è avvenuta ieri al deposito di Baggio alla presenza delle autorità consolari australiane e dei dirigenti Atm. Il Sydney Tramway Museum qualche tempo fa aveva risposto a una promozione della nostra azienda trasporti che metteva in vendita le vecchie vetture divenute troppo scomode per i viaggiatori milanesi e che verranno gradatamente sostituite dai più moderni Eurotram dall'inizio del prossimo anno. (Foto: Fotogramma)

*This report of the handover of a Peter Witt car to the Sydney Tramway Museum appeared on the front page of il Giornale Milano on 16 April 1998.*

resolution of these matters. At a meeting at ATM's headquarters Guido Boreani made a momentous comment: it was that our 'scrap' car, 1692, was in better overall body condition than the car selected for preservation, 1815.

### Selecting the car (2)

Immediately after this meeting Dale went to Leoncavallo depot to inspect car 1692. Although the list of 21 cars provided in 1997 indicated that it had a number of missing components, it appeared to be complete except for some readily replaceable parts. The depot manager said that he did not know why it was classed as non-operational, and said that it had been in running condition when stored.

On the following day Dale examined car 1815 at Baggio. This car was complete with the exception of a



single lampshade, and was known to be operational. However its body had more rust than did 1692. It was decided to ask Dr Antonio Parma, an ATM engineer at Teodosio involved with the project, to assess which car was the better of the two. Dr Parma had expressed some reservations in the previous April about the condition of the rear end of 1815 and its suitability to receive equipment to make it double-ended. We had suggested to him in correspondence our willingness to accept an alternative stored car such as 1507 in place of 1815. (No. 1507 subsequently went to San Francisco to be a source of spares but is to be recommissioned there, renumbered to 1807.) However the sale documentation specified cars 1815 and 1692 and no deviation was permitted.

In January 1999 we were informed by ATM that Dr Parma had examined the two cars and had found that

*The rear of car 1834, the first Milan Peter Witt car to go to San Francisco. The minimal driving equipment is provided for back-up or emergency movements only.*

Dale Budd



1692 was in better condition than 1815. So the decision was made: 1692 would come to Australia, and 1815 would be the source of parts for the double-ended conversion, and of spares.

### 1692's History

Car 1692 was the 80th Peter Witt built by Società Italiana Ernesto Breda of Milan, and is believed to have entered service late in 1929 or early in 1930. (ATM's files are inaccessible, and in any event many records were lost in the Second World War.) Breda was one of six builders of these cars awarded simultaneous contracts in 1928: under its current name of AnsaldoBreda it is currently supplying ATM's new Sirio cars.

Peter Witt cars were assigned to all five urban depots, and until the 1970s every overhaul meant a change of depot. So 1692 would have served at each depot and have run on every city line with the exception of No. 32 (double-ended four-wheelers only). It received a self-lapping brake valve in the late 1950s, replaced by a standard valve when it was last overhauled in March 1981. Not having been overhauled in the 1992 program, it retained 'straight air' operation of its doors. The car was stored in May 1993.

For the record, car 1815 also entered service in 1929 or 1930. It was one of 110 Peter Witts built by Officina Meccanica della Stanga, of Padua. It received its last general overhaul in June 1978 (at which time, like 1692, it lost its self-lapping brake valve), and was stored by 1995.

### Design and Execution of the Double-Ended Conversion

A major decision was required on the extent of the work to be done in making the car double-ended. In San Francisco, 1834 had had minimal alterations including the installation of a controller and brake valve at the rear, but at this end there was no bulkhead or driver's seat, no sanding gear and no handbrake. This made the least impact on the interior of the car, but while sufficient for back-up moves in depots, was considered inadequate for full bi-directional operation. (The San Francisco system is laid out for single-ended cars, so full double-ended controls are not required.)

The other extreme was the fully symmetrical approach taken in San Jose with car 2001, which had



*Car 1692 in Nuova Ralfo's factory at Olginate, north of Milan, in April 2000. The new door opening has been made in the car's off-side at the original front end.*  
Dale Budd

involved grafting the driver's cab from car 1943 onto the rear end of 2001, providing front and centre doors on the off-side and removing the rear door on the original right side.

Of equal significance was the decision on where the work of double-ending would be done. One option was to have all the necessary parts removed from 1815, including, preferably, the complete driver's cab, and have them shipped to Australia with 1692, for the conversion work to be done here. Austrade was asked to identify a scrap dealer who could undertake the task of removing the cab from 1815, and after extensive enquiries they found three firms prepared to do the job, two of them close to Milan.

In early September 1999, and again later in the month, Howard visited Milan to finalise arrangements with a scrap dealer, only to learn that all of them had lost interest in the project. However, Austrade had found an engineering firm at Olginate, near Lecco, 40 kilometres north of Milan, which was prepared to help. This firm, Nuova Ralfo, worked on railway equipment and was willing to do the basic tasks of the double-ended conversion. Dr Parma indicated that ATM could provide technical support. On balance, it therefore seemed desirable to have this work done in Italy rather than in Australia.

Four options were discussed with Guido Boreani and Dr Parma for the double-ending:

1. Splice the two cars with a staggered centre joint to provide centre doors – an approach not favoured by ATM;

2. Splice the driver's cab of 1815 onto the rear of 1692, giving rear access only on one side with rear and centre access on the other;

3. Lower the floor and add control equipment at the rear end, with no access on one side of the car;

4. Splice the driver's cab of 1815 onto the rear of 1692; reconstruct the end doorways to provide a half-width door on the left side behind the driver's position at each end, and reconstruct/retain the double door behind the driver on the right side at each end. This would provide doors on all corners of the car, and a door in the centre on its original side only.

Howard had discussions with Mr Giovanni Bosotti of Nuova Ralfo and ATM, supported by Guido Boreani and Austrade, to establish the scope of work. After much consideration it was decided to adopt option 4 of those listed. Full controls and a bulkhead would be provided at the former rear end. This layout would be functional while preserving the unsymmetrical layout of the car. The single doors at two of the corners of the car would be similar to the doors fitted to some of these cars in the early 1930s.

Subsequently Nuova Ralfo provided a quote which encompassed moving the two trams to their factory; cutting the driver's cab off 1815 and splicing it onto 1692 in place of its original rear end; rearrangement of the doors as described above; and the removal of all other useful parts from 1815 for shipment to Australia as spares. In December 1999 Nuova Ralfo's quote was accepted; the period for completion of the job was to be 120 days.



This schedule proved to be extremely optimistic. The trams were not moved to Nuova Ralfo until February or March, delayed by, among other things, a requirement for police permission to move them along the roads. Late in March Mr Bosotti requested a visit from us to discuss a number of issues and problems they had encountered.

So, on 19 April 2000 Dale drove from Milan to the factory at Olginate with Guido Boreani and Loredana Di Bernado. The factory is very close to a large river running into the southern end of Lake Como. Snow was visible on mountains not far away. It was a strange place to find a tram being prepared to come to Australia. Dale met Mr Bosotti and his foreman and inspected 1692, on which work was seemingly well advanced. Nuova Ralfo had decided not to cut and splice a new driving end onto the car, but rather to install the driving equipment into the existing rear end. This was acceptable since it preserved the integrity of the car body including the roof, and was consistent with our intention not to hide the single-ended design of the car. Fortunately the structure of the car, with a false floor above a drop end at the original rear end, allowed the easy introduction of step wells with a minimum of stiffening.

Discussions took place on a range of topics including brakes, doors, windows, flooring, lamp shades and others. As in many of our discussions in Italy, translation had to be provided by Loredana and Guido, particularly the latter with his technical knowledge of the car. Despite his efforts, it later became apparent that there remained considerable communication difficulties with Nuova Ralfo.

Another issue raised on this visit was the regauging (from 1445mm to 1435mm) and reprofiling of the wheels. Two pairs of bogies were involved, since those from 1815 would be among the components coming to Australia as spares.

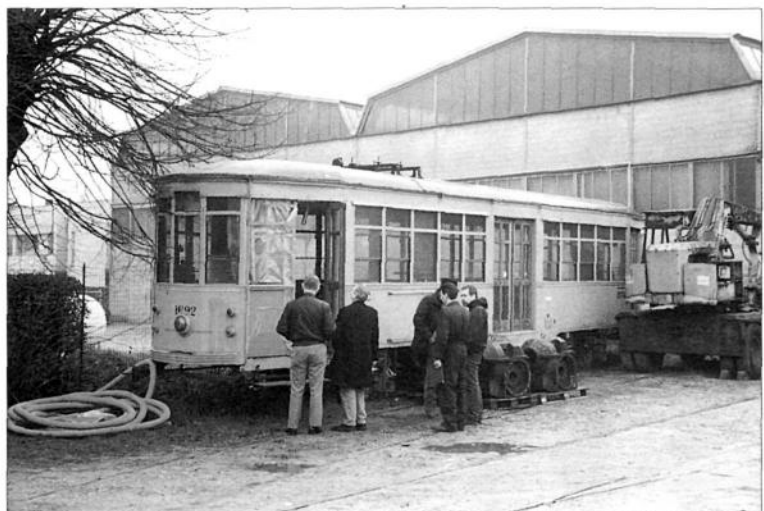
Following this visit activity on the project slowed down, except for frequent exchanges of e-mails or faxes about spares to be acquired from ATM, their availability and price. This flow of messages about spares was an accompaniment to the project from start to finish.

In November 2000 messages were sent by the Museum seeking reactivation of the project, and Howard and Dale, together with Greg Sutherland, arranged to make a further visit to Milan – the eighth and last of the Peter Witt project. On a cold winter day, 23 January 2001, the group went with Guido Boreani to Nuova Ralfo. In contrast to Dale's previous visit when it had been inside the factory, 1692 was standing outside looking rather neglected. An even more melancholy sight was the shell of 1815, comprehensively stripped of almost every useful part, with only the bumpers still to be removed for spares. It was a strange end for a car which had had pride of place at a handover ceremony not long before. Coincidentally one of the ex-Milan cars in San Francisco carries the number 1815, having been renumbered from 1515.

Decisions were reached on outstanding items, and on the following day we met with an ATM engineer, Carlo Bianco, to discuss the issue of spares. It was agreed these would be sent to Nuova Ralfo for

*Sydney Tramway Museum representatives inspect 1692 in the yard at Nuova Ralfo's factory in January 2001.*

Dale Budd





*The remains of 1815 in Nuova Ralfo's factory yard in January 2001. This car retained the timbers on the roof for the trolley pole. The patch on the rear above the number marks the position of the trolley retriever.*

Howard Clark

transport to Australia either inside 1692 or in an accompanying shipping container. It had been found in April that 1692's pantograph had been missing on arrival at Olginate, and its replacement was another matter to be raised with ATM. Despite the apparent resolution reached at this meeting, it was not until early August that the spares were ready to go to Nuova Ralfo. Clarification of the cost of completion of Nuova Ralfo's work was a significant issue resolved over this period, with some difficulty and not without some further misunderstandings.

### Shipment to Australia

More than five years after Dale's first visit to Milan, we requested Nuova Ralfo on 29 June 2001 to contact P&O Nedlloyd to arrange shipment of the tram and all the spares and parts to Melbourne, consigned to Sydney Tramway Museum c/- Bendigo Tramways. Preliminary agreement had been reached that remaining work to bring the car to operational condition would be carried out in the Bendigo Tramways workshop.

Arrangements for the shipping of the car were greatly assisted by Rod Atkins. After collection of the spares from ATM and the completion of necessary paperwork, the tram was moved by road to La Spezia. It left Italy aboard the P&O *Nedlloyd Salerno* on 10 September and arrived in Melbourne on 8 October 2001.

Even before the operation of Sydney R car 1808 in Moomba in 2001, we had been in contact with the organisers alerting them to the potential availability of a Milan tram for the event scheduled for March 2002. They expressed strong enthusiasm for the idea. By the due time of 1692's arrival we had established a

deadline which could only be met by exceptional effort.

The tram and accompanying container were quickly unloaded in Melbourne, but then followed a series of irritating delays. It was a fortnight before the tram was released from the wharf for movement to Bendigo. Worse, the container of spares was observed to have some foreign material – perhaps a fragment of a tree branch encountered between Olginate and La Spezia – protruding from its doors. Despite the receipt from Italy of appropriate fumigation papers, the quarantine requirement was for the container to be completely unpacked and all its contents cleaned before it could be moved to Bendigo. This took approximately a month, and until the container arrived in Bendigo and was unpacked, we were uncertain as to exactly what parts and spares it contained. Most of the expected spares arrived although the bumpers from 1815 did not.

### Making 1692 Operational

No. 1692 was placed on the rails in Tramways Avenue, Bendigo, on 22 October 2001. On arrival it was found that the bogies had been welded by steel strap to the body underframe and one was facing in the wrong direction, making on-the-spot work necessary before the tram could be towed into the depot.

It was quickly evident that the job of bringing the tram to operational status was much greater than anticipated. A visit was made to Bendigo to inspect the car on 25 October. Some of what had been done at Olginate required substantial re-work. Moreover it was found that a number of parts, including some important items, were missing or damaged. So great was the work required that we wondered if the right decision had been made in swapping 1815 for 1692,



*Car 1692 is loaded at Nuova Ralfo's factory in September 2001 for transfer by road to La Spezia and onward shipment to Melbourne.* Nuova Ralfo



*Car 1692 leaves Nuova Ralfo's factory.* Nuova Ralfo



but it was too late to change our minds! The former car had at least been operational at its handover. It is likely that parts were cannibalised from 1692 (in addition to its pantograph) before it was moved to Olginate.

Agreement was reached with Tim Borchers on the renovation of the car, the approach being to make it serviceable rather than undertaking a full restoration. This had the effect of limiting further expenditure on what had become an extremely expensive project. Howard made a further visit to Bendigo in December, to discuss and agree on the scope of work and pricing. A key element of the job would be the contribution of substantial input by volunteers from the Sydney

Tramway Museum who took up residence in Bendigo for varying periods during the months of January, February and March. In this regard Bill Jolly and Joe Kirchberger require special thanks.

Preliminary work commenced in late December, mainly involving the removal of components shipped in the car. The project was fully activated in January 2002. Tony Smith of the MTPA at Haddon kindly agreed to a deferral of work on their VR car as did Len Millar with his X1, to allow the renovation of 1692 to proceed.

Owing to tight space restrictions under the car ends, careful planning and positioning of controller cables



*Milan 1692 is unloaded from the P&O Nedlloyd Salerno in Melbourne in October 2001.*  
P&O Nedlloyd

was needed to avoid fouling of the door mechanisms and of the bogies when swinging on curves. The brake mechanisms had to be redesigned to provide for both air and hand brake operation from the No. 2 end; the compressor was repositioned and air tanks re-installed; all door mechanisms and air lines were overhauled, repaired or replaced as necessary. New lighting wiring was installed through conduits in the ceiling, together with other extensive electrical work.

The doors were set up to be operated from the driver's cabins using two air brake handles, one for the left hand doors and one for the right. The handles are now removable, as is the air brake handle, which in the previous single-ended configuration had been a fixture. Lifeguards similar to those on Melbourne W series cars were installed, enabling the protection bar on the leading end of each bogie to be removed. This was also necessary to allow for a greater swing of the car on curves.

The flooring in the No. 2 end was removed and replaced; the bulkhead at that end was squared up; the driver's seat cushions were re-upholstered and the seat frame adjusted on the bulkhead to permit driver exit on either side of the bulkhead. Along with the headlight the car has two small orange turn indicator lights and two red taillights at each end, with the indicators activated by the driver using a lever connected to a 24-volt system. Four side indicator lights are placed near the corners of the car body behind the doors. Neat, slim metal sandboxes were fitted in three additional locations to complement the original single under-seat box, to provide sand to both leading wheels when operating in either direction.

An additional longitudinal seat was fitted near the No. 2 end on the original off side, increasing the car's seating capacity from 29 to 33. The ceilings in the driver's cabs were repaired and repainted after surplus electrical equipment was removed. The external end aprons at both ends were replaced with new steel panels. Some rust was removed in places from the bodywork, and from step pans in the doorways, requiring re-welding. Some doors were exchanged with spares from 1815 and touched up using a mixture of brown stain and varnish to improve their appearance.

The car was repainted below window level, and its paint touched up and polished elsewhere. New Milan crests were made by a decal maker in Bendigo: they were printed using a computer-generated image made from photos of the original incomplete or damaged crests on the car. An original decal of the crest was found to be too delicate to be used as a result of its age, and replacements arranged by Guido Boreani arrived too late, but are held for the future.

New numbers were hand-painted on the car by the signwriter as the decals supplied by ATM were similarly beyond use. The pantographs from both cars were damaged or incomplete on arrival, and one (initially) was made fully operable by Bendigo volunteers.

Contrary to expectations, neither pair of bogies had had its wheels regauged or reprofiled by Nuova Ralfo. Yarra Trams generously arranged for the wheels on a pair of bogies to be regauged and reprofiled at Preston Workshops. Fortunately, the small gauge difference of 10mm allowed this to be done without moving the



wheels on the axles. The bogies were returned to Bendigo on 8 February, where they were tested and repainted for fitting under the car.

During the renovation a further flow of messages to and from Milan occurred, seeking information or items to help the renovation job, including brake force diagrams and circuit diagrams. John Dunn of Transit Design prepared a clearance diagram, demonstrating that the car complied with the Melbourne structure gauge. Tim Borchers undertook the task of having 1692 accredited to run for Moomba.

Tim Borchers coordinated arrangements for the renovation and Kym Smith was given the responsibility by Bendigo Tramways of project managing the task. Those who worked on 1692 during January and February included John Bullen, Ken Enever, Greg Forsberg, Darren Hutchinson, Luke Jenkins, Anthony Jennings, Ashley John, John Penhall, Dennis Rodda, Neil Solomon, Wayne Taylor, Don Webb and Les Woodfield. Simon Jenkins and Karl Penrose rebuilt the pantograph on a volunteer basis in their own time.

Those working on the car noted many familiar items: Milan relied on American practice in many areas as did the M&MTB, so that components such as headlights are identical. The door and step mechanism on 1692 is very similar to that on Adelaide's H cars, evident as 355 stood alongside 1692 during its renovation, and to Birney cars. No. 1692's K35 control equipment is essentially the same as on many Australian cars, but differs in incorporating the line breaker in the top of the controller.

In recognition of car 1815's role in making 1692 a double-ended car, its interior number plate and its external overhaul plate, recording its last general overhaul (revisione generale) in June 1978, were sent from Italy for preservation. A duplicate of 1815's number plate is displayed in 1692.

With work on 1692 getting under way in Bendigo, a number of organisations were contacted seeking sponsorship for the car. Transfield Services coordinated a positive response from three companies with which they are associated. Transfield RSA offered to check and repair two traction motors; Alstom Australia made a cash contribution; Yarra Trams arranged for work on the car's wheels as already described. Pantalica Cheese Co. was another welcome contributor to the cost of the project.

Although time was tight to have the car ready for Moomba, the job was not as rushed in its final stages as was the case with 249 and 2001 last September. Just on a week prior to Moomba, 1692 had its first run on the streets of Bendigo, on the evening of 4 March 2002. The car ran very smoothly, with reprofiled wheels, roller-bearings on its motors and Milan's unusual and well designed axle boxes, which incorporate what is in effect an oil pump to lubricate the wheel bearings. Consistent with plans for cars with a variety of current collectors to run in Bendigo, the overhead wiring had been modified for pantographs between the depot entrance and the Central Deborah Mine. At present the depot yard and the route to North Bendigo are available only for cars with trolley poles. No. 1692 was the first pantograph-equipped car to run in Bendigo.

*In Bendigo's traditional style, Milan 1692 is launched with the ceremonial breaking of a bottle of Bendigo region red wine against the bumper. Dale Budd*



Inevitably there were many last minute jobs to be attended to. The doors, stiff through years of inactivity, proved difficult to bring to a state of reliability. Work on them was not completed until after the car arrived in Melbourne. Similarly, additional handrails were taken from the ex-1815 stock at the last minute, and fitted adjacent to the new doorways.

### The Launch

Car 1692 was launched in Bendigo on Wednesday, 6 March. Throughout the day the sun shone brightly, showing 1692's fresh orange paint to good advantage. Driver training runs took place in the morning and shortly before 4:00pm Linda Storey drove the tram to the Central Deborah Mine. The ceremony followed a traditional format. Howard Clark and Marika McMahon, Vice Chairman of Central Deborah Bendigo made speeches, before a premium bottle of Bendigo region red wine was ceremonially broken against 1692's bumper. The latter task was not easily accomplished, since at the first attempt the bottle fell off the ribbon and smashed on the ground, and at the second the bottle proved tougher than the bumper. Honour was satisfied at the third try. After refreshments those present boarded the car for the trip back to the depot.

After the ceremony 1692 made two more trips for photography, facing in different directions. There was then a celebratory Italian festival meal at the depot for all who had been involved in 1692's renovation, followed by a trip on the tram on which cheese supplied by Pantalica and gelati were served. On these trips passengers took great interest in the numerous authentic Milanese advertisements in the tram.

### On to Melbourne, Moomba and Beyond

On the morning of 7 March car 1692 was loaded in Tramways Avenue for transfer to Melbourne. A quick trip saw it rolled onto the track at Preston, onto a traverser and under cover by midday, ready for its pantograph, removed for the road journey, to be refitted. When power was first applied there was a dramatic flash from the controller, but attention to an insulated cable, apparently rubbed through on the trip from Bendigo, enabled the car to be put through its paces on the Preston test track. As mentioned earlier, attention to doors and the fitting of hand rails were among tasks undertaken to ready the car for its appearance in the Moomba parade and display on the following Monday. Moomba is the subject of a

separate report in this issue, as is the operation of 1692 on the City Circle on 28 April.

### A Six Year Project

The renovation of car 1692 in Bendigo, and its conversion to double-ended operation, represent the completion of a project which took almost six years. It could not have been accomplished without the efforts of very many people. Many of them have already been referred to in this article. To them, and to the following, are expressed the warmest of thanks for helping to bring a Milan Peter Witt tram to Australia.

The Hon Tim Fischer MP, who as Minister for Trade assisted in our early contacts with Austrade

Mr George Everson, General Manager Special Projects, Transfield Services

Messrs Frank Bosci, Michael O'Rourke and Phil Terry of Alstom Australia



*Bendigo's cathedral provides a backdrop for Milan 1692 on its launch day, 6 March 2002.* Dale Budd

*'Non Parlate al Guidatore: Do Not Speak to the Driver...'* The retention of many signs and advertisements in 1692 add to its character. Dale Budd



Mr John Rose at Transfield RSA

Mr Rod Beet at Yarra Trams

Mr Henry La Motta, Secretary-General, Italian Chamber of Commerce and Industry, Melbourne

Dr Giorgio G. Campanaro, Director and Aida Esposito, Italian Institute of Culture, Melbourne

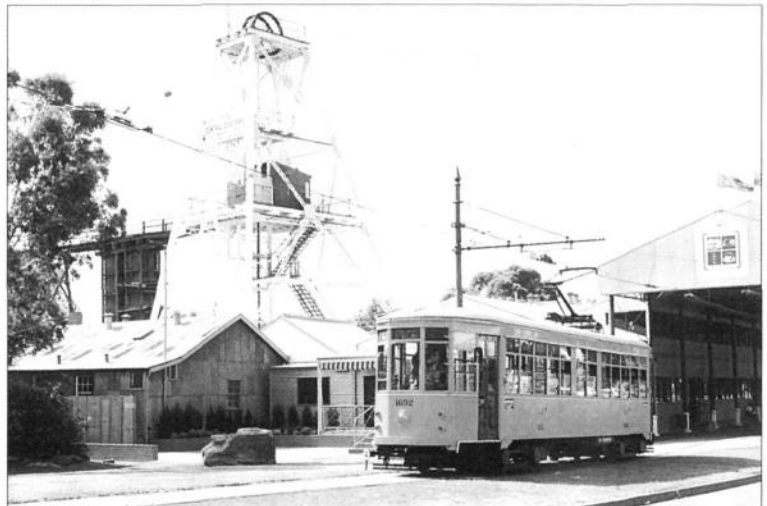
Mr Silvio Pitruzzello, General Manager Business and Marketing, Pantalica Cheese Co., Melbourne

Finally, it is appropriate to record a sign which has been placed in 1692. It reads as follows:

The acquisition of tram 1692 from Azienda Trasporti Milanesi, and its conversion and renovation, would not have been possible without the invaluable assistance of  
**GUIDO BOREANI**  
of Milan

*Car 1692 departs from Central Deborah with the mine poppet head providing an unusual background for a Milan tram.*

Dennis O'Hoy





## A HORSE TRAM RUNS IN MELBOURNE

By Len Millar

On Monday, 10 March 2002, the Ballarat Tramway Museum's Horse Tram No.1 had the privilege of leading the Melbourne Moomba Festival's 'Trams on Parade'. The tram had a crew of three – reins man, Reg Smith, owner of our horse, 'Bear'; brakeman Len Millar; and conductor John Clowes. Accompanying the platform staff was an M>Tram driver to show us the road. The lady was a tad upset when she was told that this particular horse tram did not have a point bar. When it was agreed that the tram would not encounter any facing points, she was able to concentrate on matters such as "Where are the turning indicators, and where is the AVM and radio?" Amid much jollity we were off to a laughing start!

But let's go back in time. That prolific builder of horse and electric trams – Duncan and Fraser of Adelaide – built seventeen double-deck horse trams in 1887 for the Ballarat Tramway Company Ltd. In their latter years, eight of the horse cars served as occasional trailers behind the newer electric trams at times of heavy patronage. When one reflects that up to 50,000

people a day were known to have visited Lake Wendouree and the Botanic Gardens in the peak season, the Company would have been desperate to obtain any available rolling stock.

Photos of the horse trams show heavy loadings, and the two light horses normally used were similar to those used for livestock work on farms. An extra horse was used for the steep grades such as that to the west of Grenville Street in Sturt Street. Horse trams operated in Ballarat for eighteen years, returning to the depot and stables on the north side of Lake Wendouree each night. The electric trams which entered service for the Electric Supply Company of Victoria in 1905, used the same depot.

In 1985, Horse Tram No.1 was retrieved from beside a house in East Ballarat where it had served as a bungalow for many decades. The lengthy and

*Ballarat horse tram No. 1 undergoes trials with the horse 'Bear' in Wendouree Parade heading for St Aidans Drive on 3 February 2002. Peter Winspur*





*Loading the horse tram in Wendouree Parade on Sunday evening 10 March 2002.* Carolyn Dean

meticulous restoration and reconstruction of No.1, completed by the Ballarat Tramway Museum in 1992, was covered in the February 1993 issue of *Trolley Wire*. Although the restored tram operated in 1992, it has run only once since that time. Obtaining the horses has been the problem, and the cost of shoeing them is significant.

Late in 2001, the organisers of the 2002 Moomba Festival approached the Ballarat Tramway Museum, inquiring if the horse tram would be available to lead Trams on Parade.

Warren Doubleday and Peter Winspur took the project in hand, and through driver Roger Salen, contact was made with Reg Smith, who owned several Clydesdale horses including one by the name of 'Bear'.

During two trial runs, 'Bear' handled the 1.5 tonnes of rolling weight with considerable ease, once he had the tram moving. The tram runs on a former Melbourne cable trailer truck and, although its springing is bouncy, it rolls easily. It was apparent that 'Bear' would have no trouble hauling the tram's capacity load of around 30 people. With the trials successfully completed, arrangements were made for the horse tram to be loaded in Wendouree Parade late

on Sunday afternoon, 10 March, for transport to Preston Workshops prior to it leading Trams on Parade the following day.

Early on the morning of Moomba, after the other trams had left Preston, a tilt tray truck provided by Associated Towing of Cranbourne headed for St Kilda Road, arriving at Grant Street about 6:30am. It was still dark when the horse tram was off-loaded to join the rest of the trams about 7:00am. With the sun rising, the sight of all the trams with the Melbourne skyline in the background was impressive. No double-deck horse trams have been known to be in St Kilda Road before, so it was a first – as it was for the Berlin and Milan trams.

'Bear', our horse, was unloaded close to No.1 and was hitched up while signs were being attached to the front and rear of the top deck of the tram. These bright yellow signs informed onlookers that the strange little vehicle was an '1887 Horse Tram from the Ballarat Tramway Museum'. In what might be a world-first for a horse tram, it noted the Museum's website address.



At 11:00am, the marshals got the show going. A band, a family of Ned Kelly look-alikes, a horse tram, more bands, and the many trams moved off for the three kilometre trek. 'Bear' was unfazed when crossing the junction with the South Melbourne Beach line at Southbank Boulevard but he was not at all keen on the Ned Kelly 'clowns' who stopped every now and then, facing imaginary gun-fire and then falling down on the road in front of him.

By Princes Bridge, conductor John Clowes was exhorting the crowds to "come up and ride on the Vintage Trams at Ballarat!" John's wife, Merle, and two of their friends, Roma and Arthur Cook, all of whom are volunteers at Sovereign Hill, had dressed up in fine vintage fashions and were to be seen regally waving to the thousands on onlookers.

The tram was led and followed by various bands. The sight and sounds of the bands, the various trams, some of which had large sound systems fitted to them, made for an impressive parade. When the parade was over, the horse tram was parked on the northbound track in Swanston Street just on the south side of the Bourke Street intersection. 'Bear' was able to remain for a while before he was relieved from duty. We will never know what he thought of being hooked to an 1887 horse tram while 1987 articulated B2 class cars rumbled across in front of him. The crew answered

seemingly several thousand questions, and chased several hundred young kids down from the upper deck. After all, the 600 volts trolley wire was only a metre or so above the top deck seat. Merle, John and friends posed for many a photo. We should have charged!

The organisers of Moomba had allocated the Ballarat Tramway Museum a display tent in the City Square, so a small group of volunteers with promotional material and sales items were assembled to take advantage of this kind offer. Alan Bradley, Andrew Cox and David Frost had many visitors and were successful in selling various souvenirs and postcards. To the north of us was the 'Tramland' stage featuring the Melbourne Tramways Big Band. In Swanston Street there were numerous stages and trams, the latter still with music playing. Somehow it all worked and the crowd had a great time.

By 2:45pm, the time had come for the horse tram to leave Melbourne for home. Never before had No. 1 been in such a busy situation with such large trams surrounding it. By 3:15pm the truck moved off for Ballarat, arriving there some two hours later.

*'Bear' sets off towards Princes Bridge with the horse tram at the start of Trams on Parade.* Dale Budd





So ended No. 1's trip to Melbourne and its few hours of fame. It featured on the Channel 7 News that night

and in a photo on page 2 of *The Age* and on the newspaper's website the following day.

*Crowds line the parade route as Ballarat Horse Tram No. 1 approaches Princes Bridge.*

Howard Clark



*The horse tram leads the parade along Swanston Street near Collins Street. It is not far to go for Bear before a well-earned rest at Bourke Street.*

Warren Doubleday



*The horse tram on display in Swanston Street near the Bourke Street intersection.*

Howard Clark



# THE OTHER MOOMBA TRAMS

By Dale Budd

For the third year running, Melbourne's Moomba festival in 2002 again featured 'Trams on Parade'. As reported elsewhere, the Ballarat Tramway Museum's Horse Tram No. 1 was chosen to lead the parade, which took place in bright sunny weather.

This year Trams on Parade included two sections. The 'Tram History Trundle' included mainly preserved and historic cars, and these formed the first part of the parade. Following right behind was 'TramsFormations', with trams decorated in styles ranging from the exotic to the bizarre.

Most of the trams – those operated by electricity! – ran into the city from Preston Workshops from 4:00am. Unlike last year when the parade was formed up in Southbank Boulevard, on this occasion the trams were positioned in St Kilda Road south of the Arts Centre. The three 'foreign' electric cars, from Sydney, Berlin and Milan, were driven by Bendigo drivers with an M>Tram driver to provide route knowledge. Regular services from southern suburbs were diverted via Kingsway and Sturt Street into Southbank Boulevard.

As in previous years the parade and display involved trams on both tracks. Cars taking part this year consisted of the following.

## 'Tram History Trundle':

- Ballarat Horse Tram No. 1
- HTT No. 8
- MMTB V class 214
- MMTB S class 164
- MMTB X class 217
- MMTB W1 class 431
- Sydney R class 1808
- Milan Peter Witt 1692
- MMTB Y1 class 613
- Berlin TZ69 class 3007
- Yarra Trams C class 3014

## 'TramsFormations':

- Trojan Billy Cart Tram SW6.949, representing a giant billycart;
- Tutantram SW6.900, decorated with Egyptian hieroglyphics;
- Quarter Acre Tram SW6.885, covered in turf;
- Pedal-powered 1042, built for Melbourne's Federation Parade in May 2001;

- Un-numbered four-wheel pedal-powered vehicle – the 'Sprocket Rocket';
- Food Tram SW5.759, 'a slapstick tribute to Melbourne's dynamic restaurant culture', with a turbaned person sitting in a giant wok attached to the front of the car;
- Silk Road Tram SW5.800, showing Nirvana as its destination;
- Goods Tram W7.1018, piled high (including the roof) with 'merchandise' in huge packages;
- Islander Tram SW6.899, with dancers on a platform built on the front of the tram, and on a large rubber tyred trailer;
- Antarctica Tram W6.984, containing an inflated replica of a whale.

The parade began at 11:00am. Watched by a large crowd, the trams slowly made their way across Princes Bridge and into Swanston Street, where they then stood on display until 3:00pm, spaced out between Flinders and Bourke Streets. The parade and the display included many entertainers and bands, to a much greater extent than in 2001. Perhaps because of this the event attracted more people than before, with Swanston Street jammed with happy spectators.

Once the trams had cleared Princes Bridge, St Kilda Road services resumed operation to Flinders Street, and services in Flinders Street resumed operation across Swanston Street.

In addition to the cars listed above, Bendigo's replica battery tram, under construction, was displayed in the City Square on a semi-trailer. Also in the square was the vehicle used in the film 'Malcolm', and sales stalls operated by the Sydney and Ballarat museums. In Collins Street where services were suspended for the duration of the parade and display, Yarra Trams placed Citadis car 3013 on display at the Swanston Street stop.

At 3.00pm the display officially concluded. The electric cars ran to the north of La Trobe Street, where those on the northbound track shunted on the crossover. All the cars turned into La Trobe Street and shunted on the crossover west of Elizabeth Street before running via Victoria Street and the West Preston line to reach Preston Workshops. So ended another successful 'Trams on Parade'.



*W7 class 1018 was moved to the Melbourne Exhibition Building to be repainted for the Moomba parade by school children. It is seen during the repainting on 28 February 2002. Jeff Bounds*



*Milan 1692, Yarra Trams Citadis 3021 and Sydney 1808 stand in the yard at Preston Workshops on 7 March 2002.*

Howard Clark



*Milan 1692 and Berlin 3007 roll down La Trobe Street to Elizabeth Street accompanied by Bendigo Tramways' support vehicle in the early hours of 11 March 2002. Jeff Bounds*







*W7 class 1018 ended up as a representation of Asian transport, complete with boxes and bundles on the roof. It is seen here in St Kilda Road during the parade.*

Dale Budd



*1042, a pedal-powered contraption called Mother Tram, was constructed by Preston Workshops for Melbourne's Federation Parade in May 2001 to honour Melbourne's tram building history.*

Ray Marsh



*SW6 class 949, the Trojan Billy Cart Tram, representing a giant billycart rolls along St Kilda Road towards Princes Bridge during the parade on 11 March.*

Howard Clark

*Food Tram SW5 class 759, provided a slapstick tribute to Melbourne's dynamic restaurant culture, with a turbaned person sitting in a giant wok attached to the front of the car. Flames and smoke are issuing from a pan on the stove in the centre of the tram.*

Howard Clark



*Milan 1692 and Berlin 3007 pass in Swanston Street after the parade on 11 March 2002.*

Ray Marsh



*Bendigo's battery car, under construction, was on display in City Square.*

Howard Clark





# HERE AND THERE

## NEWS ITEMS OF INTEREST FROM ALL OVER

### Gold Coast light rail study

Four consultancy firms have been shortlisted for a \$1.3 million contract to determine the viability of a light rail network on the Gold Coast. The Federal Government has committed \$650,000 from the next Budget, with the remainder funded by the Queensland Government out of its 2001-2002 Budget.

Queensland Transport Minister Steve Bredhauer would not release the names of the shortlisted firms but said they had been narrowed down from a field of 14. The successful firm will be chosen mid-year, with the impact assessment study and financial analysis expected to be completed by December 2003.

The proposed light rail network would run from Southport through Surfers Paradise and along the Gold Coast Highway to Broadbeach, where the new Gold Coast Convention Centre will be located.

If the studies support the project, the next step will be deciding how much the State and Federal governments would be willing to pay towards the estimated \$200 million cost of stage one. A \$235 million light rail network proposed for inner-city Brisbane was shelved in 2000 because the private sector consortia bidding for the project were not convinced of the State Government's projected patronage levels.

The State Government spent \$11 million on the project – to which the Commonwealth promised \$65 million but subsequently spent on a Bruce Highway upgrade – but was not prepared to provide the extra \$80 million requested by the consortia.

The Gold Coast project would serve high-density areas and key business, employment and tourist attractions and therefore is said to have potential to attract private sector funding. Gold Coast Mayor Gary Baildon welcomed the shortlist but said the State and Federal governments were moving “at a snail’s pace”.

“The study was promised to us by the Premier in February last year, by the Prime Minister in April last year and we haven’t even see the study start,” Cr Baildon said. Cr Baildon said traffic was increasing and

congestion becoming worse, but even if the study supported the project there was no guarantee of funding.

From Sean Parnell, *Courier Mail*

### Melbourne – Mont Albert to Box Hill Extension

The 2.2km extension of the Mont Albert line to Box Hill commenced with road widening at the Box Hill end to improve the junction at Whitehorse Road and Elgar Road and make provision for the proposed tram line through this busy intersection. The extension will commence at Union Road, Mont Albert, present terminus of route 109, and terminate at Market Street, Box Hill.

Over the weekend 13-14 April, a length of double track was laid in Whitehorse Road between Wellesley Street and Victoria Crescent, a distance of about 350 metres. It is planned for the track to be surrounded by grass from the intersection at Elgar Road to the terminus at Market Street and completion is expected by September 2002.

### Trams leave Newport

The Victorian Government acquired some years ago several additional vehicles to augment their already extensive heritage fleet. Two privately owned Victorian trams, W2 class 323 and VR No. 20, and two interstate cars, Brisbane FM 493 and Sydney R class 1845, were taken to Preston Workshops for future restoration to operating condition.

Due to the changing times and privatisation of the Melbourne tramway system, these vehicles, together with several cable trams on loan to the Government from the Tramway Museum Society of Victoria's collection, were transferred to Newport Railway Workshops for storage. Recently the Victorian Government indicated that some of these vehicles could be made available to museum groups on loan for restoration. After consultation the government made Brisbane FM 493 available to the Central Deborah Bendigo Tramways, and W2 323 and Sydney R 1845 to the TMSV.



*This view is looking east from Wellesley Street, Mont Albert towards Box Hill on 14 April 2002. Workmen check the level of the rails of the city-bound track, prior to concreting. The agitator trucks in the distance are pouring the last of the concrete on this section of the Box Hill bound track.*

Clive Mottram



*The Collins Street tramline is being extended into the Docklands area. An H crossing on 23 March 2002 replaced the T junction at the corner of Collins and Spencer Streets.*

Ray Marsh



*The first Combino for M>Tram is seen being prepared for unloading at the entrance to Preston Workshops on 12 March 2002.*

Ray Marsh





Adelaide's restaurant car H type 378 stands at the temporary terminus at South Terrace during the Festival of Arts. Its toilet was available for use by tram crews. This view is looking south with H 369 and partner ready to return to Glenelg on 9 March 2002. John Radcliffe



A nice view of Milan 1692 in City Circle service as it negotiates the curve from Nicholson Street into Victoria Street on 28 April. Dale Budd



Milan 1692 passes the Princess Theatre in Spring Street during its City Circle operation. Appropriately, Mamma Mia! is the production being staged at the Princess. Bob Merchant

The Brisbane car was transferred to Bendigo during February, as reported in news from that city elsewhere in this issue. The other two electric cars and the cable trams will be transferred to Bylands in the near future.

### More W series cars nearing return to service

Following re-entry to service of the City Circle W series trams, work is nearing completion on five more W cars for Yarra Trams.

Alstom at Ballarat is fitting the magnetic track brake equipment to the trucks for these cars. The bodies of the cars are being repaired and repainted (in M&MTB green and cream) at Preston Workshops, after which the cars are towed to Camberwell Depot where modifications are undertaken to their air brake systems. These include modification and rearrangement of the brake rigging.

Car 983 is the prototype for these modifications, and at the end of April it was at Camberwell, almost ready to return to service. The next four cars will be 964, 992, 1012 and 1021. These are at Preston. All five cars are expected to be in service by the end of June.

The City Circle Ws were returned to service without the air brake modifications, but these will now be progressively applied. At the end of April, City Circle cars 925 and 1020 were undergoing these modifications at Camberwell.

### Adelaide

Adelaide's restaurant tram, H 378, has had little recent use. During the March 2002 Adelaide Festival of Arts, Victoria Square was closed to all traffic at weekends, and trams only operated to South Terrace, with a connecting bus into the city. The restaurant tram, which is airconditioned, was in regular use on these days – parked at South Terrace for use by crews as a mobile toilet.

### Late News – Milan car on City Circle

The Sydney Tramway Museum's Milan car 1692 joined W series cars and ran in passenger service on Melbourne's City Circle on Sunday, 28 April in conjunction with the Immigration Museum's Italian Festival. The tram was transferred from Preston Workshops to Southbank Depot on Friday, 26 April.

The car ran out of the depot at 9:45am and operated in the anticlockwise direction before running to the

La Trobe Street terminus at Colonial Stadium at 1:00pm for a lunch break. The afternoon running was in the clockwise direction before returning to Southbank Depot at 4:45pm.

Car 1692 was returned to the Workshops early on Monday morning, 29 April and was the first tram to negotiate the connection from La Trobe Street at the new junction at Victoria Parade and Brunswick Street, which had been installed over the four days 25-28 April. From all accounts the operation of 1692 was very successful, and the Immigration Museum was very happy with the publicity generated by the event.

### Corrections, apologies and jubilees

Dave Macartney has advised that the photo of Melbourne W2 class 249 in silver on page 3 of the November issue was taken by the late Ray Pearson.

We apologise for the quality of printing of the photos on pages 17, 18 and 19 of the February issue, which resulted in trams which are painted orange appearing to be white. Changed proofing and production processes have been instituted to avoid a repetition of the problem.

On pages 4 and 5 of the February issue, the event in Sydney in 1951 was wrongly referred to as commemorating the Silver Jubilee of Australia's Federation.

The 1951 celebrations were collectively referred to as the Jubilee of Federation. The word 'jubilee', without a prefix, usually means a period of 50 years. A golden jubilee also refers to a period of 50 years (see caption on page 8 of the February issue, which is correct); but the word 'golden' is redundant – although not in the case of a golden wedding anniversary. A silver jubilee relates to a term of 25 years, and a diamond jubilee to a period of 60 years, notably in relation to the reign of Queen Victoria from 1837 to 1897. A diamond jubilee may sometimes refer to a period of 75 years.

Thanks to Brian Blight for pointing out the error and to Ross Willson (and the Concise Oxford Dictionary and the Australian Concise Oxford Dictionary) for providing the correct information.

Register now for the COTMA 2002 Conference to be held in Rockhampton and Brisbane, 26–31 July. Details of the conference are given on page 29. See your Museum Secretary or email Peter Hyde at [hydepe@telstra.easymail.com.au](mailto:hydepe@telstra.easymail.com.au) for registration details.



*Milan 1692 passes the Victorian seat of government in Spring Street during its City Circle operation on 28 April 2002.*

Greg Sutherland



*Milan 1692 leaves the La Trobe Street terminus at Colonial Stadium after a lunch break on 28 April. The towers of the Bolte Bridge dominate the skyline.*

Howard Clark



*City Circle SW6 class 856 passes Milan 1692 on the curves at the intersection of Flinders and Spencer Streets on 28 April. In the background the Crown Casino towers over the scene from across the Yarra River.*

Howard Clark



## COTMA

### Council of Tramway Museums of Australasia

Executive Officer, 158 Lorne Street, Fawkner, Victoria 3060

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#### From Peter Hyde and Dennis Sheehan, Conference Organising Committee

The COTMA 2002 Conference will be held in Rockhampton and Brisbane from 26–31 July.

The conference will commence in Rockhampton in coastal central Queensland where our hosting museum will be the Archer Park Station and Steam Tram Museum. Accommodation will be at Club Crocodile Motor Inn, which is located about 200metres from the Museum. Here registration will commence on Friday 26 July. Formal workshop sessions and the opening dinner and welcome by the Mayor will complete the day's activities.

On Saturday 27 July, operation of the Purrey steam tram will follow formal conference workshop sessions. After lunch there will be a coach tour of the former tram routes, then dinner and museum presentations.

Sunday 28 July will see the entire conference transfer to Brisbane on a high-speed tilt train. Here accommodation will be at the Holiday Inn located directly above the Roma Street Railway Station and Transit Centre. There will be some free time before dinner and further museum presentations.

Formal workshop sessions and a visit to the Brisbane Tramway Museum are planned for Monday, 29 July. Museum presentations will follow dinner in the evening.

Tuesday 30 July will commence with formal workshops followed by an inspection of the Ipswich Railway Heritage Park and Rosewood ARHS Railway visit. The last museum presentations will follow dinner.

The Conference General Meeting will take place on Wednesday morning, 31 July. A bus tour of tramway and trolleybus landmarks will be undertaken after lunch. The formal conference dinner will take place in the evening and will mark the official closure of the conference.

Museum members interested in attending the conference should contact their museum secretary for more details and booking forms. Full conference bookings are required by 1 June 2002. The early cut-off is necessary as COTMA bookings held for tilt train travel and not required, will be released for general sale after that date. These trains operates with close to 100% seat occupancy.

## WHITEMAN PARK

### Perth Electric Tramway Society

PO Box 257, Mount Lawley, Western Australia 6050

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#### From Michael Stukely

The annual Marlow's Classic Car Show was held at the Village in Whiteman Park on Sunday, 17 March. Three trams – ex-Melbourne W2 class 393 and 329, and SW2 class 426 – were in service for much of the day, conveying visitors to the show from the car parks at Mussel Pool, and returning them later. An eight to ten minute turnaround was achieved. Two cars were used for quieter periods. The trams terminated at the Village stop instead of continuing to the Village Junction station. This allowed Fremantle 29 to be positioned on static display in the Village mall just beyond the tram stop, with the Society's display tent alongside. Park Management hired the trams for the

day, so fare collection by our conductors was not required. Just over 10,000 people attended the show, which was slightly below last year's total, but the number of car club exhibitors this year was higher at 1,033. The day was a great success for all concerned and all operations ran very smoothly.

Bush dances have again been held at Mussel Pool on most Saturday nights from January to early April. Trams (hired by Park Management) have provided rides for visitors from about 6:00 to 9:00pm on alternate Saturdays, with services being provided by the Bennett Brook Railway on the other nights. These

evenings have again proved popular, with better attendances than in previous years.

Regular weekday (Thursday and Friday) tram services, other than in school holidays, ceased from the beginning of February. This was recommended in the Rail Infrastructure Review commissioned by Park Management last year. Our resources have been overextended in providing these services (which have been required under our lease agreement with the Park) in recent years. It has become increasingly difficult to keep up with the necessary maintenance of the trams and infrastructure, and the associated safety documentation, as well as manning the cars. This has also meant that we have struggled to progress towards other important goals, such as tram restoration and the construction of the long-awaited service pit, and the morale of our active members has suffered as a result. It is hoped that this reduction in demands on our workforce will enable our other essential projects to move forward again.

The restoration of ex-WAGT (Perth) E class bogie car 66 has again picked up momentum after a long period in which little visible progress could be seen by the casual observer. After the end sub-floor transverse beams of the saloon were replaced, it soon became clear that additional reinforcement of these timbers was required (the originals had been badly crushed, and were also affected by dry rot). A method of achieving this and allowing a better load distribution was devised with vital assistance from Noel Blackmore, and various steel plates were installed and others strengthened. Then followed a long period of bedding in and adjustment before the car body was satisfactorily straightened and stabilised. Meanwhile, the preparation of body fittings and seats has continued. During February-March, Frank Edwards replaced the tongue-and-groove boards on the bulkheads facing the motorman's platforms, and progress can at last again be 'seen!' Jim Paton, Peter Rankin, David Brown and Michael Stukely have also assisted Restoration Supervisor Tony Kelly in recent months. Preparations are now being made for refurbishing the roof.

At Stockmans Triangle on 18 December, Trevor Dennhardt and Lindsay Richardson re-set the fifth length of check-rail on the west-to-north curve (four had been re-set in November). An additional nine-metre length of check was added at the western end of the curve, giving continuous protection, at the correct setting, to the full curve. A proportion of steel sleepers is now to be installed on this curve, followed by the full replacement of the badly worn outside running rail.



*Fremantle 29 on display in the Village, is surrounded by crowds and other exhibits on Classic Car Show day, 17 March.*

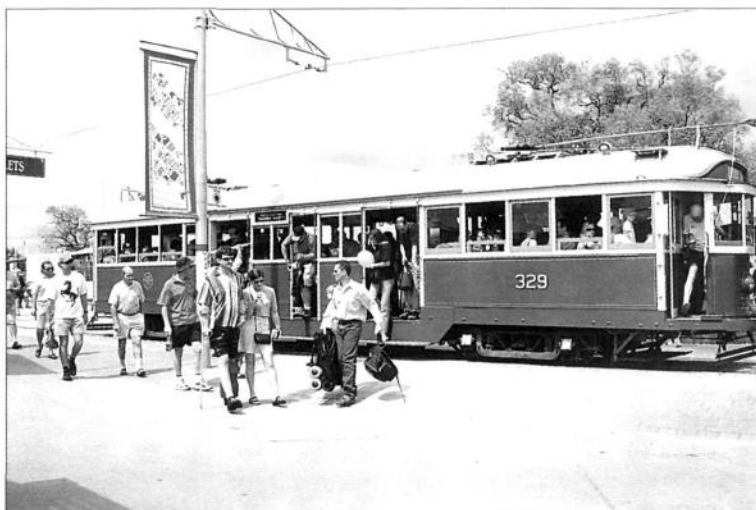
Michael Stukely

Good progress has again been made in our track upgrading program (using steel sleepers to replace rotted timbers), which had reached Stockmans Triangle from the Car barn fan by the end of 2001. Lifting and packing has continued between Bennett Brook and the Triangle. Steel sleepers have been installed along the southern leg of the Triangle and for another two span-pole spaces east towards the Park Entrance (to allow the safe shunting of trams for their regular turning via the Triangle; the rest of the Entrance line now rarely sees traffic). Four turnout timbers in good condition were salvaged from the site of the original Triangle East points. Steel sleepers were installed on the embankment between the Triangle and Red Dam in February, and in March a start was made on the Triangle's north-to-east curve. Over 380 steel sleepers have now been installed. Trevor and Lindsay have been assisted on recent track work parties by Cliff Norgate, Jim Paton, Tony Kelly, Peter Rankin, Tony



*W2 class 329 has arrived at the Village stop with a full load of visitors to the Classic Car Show, 17 March 2002.*

Michael Stukely



*W2 class 393 passes the John Fowler traction engine – fired up for the Classic Car Show at the Tractor Museum.*

Michael Stukely



*W2 cars 393 (left) and 329 leave the Village to collect more visitors on Classic Car Show day, 17 March.*

Michael Stukely



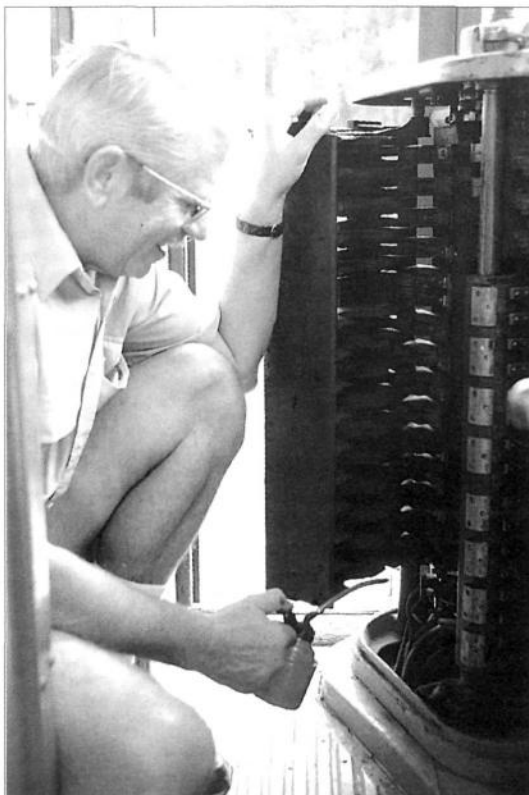
Grose, Martin Grant, Terry Verney, Kim Herne, John Shaw, John Davies, John Stone and Michael Stukely. Great credit is due to those members who are persevering with this essential and often heavy work on a regular basis.

The height of the overhead contact wire on the Bennett Brook North curve was re-set by Noel Blackmore and his team in January. Timber span poles on this curve are deteriorating and will be replaced with concrete. The bridle supporting the overhead is to be replaced with the standard, low-maintenance pull-off configuration as used successfully on other curves on the system. A trial of slow-release chemical plugs to counter the activity of termites and fungal rot is to be carried out on our remaining timber poles in an attempt to extend their lives.

The major maintenance of SW2 class 426 was completed by early March. Noel Blackmore was assisted in this by Geoff Morrison, Kurt Gahler, Gareth Watts, Dave McCormack and Scott Parker. Air brake test points have been installed. Air horns have been installed at each end of 426 as well as on W2 class 393. These are now to be used on all service cars to enable additional warning to motorists at road crossings. Eddie Vagg has continued with the brake-hanger assembly on W4 class 674. One of our spare traction motors has been overhauled by an outside firm, and tested satisfactorily; on its return a second motor was sent for overhaul.

As required under Rail Safety Accreditation, Michael Stukely has revised the Society's Rail Safety Management Plan, with assistance from Noel Blackmore, David Brown and Lindsay Richardson. Our annual safety compliance audit by the WA Department of Transport was carried out on 2 April, with corrective action being required for a small number of administrative/documentation matters. In general, our redeveloped safety management system has bedded in well and is functioning effectively, with good acceptance by members since our accreditation in May 2000.

Another of the few remaining relics of the Perth tramways disappeared from the city early in March when the old steel span pole at the south-west corner of the Hay/Havelock Streets intersection was replaced with a modern light pole. This was the only steel pole of its type – with a fluted skirt at the base and a series of ornate collars along its length – surviving in situ. (Two similar poles can be clearly seen in the front cover picture of the February 2002 issue of *Trolley*



*Kurt Gahler gives some last minute attention to the controller of W2 class 393 before it enters traffic on Classic Car Show day, 17 March. Michael Stukely*

*Wire*, at the intersection of Barrack and Murray Streets in 1952). Its disappearance was noted in a stroke of good luck by Michael Stukely while driving to a dental appointment; a rapid phone call by Noel Blackmore to Western Power brought the reply that the pole had already been despatched to the scrapyard! Fortunately Noel was able to arrange for it to be given to the Society, and the pole arrived at Whiteman Park on 20 March.

Major road works have recently been carried out in Osborne Park in the vicinity of the former tram terminus. Workers reported that when a trench was excavated across Main Street along the southern side of Royal Street, tram rail and ballast were discovered directly beneath the present Main Street median strip. It was previously believed that all track in Main Street was lifted around 1960. The length of this surviving piece is unknown, as the rail was quickly re-interred below 30cm of road base.

# BALLARAT

## Ballarat Tramway Museum

PO Box 632, Ballarat, Victoria 3353

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

From Dave Macartney

Horse Tram No. 1 operated in public service for the first time in several years on 3 February, prior to its appearance in the Moomba Trams on Parade in March. On previous occasions two horses have been used, but handler Reg Smith was confident that his Clydesdale 'Bear' could handle the job on his own. This proved to be the case, with the service running for a little over an hour during the mid-afternoon.

As reported elsewhere in this issue, the horse tram was shipped to Melbourne on 10 March, the first time in its 115 years that it had been east of Ballarat. Some new advertising signs extolling the delights of the Museum were placed over the existing signs which advertise

Suttons Music Store and Carter and Werner, Opticians, both long since out of business.

Patronage on the tramway has been on the increase in recent times. The figures for July-December 2001 were up 25% on the corresponding period in the previous year. The first eleven days of March, which covered the duration of the Begonia Festival, saw some 4,626 passengers ride the trams, while the Easter weekend added a further 569.

The track in Wendouree Parade continues to show its age, particularly the original 1905 rail at the southern end. Some more joints were welded on 21 February.

*Tram 671 is displaying 'Car Park' on its destination as it approaches Depot Junction during the Begonia Festival on Sunday 10 March 2002.*

Warren Doubleday



*Horse Tram No. 1 at Gardens Loop in Wendouree Parade with single truck tram 14 on 3 February 2002.*

Peter Winspur







*Traffic Manager Peter Winspur is conductor on tram 40 during the Begonia Festival on Saturday, 9 March 2002.*  
Carolyn Dean

A pair of transfer trucks, surplus to requirements in Melbourne, have been obtained and are currently at Alan Snowball's residence for some modifications before going into use at the Depot.

Track cleaning car No. 8 has had a sprinkler bar fitted to enable it to spray the track in Wendouree Parade where a dust problem exists during the summer months. This has proved very effective, but it certainly empties the 4,500 litre water tank very quickly indeed!

Other recent work around the Depot has included the ongoing overhaul of the truck of No. 27 which is now close to reassembly. Work on the bearings of No. 40 is under way, and the drop end seats are being reinstalled in No. 28, which is nearing the repainting stage.

## BYLANDS

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

### From Running Journal

#### Museum works

Considerable work has been undertaken on the trackwork connection for the vehicle maintenance building. The second set of points and the connecting crossover from the main line have been constructed. Rails and sleepers have been positioned in readiness for the final section of track to connect with the pit rails. The ex-Geelong grooved rail used in the project looks rather impressive. On 10 March the two rail trolleys were successfully tested over the completed section of new track. Once the remaining rails have been spiked to the sleepers all rail joints will be fish-plated or welded. The whole section, including the main line turnout, will then be lifted and packed to the correct levels.

As part of this work, it was necessary to reconstruct

the track drain that originally ran just under the main line at this location. This drain has been lowered and extended, including the placement of new pipes which now run under the whole alignment at this location.

The body of W3 class 665 was sold to a local family for reuse as an outdoor living area. It is one of several bodies stored at Bylands which are surplus to requirements. The body left Bylands on 7 March for its new home in nearby Wallan.

Tramcar maintenance continues with work being undertaken on W5 class 795, SW5 class 739 and Ballarat 17. The ironwork of several damaged lifeguard gates has been repaired by a local foundry.

## VALLEY HEIGHTS

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

From Peter Stock

### Christmas Day bushfires and the aftermath

In our report in February *Trolley Wire* details were given of the loss by fire of steam tram trailer 44B. It was believed that the bushfire was deliberately lit. Works Manager Craig Connelly visited the Valley Heights roundhouse on Boxing Day, along with

members of the Rail Transport Museum. After everyone left, graffiti vandals entered the grounds, but not the roundhouse itself, and sprayed their emblems on buildings and other items.

*The remains of steam tram trailer 44B on 27 December 2001. The corrugated iron sheets are from an extra roof fitted to the car while in Newcastle. Note the graffiti on the main building, applied by vandals on 26 December.* Peter Stock



*A scene at the depot on 22 March 2002. From left to right are: Ted Mullett, Chairman VHLDHM; Malcolm Johnson, President, NSW Rail Transport Museum; Hon. R.J. Debus, Member for Blue Mountains; Hon. Carl Scully, Minister for Transport, and Peter Stock, Chairman ST&RPS. Taken for Peter Stock*



As a consequence of this fire, the Society board of directors immediately made both verbal and written contact with the local State Member for Blue Mountains, the Hon. Bob Debus, requesting a meeting to discuss the situation. Another letter was sent to the NSW Premier, the Hon. Bob Carr.

Subsequently a meeting was held on 21 January 2002 with Mr Debus at his local electorate office. Our secretary, Cliff Currell and Valley Heights Locomotive Depot Heritage Museum chairman Ted Mullett attended this meeting. Cliff presented the Minister with the Society's 19-page submission for funding, the focus being the need for protection of the Society's historic rolling stock. The submission included quotes for provision of a depot building and reconstruction of the nearby retaining wall.

An on-site meeting with representatives of the Minister for Transport and the local Member's office was arranged for Wednesday, 13 February 2002. Cliff Currell, Bruce Irwin and Peter Stock from the ST&RPS and Ted Mullett from the VHLDHM also attended.

The result of that meeting came on Friday, 22 March, when it was announced by the Hon. Carl Scully, in the presence of the Hon. Bob Debus, that the Valley Heights Locomotive Depot Heritage Museum would receive a grant of \$240,000 to be used for the improvement of the Museum's facilities. This includes the construction of a new shed and repair of the retaining wall. The new shed will be a replica of the Dubbo engine shed and will store the steam tram motor and trailers. Mr Debus stated he was "delighted



*Cliff Currell fills in the myriad of small nail holes in the original timbers made whilst 93B was used as a dwelling at Berowra. By the end of March the ceiling had been fully painted in white gloss.* Peter Stock

*In December 2001, John Webb was working through the tasks involved with ensuring the rollers and bars are correctly positioned prior to hanging the sliding doors in 93B. This was a time-consuming job resulting from the necessity of using components from several B type trailers, all of which seemed to have had these items made to slightly different specifications.*

Peter Stock







*Craig Connelly prepared the timberwork of CBI 1073 in October 2001 in preparation for its final painting.*

Peter Stock

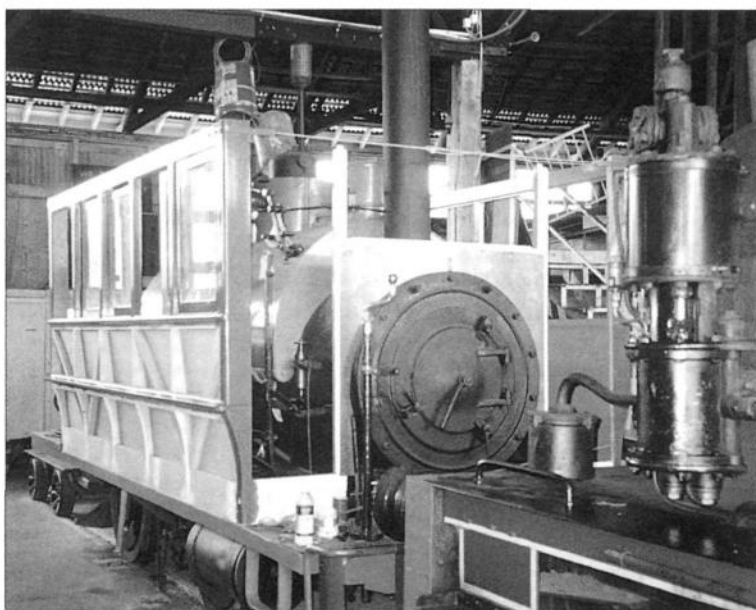


*Bruce Irwin applies final coats of paint to the side of CBI 1073 in February 2002.*

Peter Stock

*Steam motor 103A on 2 March 2002. The fixed windows have been fitted to the cab sides and the new metal panels are in place surrounding the smokebox. The panels on the upper side bodywork have been fitted since this view was taken.*

Peter Stock



by the generous response from the Minister after having raised the plight of the museum with Mr Scully earlier in the year."

The Society commends the ministers for their prompt and favourable consideration of our representations, which will enhance the facilities at the VHLDHM and provide a safer environment for the heritage steam tram fleet.

### Motor 103A and car 93B

Progress is being made on the assembly of the new cabin. All four sides of the cab are now in position. The side panels have received the fixed windows, whilst the sliding ones will be fitted shortly. New sheet metal panels have been manufactured for the surrounds of both the firebox and smokebox. New

sheet metal panels have also been fitted to the upper side panels, below the window ledge.

Car 93B is progressing well. The ceiling has been painted in full gloss. At this rate of progress it is expected that 93B and 103A will return to traffic by the end of the year.

### Car CBI 1073

Final preparation of the exterior of the car under the Federation Country Grants Scheme is being finalised. A commemorative plaque was to be unveiled on Saturday, 20 April 2002 by the local Federal Member, the Hon. K. Bartlett.

With the body now been restored, plans are continuing for the procurement and fitting of appropriate seating.

## ST KILDA

### Australian Electric Transport Museum

GPO Box 2012, Adelaide, South Australia 5001

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From Colin Seymour

### Northern Depot

The general structure of the administration section of the building has been completed and we will be able to move in soon. John Pennack constructed the walls of the new members' lounge, office and library with fire rated gyprock panels. A contractor erected the ceiling over these rooms and the brick archives vault. All walls and ceilings have been painted, and lighting has been installed in the archives vault.

### Launch of The Southern Lines

A Special Event Day was held on 10 March 2002 to launch our new booklet *The Southern Lines*, on the southern suburbs tram lines of Adelaide. Neville Smith had completed much of the text of the book before his sudden death in June 2001. John Radcliffe oversaw the completion of the book to enable it to be released in memory of Neville. It was the fifth in a series of booklets produced by Neville detailing the history of various Adelaide tram lines. The others are:

Parade to Kensington  
Over the Viaduct to Henley Beach

Trams and Trolleybuses In and Around Port  
Adelaide  
The Northern Lines

The Southern Lines covers the Glen Osmond, Springfield, Kingswood, Mitcham, Hyde Park, Colonel Light Gardens and Wayville West tram routes. The book was launched by Adelaide television and radio personality Keith Conlon who previously filmed a segment on the Museum for his Postcards TV show in 2001 (see photo in *Trolley Wire*, November 2001). The History Trust of SA provided a grant towards part of the cost of producing the booklet which sells for \$5.00. A plaque in memory of Neville was also unveiled on the day. It was donated by RoadKing Coachlines, which provides a bus service from the city to our Special Days. It has been placed in the Trolleybus Pavilion where Neville coordinated the refurbishment of the displays in 2000.

The Playford Showband provided musical entertainment, and the Mitcham Historical Society mounted a display.

*The administration rooms under construction. The brick wall at left indicates the position of the archives vault.* Ian Seymour



*Looking past Horse Tram 18 into the new member's area. The internal doorway leads to the library/reading room and archives vault.* Peter Vawsey



*A view of the new member's area on 5 April. Horse Tram 18 and H1 car 381 are visible through the doorway.* Peter Vawsey







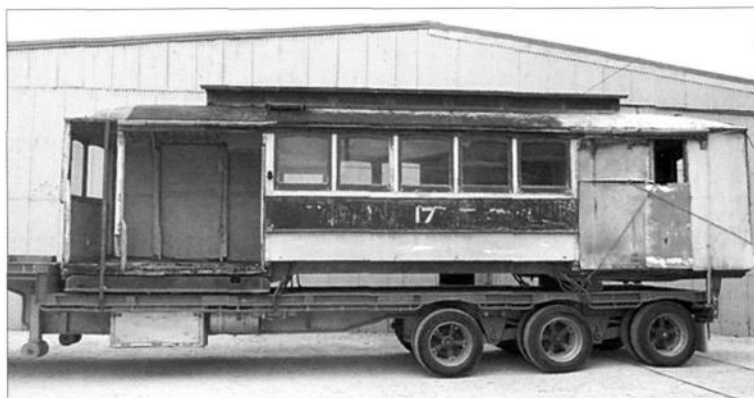
*Glenelg trams 355, 362 and 360 on the main depot fan at St Kilda before 355's departure for Bendigo on 7 January 2002.*

Ian Seymour



*Peter Letheby and Chris Summers working in the library/reading room on 8 March.*

Peter Vawsey



*The body of A type tram No. 17 at the rear of the main depot before being placed in the tram storage shed on 22 February 2002.*

Peter Vawsey

## Another Bib and Bub

The body of A type tram 17 arrived at St Kilda on 22 February 2002 and was placed on dollies in the tram storage shed in the spot where car 355 was previously housed. The body had been used as a shed behind a house in Woodside in the Adelaide Hills for almost 50 years (see photos in *Trolley Wire*, August 2001). It had been well protected from the weather for most of that time. It will be used in conjunction with car 15 to reconstruct a 'Bib and Bub' car to be coupled with car 14.

## Car 118

The machining of the second driver wheel set has been completed and the pony wheels are now being turned. The Craven wheel lathe was not built to turn small pony wheels (the tyre grippers cannot be brought in far enough for them). Ian Seymour has

manufactured two adaptors to overcome the problem. They are made from 25mm plates of three different diameters, welded together. The adaptors slide over the axle and the grippers press against these larger diameter plates. They are stepped to allow access for a turning tool, and drive the pony wheel through the two holes in each pony wheel disk centre. The pony wheel journal boxes and the truck hornways are being reshimmied or built up with weld depending on their wear. The boxes are then machined on the mill back to the original dimensions.

## Car 355

Car 355 departed for Bendigo on 7 January 2002. The Brill 21E truck (ex car 42) was loaded with 355's trucks onto a second low loader. The vehicles arrived safely in Bendigo and were unloaded at 7:00am on 9 January 2002.

# BENDIGO

## The Bendigo Trust

1 Tramways Avenue, Bendigo, Victoria 3550

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From Len Millar

## Trams for Canberra

At about 10:30pm on 11 September we finished loading Melbourne W2 249 and Sydney post-war R1 2001 on to low-loaders for their trek to Canberra. As described in the November 2001 issue of *Trolley Wire*, the cars were restored and made operable to attract funding for the proposed Federation Line in the national capital.

Thousands of hours over the preceding four months were spent stripping, repairing and painting the two trams inside and out. Towards the end of the exciting project, many late nights were required to finish them on time. Stand-out efforts were contributed by Darren Hutchesson, Kym Smith, Anthony Jennings, Dennis Rodda, Les Woodfield, Scott Gard, Wayne Taylor, Paul Hayes, John Bullen, Don Webb, Linda Storey, Greg Forsberg, Julie Cain and Damien Steele. Even General Manager James Thompson was seen scraping paint off windows and cleaning and preparing the trams for the launch on 10 September. Manager Tim Borchers did a great job too, in planning the project and ensuring its timely completion.

## Battery tram

Our 1890 Battery Tram has been moved to its own enclosure at the rear of Roads 5 and 6 where Museum visitors can watch carpenter Keith Trounson apply his skills to the tram's body. It is the first step towards a proposed interactive display. Keith has specially prepared benches and floor space to lay out the bulk-heads and have the necessary tools and machines at hand for the big task. He is being ably assisted by our new apprentice body builder Luke Jenkins.

## X1 No. 466

The next major project for the workshop crew is four-wheeler No. 466. A replica No. 2B truck will be manufactured using the wheels, motors and other parts from half a set of No. 1 trucks, the type used by Melbourne's W2 class cars. Controllers, seats, compressor and many other parts are on hand which will assist completion of the project.



*Adelaide H car 355 is seen in Tramways Avenue prior to being unloaded on 9 January 2002.*

## Buses

Our four buses have moved to the Gas Works Depot, under the care of Peter Turner. Mechanic, Gerrard Clark removed the engine of one of the ex-Sydney Atlanteans for attention to its bearings – a task that has now been completed.

## New Arrivals at Bendigo

A recent arrival from across Bass Strait is Hobart double-deck tram, No. 20, which as reported in the November 2001 issue is bound for the Sydney Tramway Museum. At present the tram has only one

deck, with all the parts required to reinstate the top deck being stored in the ground-floor saloon.

Victorian Railways No. 41, a former St. Kilda to Brighton Beach car, arrived at the Depot recently from our Haddon colleagues, the Melbourne Tramcar Preservation Association. Restoration will commence with repairs to the roof structure.

On 9 January, Tramways Avenue witnessed the unloading of former Adelaide H class car No. 355. This long, 17.6m tram will seat the occupants of the largest road coaches that arrive regularly at the Central Deborah Gold Mine terminus. Fortunately, early tests



*As the Adelaide H type will be the largest tram in the Bendigo fleet, car 355 was towed to the terminus at Emu Point (North Bendigo) to test clearances.*





*Hobart No. 20, now awaiting restoration at Bendigo, was brand new when it opened the Proctors Road line on 21 October 1922.*

Tasmanian Mail/Archives Office of Tasmania, courtesy Ian Cooper

indicate that the tram can be placed on several roads of the 1903 depot and that there are no apparent difficulties on the tight spots on our route. When it is restored, it will become part of the Talking Tram Tour fleet after extensive renovation. No. 355 promises to provide comfortable enclosed travelling for our customers in all types of weather.

By way of exchange for this wonderful asset, our AETM colleagues have sent us the parts for a Brill 21E

truck. This will be assembled and an additional truck manufactured for St. Kilda's 'Bib and Bub' set.

On 19 February we received from the Department of Infrastructure a very rundown Brisbane FM tram. No. 493 had been languishing at Preston Workshops, then Newport Workshops for a number of years and looks most unloved. Its arrival is part of a program by the Department to remove miscellaneous trams from Newport, i.e. those other than the large fleet of stored



*Brisbane 493 being prepared for unloading in Tramways Avenue, Bendigo.*

*VR 41 being unloaded at Bendigo under the supervision of Bendigo Tramways staff and MTPA members.*  
Lloyd Rogers



W series cars. Under a 25-year loan agreement, we will restore No. 493 to operational status, to join our Talking Tram Tour fleet.

Queensland visitors to our Depot and Museum have asked when No. 493 will be running because they want to ride on the tram. We wonder whether they are aware that they can do so at the Brisbane Tramway Museum's Ferny Grove Museum, where FMs, or Iron Dukes as they were often called, run every Sunday.

### Workshop news

Our workshop extension is almost complete, thanks to grants received from the Victorian Government. The concrete foundations and floor have been laid, an extension of the rails from the existing workshop has been completed, and the steel wall and roof framing are in place. Equipment for the extension is being assembled, including a lathe for reprofiling wheels and a wheel press from Preston Workshops, and a milling machine from the Central Deborah Mine. A disused gantry crane from the nearby Australian Defence Industries complex has also come our way. This too will be installed in the extension.

### Tower Wagon No. 2

While our Hino scissors platform truck is in Melbourne on lease, the old M&MTB Bedford tower wagon obtained a few months ago from our AETM colleagues has been overhauled, painted, registered and pressed into service. An early task was to assist our linesmen convert our overhead wiring for dual trolley pole/pantograph operation.

### Milan 1692

As recounted elsewhere in this issue we completed the renovation of Milan Peter Witt car 1692 in time for its appearance in Trams on Parade.

Extensive work was undertaken on the tram's wheels, motors, air brake and door systems and controllers, including fitting of lifeguards to each end of the car. Some rejuvenation of the tram's distinctive orange livery and some fine sign writing finished the car off beautifully. Many hours of overtime brought the job in on time, and the photos in this issue show the great job that resulted.

Also present for Trams on Parade was the body of the 1890 battery tram, complete with carpenter Keith Trounson and appropriate tools. Keith fielded some interesting questions about the art of car building. The battery tram was left on its low loader trailer under a gazebo in the City Square.

### Easter 2002

At the time of going to press, preparations were well advanced for Bendigo's annual Easter activities. Our staff would be rostered intensively as we try to maintain a 20 minute service while events including a tram cavalcade, a torchlight procession involving several of our trams and the Gala Parade take place in Pall Mall.

Mike McGowan in Swan Hill has again been pivotal in the preparation of rosters, timetables, blocks and pamphlets, and the operable tram fleet has been serviced ready for the busiest time of our year. With bookings received for several tram charters of trams over Easter, it will be a busy couple of days.

In May, Tramways Avenue will be reconstructed, a project that involves relaying the track and replacement of one of the sets of points. While the project is underway, several trams will be out-stationed, as in the SECV days when the tramway was cut on several occasions while the Bendigo Creek bridges were upgraded.

## HADDON

**Melbourne Tramway Preservation Association**  
PO Box 324, Prahran, Victoria 3181

<http://www.railpage.org.au/mtpa>

From Craig Tooke

### Safety Accreditation Audit

Our annual safety accreditation audit was carried out by recently by officers of the Department of Infrastructure. It is pleasing to report that we passed with flying colours with no non-compliance issues being recorded and only a few 'observations on procedural matters' raised. Craig Tooke has undertaken many hours of hard work in this area and again he has had to put time into the lead up to this audit to ensure all outstanding items from the previous inspection had been completed.

### Annual General Meeting

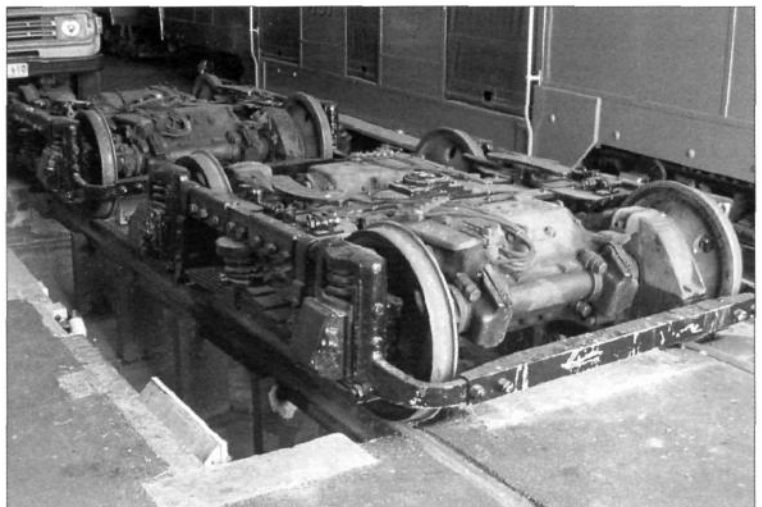
The Association's Annual General Meeting was held on Saturday, 1 December. The following members have filled the committee positions:

|                   |   |
|-------------------|---|
| President         | - Craig Tooke                             |
| Vice President    | - John Withers                            |
| Secretary         | - Anthony Smith                           |
| Treasurer         | - Lindsay Bounds                          |
| Committee Members | - Mandy Gipps<br>Shane Moore<br>Kym Smith |

Business was conducted at our usual brisk pace and an enjoyable time was had by all. We wish to thank our hosts, Alick and Mandy Gipps for the use of their home in Emerald and for providing an excellent supper.

*The completed Brill 77E truck to be used under L class 103.*

Craig Tooke





**L class 103**

The fitting of the substitute motors to the Brill 77E trucks is now complete. Difficulties were experienced with the fitting of the No. 4 motor due to an incorrectly sized bearing. It would appear that when these bogies were purchased from the Tramways Board a substitute motor was fitted prior to delivery, to replace a defective one. When we went to reassemble this motor and its suspension bearings into L 103's truck, it was found that the gear side bearing shells were oversized for the motor tunnel. A correct set of bearings ex store have now been fitted.

All gear cases, thrust collars and stirrup irons have been fitted and the trucks now only require the motor bearings and axle boxes to be wool packed before they are fitted to L 103. Thanks to Kym Smith and Tony Smith for a job well done.

**W2 class 357**

The second trolleybase for this car is currently having a new centre pipe threaded after which it will be assembled. When this is completed the two existing trolleybases on 357 will be changed out and they in turn will be overhauled and placed in store.

**Victorian Railways 41**

During August, as part of preparation for its move to Bendigo, spare body components were removed from the interior of the car. As readers may be aware, many years ago numerous components were obtained from the bodies of VR 28 and VR 37. These included items such as complete drivers' bulkheads to replace the missing units in VR 41.

As part of the overall assessment of the timber structure of VR 41, a saloon side panel was removed from the south side revealing the pillars and cross bracing which are in excellent condition. The floor slats in both cabins have been removed and the crown plank area is extremely sound. These inspections (and others) have confirmed the soundness of this car and give us a good base on which to start.

To enable this project to run smoothly a management team of Anthony Smith, Kym Smith and Lloyd Rogers has been formed, whose members will have the following roles.

Lloyd Rogers has been appointed Research Officer. Lloyd's vast knowledge and material on 'Railway

Tram' matters is well known, and his input will be vital to ensure historical accuracy in the restoration of VR 41 to original 1923 condition. Lloyd has already provided many blueprints and has answered numerous questions on body detail matters.

Kym Smith has been appointed Restoration Officer. Kym has extensive experience in tramcar restoration and maintenance by virtue of his previous involvement with Adelaide's tramway museum at St. Kilda. Kym is currently employed by the Bendigo Tramways as a car builder, in which position he will be well placed to coordinate work on VR 41. His workmanship is excellent and we are grateful for his assistance.

Anthony Smith will act as Project Coordinator for this project. His role will be to arrange the supply of parts, liaise with the officers of the Bendigo Tramways and provide plans and historical data, etc.

On 5 October VR 41 was lifted using body jacks. This is the first time these have been used and the procedure went smoothly. The truck was backed under VR 41, which was then lowered onto the trailer. The whole operation took just over one hour to complete.

After an uneventful journey to Bendigo, VR 41 was unloaded in Tramways Avenue on the No. 1 truck dollies and towed into the depot by tractor. With VR 41 safely housed in the Bendigo depot, our work starts in earnest with such tasks as fund raising, historical research and component overhaul now being urgent to ensure the restoration proceeds smoothly.

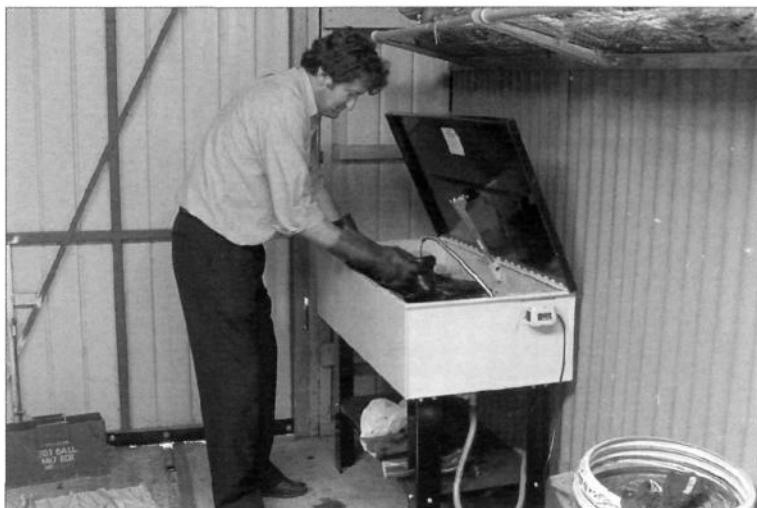
A good start has already been made by Lloyd Rogers who provided Tony Smith with answers and technical advice in response to many requests, and supplied numerous blueprints for components required. Lloyd's current project is researching the colour scheme and correct layout for these cars as built.

This will not be an easy task, as the fleet was repainted green and cream in the 1930s. As a result of the very thorough overhaul procedures adopted by the Victorian Railways, to date we have been unable to find any traces of the original colours by rubbing back different areas on VR 41.

On the component front, a pair of four-spring GE US 13 trolleybases has been removed from store and dismantled for overhaul. When degreased and sandblasted the trolleybases will require bushes to be fitted and new shafts turned as a result of excessive wear. One of these bases was originally fitted to

*Tony Smith cleans the trolleybase components for VR 41.*

Craig Tooke



*A K35 controller undergoing overhaul for use in VR 41.*

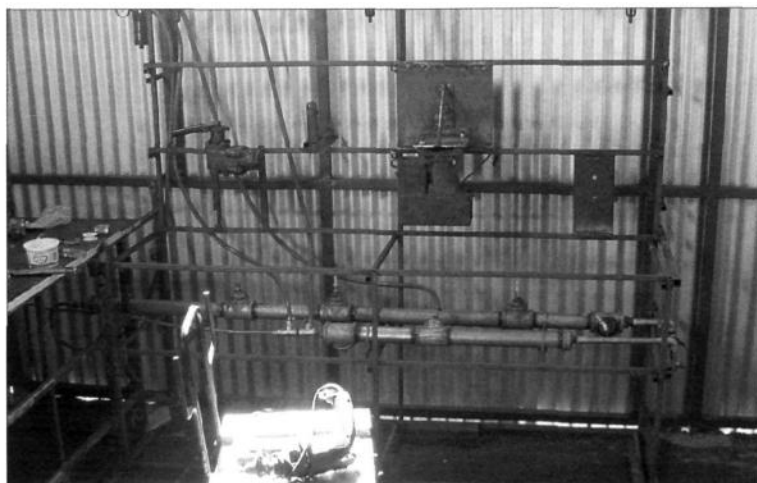
Craig Tooke



*VR 41 on arrival in Tramways Avenue, Bendigo.*

Lloyd Rogers





*The test cell air bench under construction.*  
Craig Tooke

VR 43, whilst the other came from a Brisbane drop centre car. Work has also begun on the overhaul of the K35 controllers for use in VR 41.

To help raise additional funds for VR 41's restoration, Kym Smith and Craig Tooke have designed an appeal flyer. They will be circulated amongst members and various other organisations to raise awareness of the historic nature of the project. Corporate sponsorship is also being investigated.

This project has generated a great deal of excitement and museum members are keen to see the return of this class of tram to running condition.

### **Test cell area**

John Withers have completed all electrical components for the electrical test bed. The test cabinet has been painted and the benchtop has had a rubber, non-slip surface applied.

The roller door on the north side has been removed and a steel-framed wall constructed. The design of an air test bench has been completed and the steel framework fabricated. This facility will enable us to test and calibrate all types of electrical and air components used on our tram fleet as they are overhauled.

### **Surplus trucks**

During August 2001, COTMA advised that the Department of Infrastructure intended to dispose of surplus No. 1 'dolly' trucks from Preston Workshops. We were successful in obtaining a set of No. 1 trucks

and a set of medium height, low-wheeled trestles.

The No. 1 trucks had had the bolsters modified for Z1 trams, and they have been obtained for the wheel/axle sets and other components. A pair of these trucks has been delivered to Bendigo where the bolsters will be modified to suit VR 41 under which they are now located.

We wish to thank the Department of Infrastructure and COTMA for making these items available.

### **Accommodation and members area**

For some time the Association has been looking at various options for providing overnight accommodation for members during weekend work parties. This problem has now been solved. Tony and Jackie Smith have provided a caravan for use by members at no cost to the Association. Tony and Jackie will also maintain this facility for us.

The van has been located on the south side of the toolshed in a sheltered area with easy access to toilet facilities, etc. A roof has been built over the van for weather protection and it has been connected to the power supply.

As part of a general rearrangement of facilities, the members area/meal room annex located in the workshop building has been upgraded. This involved the removal of the tool locker, wall cupboards and a bench. A shower/washroom area was also constructed at the eastern end with flooring, tiles and new windows fitted. This is a welcome improvement for members who work and visit the museum on a regular basis.



## Toolshed

The spare substation circuit breakers and electrical gear stored in the shed have been relocated to the back of the car barn as part of a general rearrangement of spare equipment.

# FERNY GROVE

**Brisbane Tramway Museum Society**  
PO Box 94, Ferny Hills, Queensland 4055

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From John Lambert

## Museum maintenance

Mick Topp has fitted an oversize air dryer to the breather on the rectifier transformer in the switchyard adjacent to the substation. This has become necessary due to the limited use that the transformer gets each week and the necessity to absolutely minimise the amount of moisture getting into the transformer oil via the breather pipe. Mick together with Wayne Chaseling have also topped up the oil conservator on the transformer as well as performed a general cleanup in the switchyard.

John Lambert has removed all of the rust from the bottoms of all the steel posts supporting the bookshop building and coated them with a liberal amount of Denso Paste, which is a special anti corrosive grease. This will prevent any further rusting of the posts and the Denso will actually penetrate down into the concrete footings along the steel to also prevent the posts from 'necking off' (rusting) in the concrete. Denso paste is a much superior product to paints like 'Killrust' or 'Coldgal' and is used extensively in the oil, gas and corrosion industries.

## Fire fighting equipment

All of the large fire fighting equipment has been relocated into the museum lunchroom. This equipment includes the hydrant standpipes, 3-inch diameter fire hoses and nozzles, plus a specially made up 36 metre long 1-inch diameter hose that attaches to any standpipe. Whilst it is necessary for at least three persons to operate the large hoses, the 1 inch hose can be easily operated by one person alone. Glen Thorley has kindly arranged for the museum's fire extinguishers to be tested and where necessary upgraded to meet current regulations. To date, several have been tested and upgraded.

All non-tramcar electrical equipment is now housed in this area. The additional room created in the toolshed is most welcome, as we are now able to store the tools and garden maintenance equipment in a much more orderly manner.

## Fleet movements

On the first Saturday in October 2001, four-motor car (FM) 494 was relocated in the former workshops building from track 3 to track 2. This movement took approximately three hours to complete as a result of track 3 being badly out of gauge (wide), as well as the presence of two poorly fabricated rail crossings. The Scammell was utilised as a fixed anchor point with two hand winches being used to hold the FM bogies on the rails whilst very slowly negotiating the faulty sections of track. After the front bogie had passed, the procedure was then repeated with the rear bogie. One of the hand winches was totally destroyed in the process. However they were no longer used for overhead work as the museum has four approved safety rated (6000 Kg SWL) line winches.

After FM 494 had cleared track 3, John Lambert oxy cut the rails near the door into the building and the rails within the building were removed by towing them out with the Scammell. Sel Churchward, Bob Deskins and Wayne Chaseling then attacked the small concrete hump in the doorway with crowbars and sledgehammers to ease its removal. This was not an easy task due to the amount of steel within the concrete hump. However, after much effort the concrete hump was removed.

Concurrent with these works, trolleybus 34 was moved from track 2 to former track 3. It was initially planned to use the Scammell for this move, but after some very quick preparation, TB 34 was driven out of the building under its own power, much to the delight and cheers of the volunteers riding in the bus. Mick Topp drove TB 34 out into the middle of the museum site using two wandering leads before it was parked for photographs. Cam Struble was seen firing off a whole roll of film of the movement of TB 34 before he had

the pleasure of reversing it back into former track 3. FM 494 was then run into the building on track 2.

In preparation for upcoming works within the existing workshops building, John Lambert repaired track 1 which was both under gauge and missing fishplates on the rail joint at the three way points. After these track repairs were made, FM 494 and Dreadnought 136 were swapped over within this building. Although partially dismantled, 136 has been made driveable under its own power, thereby making it much easier to move around the museum site. The presence of FM 494 on track 1 enabled the new western wall to be completed as FM 494 was protruding through the wall at the location of the new large 4-metre wide roller door. Car 136 was short enough to fit inside the building and not foul the position of the new western wall.

Subsequently, both of these trams were removed from this building to enable completion of the necessary modifications to this building as part of the infrastructure upgrade. During this fleet rearrangement, scrubbers 14 and 15 plus Dreadnought 174 have been stored outside depot 2 on road 4. This was necessitated by the lack of space in both depots, and the trams have been covered with plastic tarpaulins to protect them from the weather during the period of outside storage.

During these movements, volunteers at the Saturday workday enjoyed several runs up and down the hill in Dreadnought 136. Concurrent with these movements, the opportunity was taken to totally rearrange the fleet so that the trams containing equipment from the old workshops shed have been moved into depot 1 to reduce the weight of the trams sitting on road 4. The body of Dreadnought 140 has been relocated to the western side of the store building and into the hardstand area. It is presently located just on the southern side on the open drain (between the store and depot 2) near the western fence. When the excavator is on site to construct the two building pads, it will be utilised to pick up 140 (one end at a time), and slew it sideways until it is parallel to and just off the western fence in its new home. A special thanks to Cam Struble, Bob Deskins, Nigel Collins, Bevan Burnes, Wayne Chaseling and Mick Topp for their efforts in removing all of the material stored on 140 prior to it being moved away from the northern wall of the store shed.

Baby Dreadnought 94 was located between the store and former workshops building near the bogie road. During its relocation, it virtually disintegrated and fell

apart due to excessive dry rot and rust in the body after its many years of exposure to the weather. Subsequently it has been dismantled and all recovered parts have been stored for future rebuilding when time and funds permit. A full series of photographs were taken during the dismantling process to provide an accurate record for future rebuilding. The remnants of car 94 have been moved into the staff car park area where they will be disposed of, together with all of the other building and construction rubbish that is accumulating rapidly during the infrastructure project.

### **Trolleybus display**

Curved plastic windows for trolleybus 1 have been remade and will be fitted to the rear corners of the vehicle. Bob Deskins and Cam Struble have commenced restoration works on trolleybus 34 with several panels being sanded to remove the old paint. The northern area of the bay of the building where the trolleybuses are now located is to become the trolleybus display area. Bob and Cam are discussing various options to establish a display area on the northern side of trolleybus 1. At present this area is full of equipment from the two annexes which have been removed from the building. This equipment is to be relocated into the two new buildings when they are constructed.

It should be noted that costs of establishing this trolleybus display area are not part of the infrastructure project and have to be met from our own limited funds. Peter Hyde is continuing to coordinate the production of a trolleybus book that is to be published later this year with the \$5,000 grant from the City Council.

## **INFRASTRUCTURE UPGRADE PROJECT**

### **Development application**

After some lengthy delays, the first Development Application (DA) has been approved by the City Council for the proposed infrastructure works on the museum site. This approval permits the erection of the two new sheds plus associated works such as landscaping, trackwork, car park installation, etc. As the museum is a lessee of the Council and does not hold a liquor licence or gaming machines, there was no application fee for the DA. This saved the museum several thousand dollars.

John Lambert is now working on the second DA, which is for the tram line extension across Tramway Street and into parkland on the other side. It is hoped

to lodge this with the Council about mid year after finalisation of all details including drawings and designs.

## Staffing

John Lambert has assumed the temporary position of Infrastructure Upgrade Project Manager and is responsible for coordinating the entire project. He is being remunerated as a subcontractor to the museum on an hourly rate basis for work performed solely on this project in accordance with the terms of contract. John has resigned his position as a director so as not to be in contravention of the company constitution. He is usually on site most weekdays between 6:00am and 1:30pm.

Some volunteers have assisted with the project on weekdays, but more help will be required in the coming weeks. Assistance will be required after the two buildings have been erected to relocate equipment from within the trolleybus and vehicle building into these two new areas. The majority of the project work is being done during the week. However the First Saturday workdays are continuing, both for this project and other vital museum tasks. The entire project has to be completed by the end of 2003 and this is why most of the work is being done during the week. The necessary tasks would not be completed utilising solely weekends.

As soon as the building pads have been completed (anticipated to be in late April), trackwork will commence to connect the maintenance building to the main running line. This time the museum will be laying track during the cooler months and assistance will be needed during each of the concrete pours, which will be carried out in the early morning during the week. Concrete is cheaper during the week than on weekends.

## Trolleybus and vehicle building (former workshops)

A new electrical switchboard has been installed in the building on the outside southern wall of the security room and all electrical cables re-routed as required. Concurrent with this work, all of the telephone cabling / security system and detectors has also been relocated to enable demolition of the annexes. This also involved re-routing cabling to depot 2, the store building and the meal room building as all services (electrical / communications / security) worked through the two annexes due for demolition.

All equipment in the annexes was relocated into the original building to enable demolition of the annexes to commence.

A new external northern wall was constructed along the line of the original building and sheeted with brand new 'Merino' colorbond. A new external western wall was constructed and partially sheeted using some of the original dull yellow colorbond that the museum still had in stock from the 1970s. Then in one day, the sheeting from the old west wall was removed and transferred inwards to complete the sheeting on the new wall. By doing it this way, it was possible to maintain building security at all times during the project. Bob Deskins and Cam Struble installed some insulation foil in the trolleybus section of the building before the western wall was sheeted. We thank Bob for donating the foil for the project.

Following this, the western annex (roof and remaining wall parts) was dismantled by Cam Struble and John Lambert in a single day. The following Saturday, Bevan Burnes, Wayne Chaseling, Nigel Collins and Cam Struble demolished the northern annex with considerable assistance from the termites that had eaten large amounts of the Irish Pine (O'Regan Pine). The new western wall has three doors located in it. The first is a small roller door 1.8m wide for a safety exit from the trolley bus display area and when open will also allow a breeze to pass through the display area. The second is the staff entry door, 1.2m wide, which was the former outside entry door into the old bookshop. This has been totally refurbished and re-sheeted plus heavy-duty hinges have been fitted. The third is the 4.0m wide roller door over the former bogie track (track 1) to enable motor vehicles to access the rear of the vehicle section of the building.

## Trackwork

On the Saturday workday in April, Archie Gould's crane truck was utilised to bring all of the long sections of curved grooved rail down from the rail stack behind the substation. This was subsequently laid out in a trial and error method to see how best it could be reassembled to fabricate a tight curve. The entire northwest curve and part of the southwest curve have been laid out in a position 20 metres downhill from where they are to be installed. After completion of the necessary earthworks, the rails will be moved into their final position prior to final setting up. The design radius on each curve is tight, 45 feet on the inner rail, so as to fit all of the special work in between the main running line and the front of the new maintenance



shed. Trams will only use these curves (triangle) when accessing the maintenance building: they are not part of the running line.

The unused set of left hand points near the front gate of the museum has been moved into the area mentioned above to provide the third set of points for the triangle. The other two points already exist in the main line and are to be swapped over and repositioned as required. The right-hand turnout (existing workshops turnout) will move downhill towards the front gate and the left-hand turnout (not presently used) will move uphill to just below the depot curve. The three-way points have been removed from the old workshop fan and moved into approximate position to become the turnout for the new maintenance shed. The left-hand track will be road 1 (pit road), straight ahead will be track 2, and the right hand track will be a stub for any future expansion of workshop facilities. These two sets of points are effectively back-to-back, in that each curved leg of the triangle comes together at the left-hand turnout (ex-front gate) which is then immediately adjacent to the three-way points. Concurrent with this work, a selection of straight rail (AS 821b) was brought down from the rail stacks for use in the floor of the new shed and for the pit.

A small excavator was used to lift most of the old workshops track fan. However there are still some

sections in concrete near the front of the building, which will have to be broken up with the large rockbreaker when it is on site. It was interesting to note that a large number of the steel sleepers in the old workshops fan were showing signs of electrolysis corrosion due to stray current returning to the substation.

### Front entry closure

At present, the vehicle entry to the museum is directly off Tramway Street via the front gate and through the terminus area. During upcoming earthworks, excess spoil from the building foundation pad construction is to be used to fill the northern side of the terminus area. At this time the entry will be closed off, and the new entry will be via the 'Alan Marment Gate' in the eastern fence with museum vehicle access via the sports fields road.

### Donations

A manhole cover with the name 'Queensland Telegraphs' has been donated to the museum. Research indicates that it is from late 1800s when each Australian colony had its own communications department, prior to Federation in 1901 and the resulting establishment of the Commonwealth Post Master General's Department. This means that it is

## LOFTUS

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

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

From Michael Giddey

### YMCA facade

The size and scale of this new structure at our Tramway Avenue entry is rapidly becoming obvious.

The columns between the shop fronts and supporting the first floor were first formed up by the contractors and took about 15 cubic metres of concrete. The ground floor area, which the Museum will complete, was soon after a sea of scaffolding erected to support the first floor, which will be an extension of the display area. On 19 February the first suspended floor slab was poured and took over 75 cubic metres of concrete, the largest single concrete pour to occur on our site.

Scaffolding was soon erected to support the second level, which will become the archive floor, and concrete was poured for this level on 15 March. The concrete for this floor is of greater strength to allow for the additional weight of library and archive shelving.

The third level, nominally offices and members' amenities, was poured on 9 April. During this pour the concrete pump broke down and a replacement had to be obtained, resulting in the work being completed after dark under lights.

Prior to each level being poured, our electrical team

*The supporting structure for the YMCA façade as it appeared on 2 March. The contractor is preparing the archives level floor which has higher strength concrete to carry a more concentrated loading.*

Ken Butt



*Looking like a scene from Pompeii, this view shows the blocks of stone from the YMCA façade at the storage yard in Moore Park on 5 April 2002.*

Howard Clark



*A closer view of the construction work on 22 March. Preparations are being made for the erection of formwork for the third level, which will contain the Museum's main offices and members' services.*

Bob Barracluff



installed junction boxes and a series of conduits for our future lighting and power requirements.

Formwork for the connecting staircase at the southern end of the façade structure and at the northern end of the adjoining building was completed and concrete poured on 20 April.

A visit to the Moore Park storage site with the consulting architect and stonemasons illustrated the enormity of the project. The site resembles the ruins of Pompeii with numbered stone blocks spread over a vast area. Stonemasons took four man-days to map the site on computer in order to instruct the transport operators where to find the desired blocks for delivery to the site in the correct sequence.

Twenty original hardwood window frames for the front of the façade and two others from the rear stairwell are also on site. These will require some clean up and repair for progressive fitting as the structure is erected. The tops of the frames contain a small leadlight opening section, some of which are in need of major repair and a number of which are missing. Sashes for the remainder of the frames will need to be manufactured and glazed.

The stonemasons are expected to start their work in early May. No stone will be stored on our site and a carefully coordinated operation will be required to deliver the stone needed each day and in the correct sequence. Our structural engineer is investigating a request to place a crane on the top level of the structure to lift stonework into position.

## Moomba

As reported elsewhere our cars R class 1808, Milan Peter Witt 1692 and Berlin 3007 were included in this year's Moomba parade in Melbourne on 11 March, where they attracted much attention. Ken Butt and Col Rhodes accompanied the cars from Preston to the parade, conducted a successful public relations exercise while the trams were displayed in Swanston Street for the street party and accompanied the trams back to the workshops. For them it was a long day! As a result of Victorian Department of Infrastructure requirements, accredited Bendigo drivers drove the trams with an M>Tram driver providing 'road knowledge'.

Berlin 3007 had been moved to the western track at the Cross Street corner, craned onto a low loader and trucked from Loftus to Preston Workshops on 2 March.

All three cars are to remain in Melbourne for the time being.

## Car news

The overhauled motor for the spare bogie from Brisbane dropcentre car 295 was re-installed on 2 March. The gear cases and brake rigging have also been refitted.

The second traction motor for P car 1497 was reassembled and tested on 9 March and the third motor was disassembled for cleaning the same day. The first bogie frame has been placed in the workshop for some further work before reassembly.

*Bob McKeever carries out a light machining of the commutator of a motor from P class 1497 to remove uneven wear.*

Bob Merchant







*Berlin 3007 has been loaded and is ready to leave Loftus on 2 March bound for Preston Workshops and the Moomba parade.*  
Ken Butt

C class 29 received some modifications to the main brake levers under the car to improve clearances and operation. This involved heating the levers in the forge and bending slightly to get a better angle.

### Berlin cars

Car 3008 remains in the workshop now painted in the all over cream livery that it carried as car 5133 on its delivery in 1969. Some finishing work is still

*The two Demag overhead 'pendulum' cranes are in position in the workshop. Due to their width they are not easy to photograph. On the workshop floor can be seen the Police Call Box on its side ready for some reconstruction work to commence.* Bob Merchant

required before it leaves the workshop.

Trailer car 3717 has had its roof sealed and painted. It has been repainted externally in the orange and cream livery, when weather permitted, while it has remained outside the workshop parked on the traverser. This work was completed by 12 April. The car had been suffering from exposure to the Australian summer sun and a graffiti attack while placed adjacent to the railway boundary fence. Stored seats and other material have been removed from the interior, which is now being cleaned. It is planned to fit small tables in the car between the seats to permit its future use as an instruction room for student visitors, or as a refreshment room for senior visitors.



