TROLLEY WIRE

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TROLLEY WIRE

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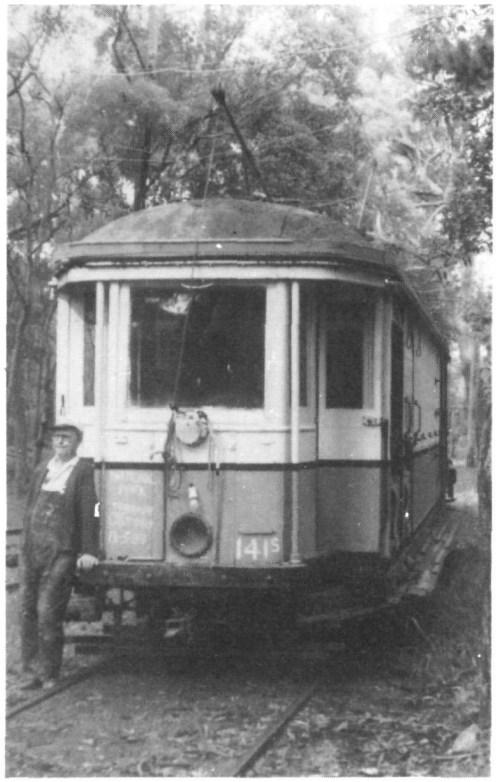


The end of an era. The SPER's first General Manager, Norm Chinn, poses in front of O class breakdown car 141s before the car makes the final journey to the loading ramp and transfer from the Royal National Park site to the new museum at Pitt Street, Loftus on 13 May 1989. VIC SOLOMONS

FRONT COVER:

Adelaide type A car No. 1 on the lakeside track at St Kilda. This is one of the AETM's new postcards. TREVOR TRIPLOW

BACK PAGE:

Top: Sydney R1 car 1979 crossing Pitt Street, Loftus before entering the Sydney Tramway Museum on a special charter in 1988. DALE BUDD

Bottom: W3 car 661 on the approach trackage of Camberwell Depot during one of its recent tours in Melbourne. COLIN C WITHINGTON

DOUBLE-ENDED STREAMLINERS

THE DOUBLE-ENDED PCC CARS OF NORTH AMERICA

Compiled by R. I. Merchant

INTRODUCTION

The advisory Group of the American Electric Railway Association, at its annual meeting in the autumn of 1929, discussed in some depth the general obsolescence of the vast majority of the approximately 74000 streetcars in the United States. There was considerable interest in looking for a solution to the transit industry's problems and the result was the formation in 1930 of the Electric Railway Presidents' Conference Committee (ERPCC), which eventually represented 28 operating companies and 25 manufacturers.

When the ERPCC began its research in the early 1930s, which resulted in the design and construction of the PCC car, one of its primary purposes was to preserve an industry in deep financial difficulties. The electric street railway industry had a multi-billion dollar investment in rail equipment, power supply systems and real estate, and the efforts of the ERPCC were as much devoted to preserving the value of these assets as they were in producing a new generation of rolling stock.

The second purpose of the ERPCC effort was to design a reliable high performance replacement for obsolete equipment and was an unqualified success. The cars and their components set new standards of performance, efficiency and riding quality.

The PCC car was more than just a vehicle and technology, it was a means to provide service in urban areas and it had to compete in an environment that was becoming increasingly hostile. The motor car of 1935 was a very different vehicle to the one of only five years earlier.

The PCC car was not a static 1935 design as is often thought. Research continued in the United States into the 1950s and continues today overseas. The last PCC cars built in the US, delivered to San Francisco in 1950-51, were significantly different from the first production PCCs delivered to Brooklyn in 1936.

The designation "PCC car" has not always been specific. The ERPCC and its successor from 1935, Transit Research Corporation (TRC), developed components that were protected by patents, and royalties were ollected. Cars built according to the specifications and contract documents, and for which royalties were collected, were defined as "PCC cars".

The high degree of standardisation of both the car body and the electrical and mechanical components permitted assembly line construction. Standard body sections could be assembled on jigs and welded together into complete body shells. Although General Electric and Westinghouse manufactured different control systems, the location of their equipment under and inside the car body was standardised. The PCC car carried standardisation to a national and industry-wide level.

A wide variety of modifications was allowed in the specification book. While it is often stated that the "standard PCC" was a single-ended, one-man car, 46 feet long, this was certainly incorrect. The specification book encouraged assembly of the standard body parts into a number of lengths and widths to suit the purchaser's operating requirements, and this standardisation allowed for the construction of double-ended PCC cars.

Nearly 5000 PCC cars were operated by 33 transit systems in North America. Of these only 73 were double-ended, with a further 19 double-ended cars using PCC designed car bodies and/or equipment on which royalties were not paid. Here, then, is their story.

1939 — SAN FRANCISCO, CALIFORNIA

The City and County of San Francisco placed an order in 1939 with the St Louis Car Company for five experimentally equipped double end cars for the Municipal Railway of San Francisco (the "Muni"), the first new cars purchased since 1927. The St Louis Car Co. allotted Job No. 1619 to the order and the completed cars were delivered to San Francisco during October 1939. The five cars entered scheduled service in December wearing Muni's livery of dark blue and golden yellow.

The original order, dated 13 June 1939, was for four cars, two fitted with Clark B-2 trucks which were designed to ERPCC specifications, while the other two were to utilise the Brill 97-ER-1 design previously used only on Brilliners,

the Brill-built alternative to the PCC. Each truck design was mated with both General Electric and Westinghouse PCC motors and control equipment.

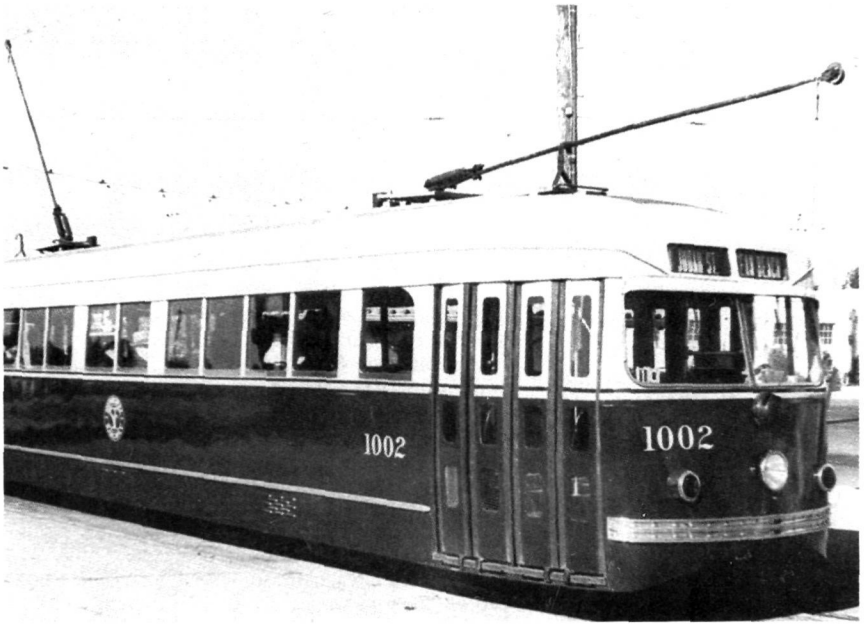
The order was increased by one car on 7 July 1939. The cars were being purchased out of earnings which the Muni management expected to cover the cost of only four cars. St Louis's offer to provide five cars for what had been thought to be the price of four cars was eagerly accepted. The cost of the five cars was $22400 each. The additional car was to be equipped with Clark B-2 trucks and GE equipment, thus giving Muni two (nearly) identical cars out of the five ordered.

A two-man crew ordinance, enacted after an accident in 1918, dictated that no car should be fitted with any apparatus that would permit a motorman to remove his hands from the controls. The wording of the law, supported by the carmen's union, resulted in these five cars being unique, as they were equipped with GE-built Cineston type combination accelerator brake hand controllers instead of the then standard PCC foot controls.

The cars were 50 feet 5 inches in length, 9 feet wide, and weighed 39400 lbs when built. Cars 1001-1004 had front and rear blinker doors and 1005 had inward folding doors. The double-stream rear doors required an offset of each side by approximately two feet. The cars provided seating for 59 passengers (50 regular seats plus 8 folding door seats and the rear motorman's seat) and they had one extra wide window post to permit leg room for an extra pair of reversible seats. The seats were plush covered and swivelled to change direction. Passenger windows were of the drop type and the motorman's windshield had a 12 degree slope.

The new cars were classified Type C by the Muni and they soon became known as "Magic Carpet" cars for their smooth riding. Cars 1001 and 1002 had GE 1198F1 motors and Clark trucks, 1003 had GE 1198G1 motors and Brill trucks, 1004 had WH 1432D motors and Clark trucks, while 1005 had WH 1432C motors and Brill trucks. One car was fitted with GE track brakes.

Although the Transit Research Corporation, holder of the patents on PCC cars, refused to allow the Muni to refer to the new vehicles as PCC cars, this injunction stemmed from the TRC not wanting to see its patented body designs mounted on the trucks of its adversary, the JG Brill Co. Correspondence in 1939 between the City and County of San Francisco, the TRC and St Louis Car Co. indicates that TRC insisted that patent royalties be paid on the cars. The City replied that their Charter did not allow for royalties to be paid and that they be



Brand new Magic Carpet car 1002 in its dark blue and golden yellow livery.

MD McCARTER COLLECTION

Single ended Magic Carpet car 1005 shows the body and window panels which replaced the off-side doors. It is seen at the corner of Cabrillo Street and La Playa on the Geary line six months before this line closed in December 1956.

PHOTOGRAPHER UNKNOWN

disguised in the purchase price from St. Louis Car. Eventually TRC consented to the job "upon the understanding that they are purely experimental units", and further pointed out that San Francisco would have to obtain the proper licence on any additional cars.

After the war the Charter restriction banning patent royalties was eliminated in order to make procurement of new streetcars possible.

In September 1944 the Municipal Railway of San Francisco, the first public-owned streetcar system in the United States, merged with its privately owned rival, the Market Street Railway Co. Within a few years of the merger, the blue and golden yellow livery used by the Muni during the 1930s, and the dark green and white of the Market Street Company gave way to a new Muni livery of verdant green and ivory. The new livery was applied to the Magic Carpet cars as they went through workshops.

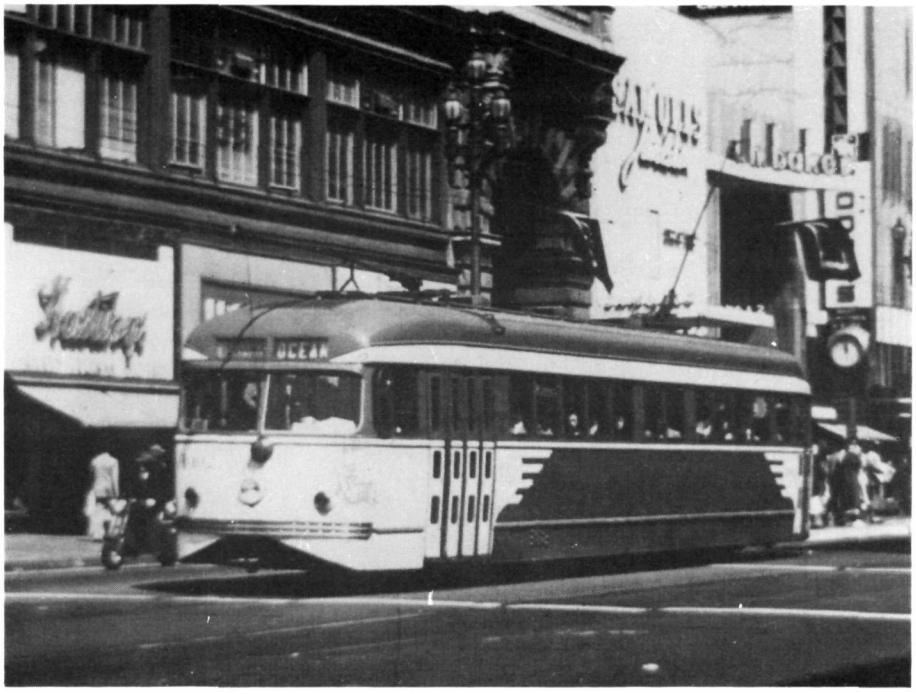
In June 1954 the electorate passed a revision allowing Muni to use only one crew member on all single-end cars built after 1 January 1939. One of the first changes resulting from the new ordinance was the conversion of the Magic Carpet cars to single end units by replacing with windows and body panels the doors on one side and the removal of the controls from one end.

The five Magic Carpet cars were withdrawn from service during 1959 and 1960. Car 1003 was sold at public auction in 1960 to the Bay Area Electric Railway Association and it now operates at the Association's Western Railway Museum at Rio Vista, California. Cars 1001, 1002 and 1004 were scrapped in 1959 and 1005 followed in 1960. The ends of 1001 and 1002 remained in a corner of the Elkton Workshops yard, presumably for possible further use in repairing later PCC cars, but were removed in the mid-1960s.

1940 — LOS ANGELES, CALIFORNIA

In 1936 the Pacific Electric Railway Company (PE) converted its Glendale-Burbank line from full rail service to bus operation with rush-hour only rail service. This move proved to be most unpopular and pressure was put on the company to restore full rail service.

With the necessity of acquiring new cars for that service, PE turned to the PCC which, as a member of the ERPCC, it had helped to develop. In 1939 it announced that it was



San Francisco's Type C car 1002 is seen outbound on Market Street in 1949 wearing the verdant green and ivory winged livery. HENRY STANGE, JR

planning to acquire 10 PCCs. By the time quotes were received the proposed order had increased to 20 units. The bid submitted by Pullman-Standard Car & Manufacturing Co. was successful and the actual order placed was for 30 cars at a cost of $22500 each.

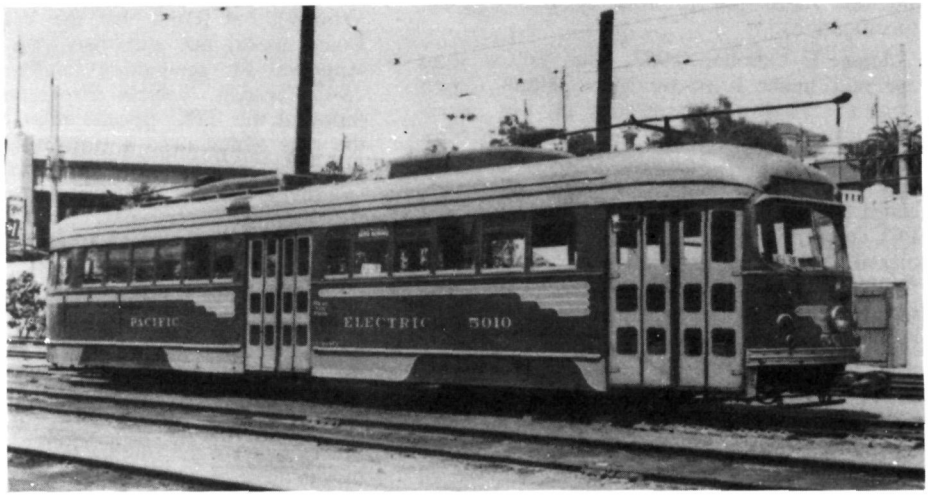
Pullman-Standard built the cars at their Osgood-Bradley plant at Worcester, Massachusetts as Lot Number W6624. The cars were unusual in that they introduced a body style which was not repeated by P-S. The PE cars were not the double-ended car shown in the PCC specification book. Instead Pullman designed a car for PE with narrow windows that only generally was based on the single-ended PCC body then being built by Pullman and St. Louis Car. However, they were the longest PCC cars built and the first to be provided with couplers and multiple-unit control for operation in up to three car trains. They were 50 feet 10 inches long and 9 feet wide, the extra long bodies being required to fit the stepwells and electrical equipment between the trucks. Clark B-2 trucks, Westinghouse 1432D motors and electrical equipment were fitted to the cars, which weighed in at 41600 lbs. Numbered 5000-5029, they wore Pacific Electric red and Daylight orange livery with silver trim and roof, and Pullman green trolley shroud. The roof was changed to grey during the war, and later tan. A green stripe was added to the roof because dirt and grease from the trolley shoes and overhead wire presented a dirty appearance on the light coloured roof.

The PE PCC cars were the the most luxurious of their bretheren. The cars seated 50 passengers in Heywood-Wakefield revolving seats and two 1-passenger longitudinal seats which were upholstered in LC Chase's "Velmo" mohair woven to PE's own pattern. An additional nine passengers could be accommodated on folding wood seats over the centre and end stepwells and the rear motorman's seat. Window shades required the omission of the by-then standard window cranks located above the centre of the windows. Passenger windows were of the lift type and the motorman's windshields were angled at 12 degrees.

Initially 17 cars entered service on 24 November 1940 on the Glendale-Burbank line, a line that shared the same tracks for most of its mileage, linking the northern cities with the Los Angeles Subway Terminal. However,the running time of approximately 43 minutes had to be increased by 3 minutes because the PCC cars could not maintain the schedules. The purchase of more cars than originally planned allowed PE to assign 13 cars to the Los Angeles-Venice

"Short Line" on 9 February 1941. All 30 PCCs ended up on the Glendale-Burbank line after it was found that poor track conditions on the Venice Short Line were giving the cars a rather severe battering. The cars never provided regular service on any other PE routes.

Despite their sleek appearance, PE's double ended cars were poor performers compared with other PCC cars. They weighed much more than their contemporaries and were too slow for the service to which they were assigned. This negative experience with the PCC car resulted



PE's double-ended PCC 5010 stands in Toluca Yard, adjacent to the subway portal. These cars had a top speed of 42 miles per hour. RAPHAEL F LONG

Pacific Electric 5001 leads a train of three cars on the Glendale right-of-way in 1941. JEFFREY MOREAU COLLECTION

mostly from unfortunate timing and the need to acquire new cars quickly to satisfy regulatory agencies. PE's PCC cars were streetcars in a setting that needed suburban cars. There were, however, no suitable suburban car designs at the time. Of all the PCC streetcars built, only the 30 Pacific Electric cars were a disappointment and did not fulfill the promise of the ERPCC specifications.

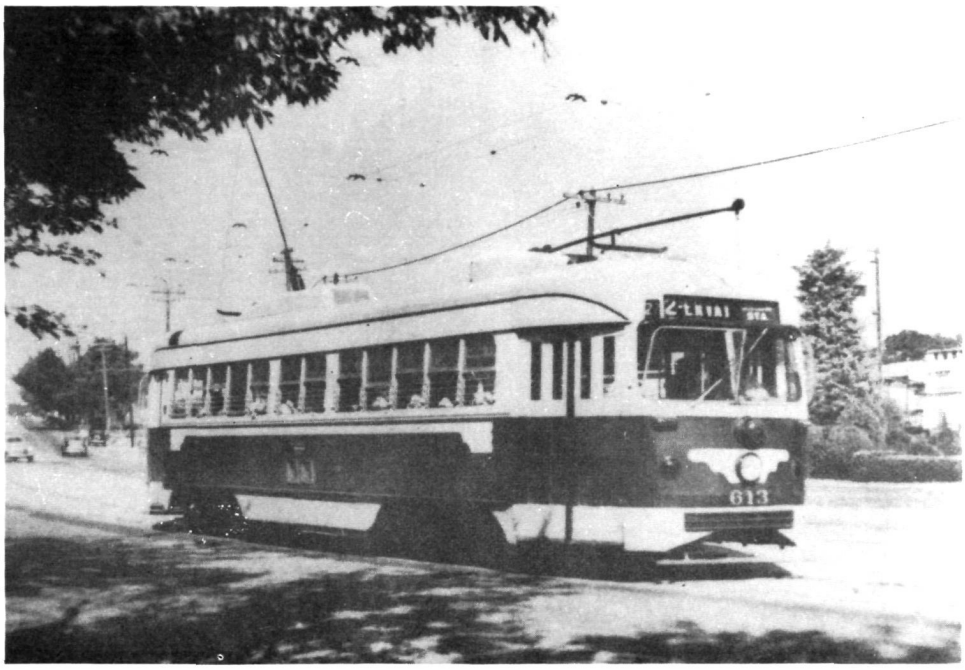
After 1 October 1953, the PCCs were operated under lease by Metropolitan Coach Lines,a company concentrating on bus operations which had purchased the Pacific Electric's passenger facilities. The basic route to Glendale and Burbank, and a branch to North Glendale, lasted to 19 June 1955. Upon abandonment, the PCC cars reverted to PE ownership and were placed in the Hill Street subway tunnel in Los Angeles to await possible resale. Whilst in storage they suffered from vandalism and became coated with calcium deposits from water dripping from the roof.

The unique PE body design did appear again, but only on a series of drawings submitted at the end of World War II by Pullman-Standard to the Key System in Oakland, California, which asked several builders to submit proposals for new cars to operate over the San Francisco-Oakland Bay bridge.

1945 — DALLAS, TEXAS

In June 1942, the Dallas Railway & Terminal Company (DR&T) ordered 25 double-ended PCC cars from Pullman-Standard (Lot No. W6699), but found that the War Production Board would not authorise their construction. Approval for production finally came in the 1945 Transit Vehicle Programme. Pullman followed the TRC Specification book to build the cars which used a standard length central unit. The omission of centre doors was required to provide space for electrical equipment under the car.

The cars were 47 feet in length and 8 feet 4 inches wide. They were fitted with Clark B-2 trucks, WH 1432D motors and Westinghouse electrical equipment. These 37800lb. cars cost $22000 each. Windows were of the lift type and the windscreens were angled at 12 degrees. Provision was made for 52 passengers in racially segregated seating and signs were placed in brackets above the window posts which could be moved to accommodate the changing direction of travel and the ratio of seats assigned to black



New Dallas PCC 613 on the 2-Ervay line. The similarity with the Pacific Electric livery is clearly shown in this view. BARNEY NEUBERGER COLLECTION

Dallas car 625 crosses Munger Boulevarde on Bryan Street during the last days of the Belmont-7th Street line in March 1955. GEORGE A ROUSH

and white passengers. These cars were equipped with straps instead of stanchions for standing passengers.

The "Gliding Beauties" arrived on the property in June 1945 wearing a red, white and silver livery. The resemblance between the striping on the DR&T cars and that of the Pacific Electric cars is said to have come about because Dallas chose the colours but did not specify how to apply them. Pullman-Standard used the diagrams from its earlier double-ended cars as a guide in applying the colours. The new cars entered service on the 2-Ervay and 16-Seventh lines.

DR&T was committed to eventual abandonment of its streetcars and let car and track maintenance decline. The company did repaint the PCC fleet in a new cream with red trim livery from 1949 but little else was done. As traffic declined the lines were abandoned and the riding qualities of the cars over the rough trackage still in use was far from smooth. By the end of 1952 the streamliners were being used on all remaining routes.

In September 1955, the company changed its name to Dallas Transit Company and just four months later, on 14 January 1956, the last streetcar ran in Dallas.

As early as July 1954, DR&T advertised the PCCs for sale and New Orleans Public Service Inc. considered purchasing them. The single-stream rear doors would have proved impractical for New Orleans' loading patterns and the cars remained on the market for an additional four years. Offers to Toronto, San Francisco, Seoul and Mexico City failed. Finally Dallas transferred the cars to the MTA in Boston in two lots during 1958 and 1959. One car, 624, returned to Dallas in 1980 for static display at the Age of Steam Railway Museum.

During 1981 there was a proposal to acquire some of the surviving double-ended PCC cars sold to Boston and recently withdrawn by the Boston system in order to provide a new transport service in the city centre. Nothing eventuated from the proposal.

1948 — SAN FRANCISCO, CALIFORNIA

San Francisco's second order for PCC cars was placed with St Louis Car Co. who allotted Job No. 1667 to the ten car order on 19 June 1946. Cars 1006-1015 were delivered during July and August 1948 and had the same basic body as the Magic Carpet cars built in 1939. They were built as rear-entrance, front-exit two-man cars and had standard PCC foot pedal

The interior of San Francisco 1013 when delivered. MAGNA COLLECTION

control instead of the hand controllers of the earlier cars. The Muni classified the cars as Type D and they soon acquired the nickname "Torpedo".

Cars 1006-1015 were bought out of the "orphan penny fund" which resulted from a decision of the California Public Utilities Commission that found the Market Street Railway's wartime 7-cent fare to be one cent too high because of alleged excess profits. The matter was still unsettled when the Municipal Railway merged with the Market Street Railway in September 1944, and since there was no way to refund the "penny" to passengers of another company in another time, it was agreed that the Muni should use the money for new equipment. An option for an additional 20 cars was not exercised.

The ten cars were wired for multiple-unit control but were without couplers. They were fitted with St Louis B-3 trucks, 1220E1 motors and General Electric electrical gear, and weighed 40020lbs when built. They were all-electric cars (they had electric instead of pneumatic control systems and electric rather than air braking) and cost $24840 each. They are the only Muni cars with drop sash windows and the motorman's windshield has the 30 degree slope adopted by the Transit Research Corporation Car Design Committee in 1945. They appeared in the "winged" verdant green and ivory livery. A simplified green and cream livery was adopted during the 1960s. Advertising signs usually covered the "wings", so they were eliminated.

Originally the ten cars seated 59 passengers, 52 on regular seats (50 of which were walk-over type), 6 on folding door seats and 1 on the rear motorman's seat, but when made one-man following the law revision of 1954, seating was increased to 60. As bodywork has been required, the unused doors have gradually been replaced with plain panels on many cars and side-facing bench seats installed where door-wells had been. Car 1009 was damaged in a collision with a petrol truck and received the full cosmetic treatment as applied to the earlier 1001-1005 cars, with all traces of the former front doors on the left side removed. As single-ended cars they became front-entrance, rear-exit units.

In 1950, an accident between a Chicago PCC and a petrol tanker caused the deaths of 33 passengers who could not open the blinker doors, which opened in an inward-rotating fashion, on the PCC car. The effects of this accident caused San Francisco to alter the

inward folding doors on cars 1006-1015 to the outward folding type.

The walk-over seats in these cars were welded to only face the direction of travel when converted to one-man operation. However, vandalism to the seat backs caused the Muni to replace these seats in most of the cars with fixed seats from other PCCs and the rotating type seats from the scrapped Magic Carpet cars.

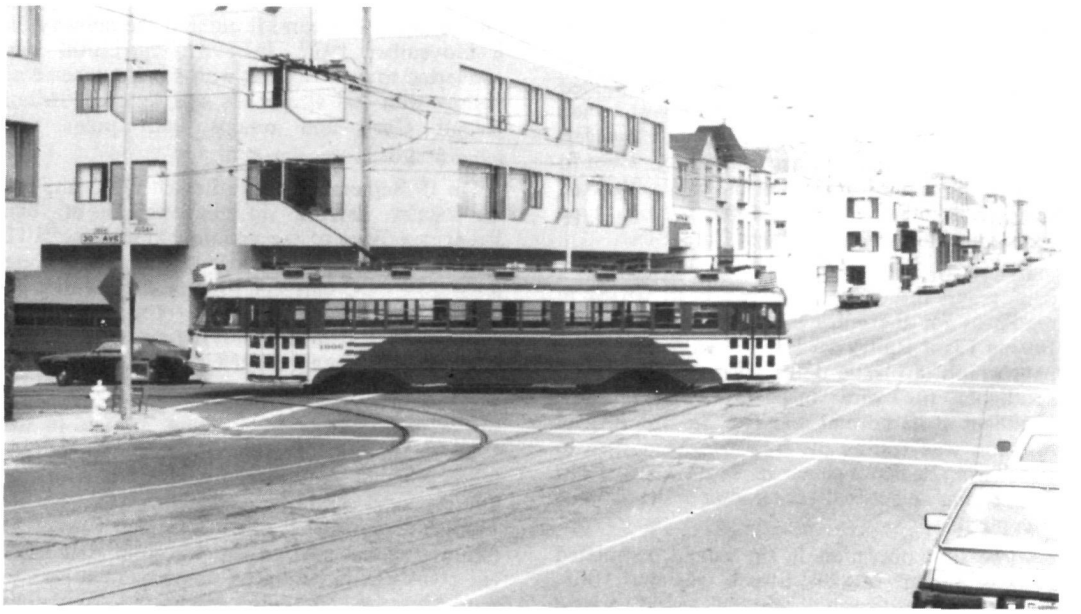
In 1976, car 1008 was converted to a pantograph test car to test overhead wiring in readiness for the entry into service of the new Boeing Light Rail Vehicles. It was fitted with a pantograph, a plastic dome window in the roof, spotlights for wire inspection and a new headlight at its normal rear end. Its first official function was testing the new overhead wire in the Twin Peaks Tunnel in November, 1976 before the electrical contractor's work was accepted.

The first operation in the newly completed subway under Market Street was by 1008, testing the pantograph design that would be used on the new LRV cars. It entered the subway on 8 November 1977. In 1981, car 1008 was converted to a service car with a paint scheme of yellow with red stripes. It was lettered "Muni Repair Car" and retains both poles and pantograph.

On 19 September 1982, the last PCC cars ran in regular service on the streets of San Francisco. Two of the double-ended cars, 1012 and 1013, were scrapped and the others were among 50 PCC cars placed in storage at Pier 70 for possible future use on a proposed tourist service. They had seen only intermittant service during the last years of PCC operation.

Class leader 1006 was returned to Muni tracks and refurbished in 1984 for use in the annual Historic Trolley Festival. In 1986, following representations by Howard Clark of the Sydney Tramway Museum, the Public Utilities Commission of the City and County of San Francisco advised the Museum that PCC car 1014 was to be placed on permanent loan to the Museum to help celebrate Australia's

San Francisco 1014 on Market Street at Levenworth on 12 January 1980. The car is in one-man condition with the modified livery and has had its original dash panel replaced following an accident. This car was equipped with video equipment for screening "Muni at Work" movies to entertain passengers during their journey, hence the "Munimovies" advertising on the car side. The last traces of this equipment were removed before the car was shipped to Sydney. TOM ACHESON



Car 1006 was returned to service for the Historic Trolley Festival in 1984. It is seen turning out of 30th Avenue onto Judah Street on 29 July 1984. TOM ACHESON

Bicentenary in 1988 and for educational purposes. Car 1014 was shipped from Oakland to Sydney where it arrived on 7 June 1987. It has since been restored to full double-ended operation and repainted in its former verdant green and ivory winged livery. Seats in the car are of the rotating type and the original off-side doors, which were in very poor condition, have been replaced with new outward folding ones.

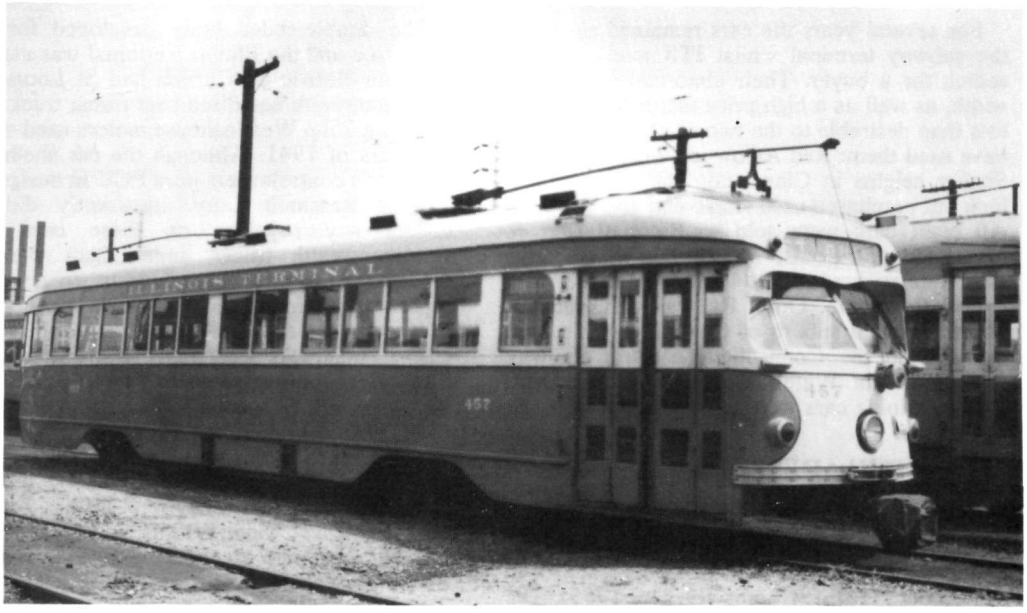
1948 — ST LOUIS, MISSOURI

The Illinois Terminal Railroad System (ITS) signed an order for eight multiple-unit PCC cars with the St Louis Car Company in 1948 (Job No. 1672 of 23 June 1948). These units were to be used on suburban services between St Louis and Granite City, Illinois, over a 6.3 mile line involving a short subway, a much longer elevated line, the Company-owned McKinley Bridge over the Mississippi River, and city streets in suburban Illinois. The ITS cars represented the smallest fleet of PCCs in North America and were numbered 450-457. They appeared in a light green and pale cream livery.

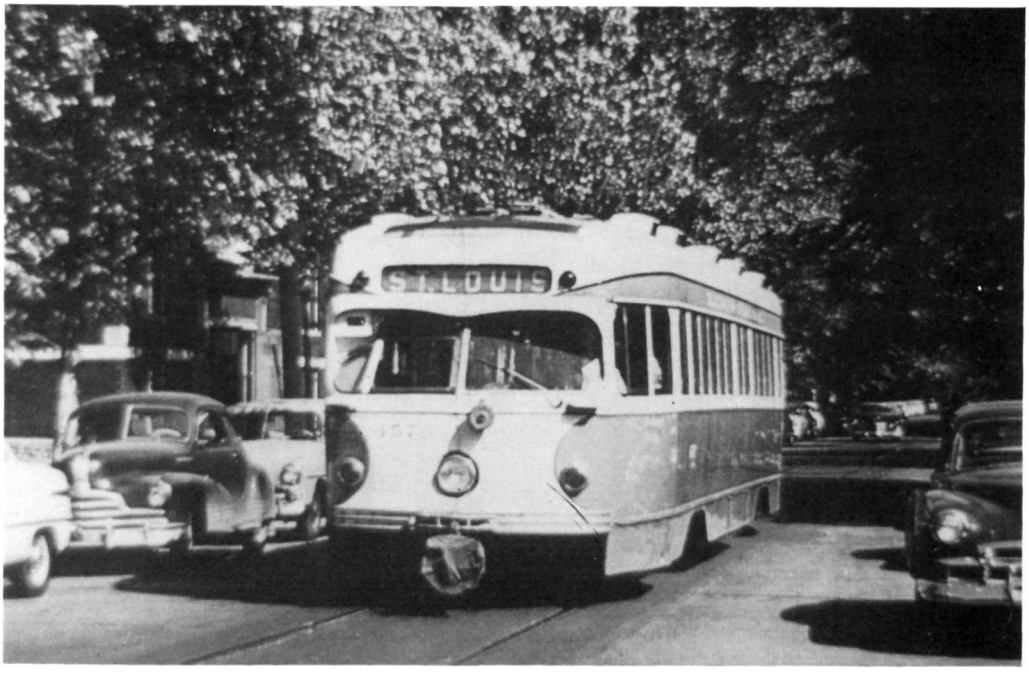
The Illinois Terminal PCCs continued the single-ended PCC theme of combining standard body parts. In this case a normal blind side body panel was lengthened with one additional window, and two additional side window posts, giving room inside for 55 passengers on both longitudinal and reversible seats. The window lifting mechanism was of the automotive type and the motorman's windshield had the 30 degree slope. Two standard front ends were used, and because no new body parts were required, it was possible to build eight unique cars for only $39506 per vehicle.

IT's cars were similar to San Francisco's 1006-1015 and also had St Louis B-3 trucks. However, they were delivered as one-man cars, had couplers for train operation and had only one set of doors on each side. These cars did not have the usual tubular seat frames found on PCCs. The cars were 50 feet 5 inches in length and 9 feet wide (one source says 8 feet 10 inches wide). With their 1220E1 motors and General Electric electrical gear, they tipped the scales at 42680 lbs apiece.

The ITS cars only partially modernised the Granite City-St Louis line and the System continued to maintain a number of 1924-built cars for its suburban services after 1950. Decentralisation of downtown St Louis and a rapid decay of older residential areas on both sides of the Mississippi contributed to a very rapid decline in riders in the 1950s. By 1956 IT was looking for a buyer for its franchise because of considerable rail losses on the line the previous year. Patronage ranged from 3000 to 3500 on 67 round trips when the abandonment petition was filed in the summer of 1957. At 12.35am on the morning of 22 June 1958 the last PCC rolled out of the subway station and the doors were locked for ever.



Illinois Terminal car 457 in storage after being withdrawn from service.
RI MERCHANT COLLECTION



Illinois Terminal Railroad System 457 is seen running through suburban streets in Granite City in 1952, bound for St Louis. WILLIAM C JANSSEN

For several years the cars remained stored in the subway terminal whilst ITS made a futile search for a buyer. Their abnormal length and width, as well as a high price tag, made the cars less than desirable to the two systems that could have used them: Red Arrow in Philadelphia and Shaker heights in Cleveland. The latter took a look but purchased used single-end cars in 1959. All eight cars were sold to Bierman Iron & Metal Co., St Louis, Missouri in 1960. Two cars were rescued in 1964 when the dealer sold car 450 to the Ohio Railway Museum at Worthington, a suburb of Columbus, Ohio, and car 451 to the Connecticut Electric Railway Association of Warehouse Point, Connecticut. The remaining cars were cut up for scrap in the same year.

1949 — PHILADELPHIA, PENNSYLVANIA

The Philadelphia Suburban Transportation Co. (PST or "Red Arrow") ordered 14 double-end multiple-unit cars from St Louis Car Co. in November, 1946 (St Louis Job No. 1755). The PST had wanted duplicates of 10 Brilliners delivered in September, 1941 but those cars proved to be the last rail vehicles built by the JG Brill Co. and the firm (now ACF-Brill Motors Co.) declined to re-enter the rail vehicle field.

The double-ended body developed for San Francisco and the Illinois Terminal was used on these air-electric cars which had St Louis-built Commonwealth equalised cast frame trucks and the same 75hp Westinghouse motors used on the Brilliners of 1941. Although the car shells and operator's controls were pure PCC in design, the Transit Research Corp. apparently did not collect any royalties on these cars. The Commonwealth trucks under them were intended for operation at speeds in excess of 70 mph and produced the smoothest ride of any PCC-type car ever built when running on open track. The trucks were built to operate on the Pennsylvania broad gauge of 5 feet 2-1/2 inches. Because of their special trucks, motors, control package and brakes, the Red Arrow cars cost $45714 each compared to $39506 for the double-end PCC cars built simultaneously for the Illinois Terminal. They were 50 feet 5 inches long and 9 feet wide. With their 1433B motors and Westinghouse electrical gear, they weighed 49000 lbs. There were seats for 52 passengers. The livery was tuscan red and cream with a silver stripe and black roof. This paint scheme was later simplified and the stripes eliminated.

The new cars, numbered 11-24, arrived in the summer of 1949 and were assigned to the West

The motorman prepares to lower the pole on Philadelphia Suburban 15 at Ardmore terminus in preparation for the return journey to the 69th Street Terminal.
RI MERCHANT COLLECTION

Philadelphia Suburban car 24 in the modified livery on 13 September 1968. The non-PCC Commonwealth trucks are visible in this view.

RS JONES COLLECTION

Chester line. Eventually they also worked the Media line.

A combination of the need for adjacent road widening, double tracking, power improvements and increased traffic on the rest of the system led to the conversion of the West Chester line to bus operation beyond the end of double track at Westgate Hills in June 1954. Continued peak hour traffic increases on the Media and Sharon Hills routes, which made continued operation and maintenance of pre-1930 rolling stock necessary, and the unprofitability of the peak-hour only Westgate Hills service resulted in the closure of this line in 1958. Pressure on the car fleet was such that PST obtained a quote from St Louis Car for 5 to 10 additional PCCs. The price of $108000 each reflects the small order and that St Louis was no longer building PCC cars. Three years later PTS investigated the possibility of acquiring the stored Illinois Terminal cars. Their poor condition after five years in storage went against their purchase.

From 29 January 1970, the Southeastern Pennsylvania Transportation Authority (SEPTA) has operated the system as its Red Arrow Division. Under SEPTA ownership the streamliners were designated ARD57 class and received a gold, white and maroon paint scheme. Later they were repainted in orange, white and blue. SEPTA ordered 29 new double-ended multiple-unit cars from Kawasaki in Japan to replace the Brill and St Louis streamliners and surviving older cars. In the meantime Red Arrow Division car maintenance, excellent under private ownership, had been minimal. Since 1975 no peak-hour multiple-unit working had been scheduled, partly because a greater portion of the line had been double-tracked and partly due to SEPTA not maintaining the couplers on the 11-24 group of cars. Accident-damaged cars, once repaired immediately by PST, accumulated behind the 69th Street Shops. Cars 11 and 16 were scrapped in 1980 and 12, 19 and 22 followed in 1982. The last pre-Kawasaki cars operated in 1982 and the last St Louis cars in service were 14 and 21 on 18 October of that year. Immediately thereafter they were auctioned to museums and removed from SEPTA property.

The remaining cars were acquired by museums as follows: cars 13 and 23 went to the Shade Gap Electric Railway, 14 and 24 to Arden Trolley Museum, 15 to Penn's Landing Trolley Co., 17 to Buckingham Valley Trolley

Association, 18 and 21 to Branford Trolley Museum, and 20 to the New Hope & Ivyland Railway.

1958 — BOSTON, MASSACHUSETTS

The Metropolitan Transit Authority (MTA) in Boston wanted to replace eight old cars on two lines where loops were not available and, in 1958, began searching for available double-ended PCCs. It purchased eight cars from Dallas on 28 August 1958, and rejected cars from the Illinois Terminal because the length of the IT units presented possible clearance problems in the downtown subway. They also lacked centre or rear doors and were priced at $15000 compared to the Dallas price of $3500 per car. The cars arrived in Boston during November 1958.

All eight cars entered Everett Shops in 1959 to undergo alteration to MTA standards. The changes included rearrangement of seating and raising the anticlimbers to clear the newly installed couplers. The cars received the numbers 3322-3329. The success of these units led the MTA to purchase the remaining 17 cars from Dallas. They arrived on the property in July 1959 and received the numbers 3330-3346.

The purchase of the second lot of Dallas cars brought protests from uninformed MTA critics, who described the cars as "white elephants" which "nobody wanted" and asserted that the MTA had been hoodwinked.

The Transit Authority defended the purchase in its 1959 annual report and stated each of the cars cost the Authority $3500. After shipment to Boston, extensive rehabilitation, refurbishing and conversion to MTA specifications, the price tag for each car was $13300. Had the MTA placed an order for new cars of the same type, and they were not in production at this time, each car would have cost approximately $75000.

As originally built for Dallas, the cars had a seating capacity of 52 on reversible transverse seats. The seats on one side were removed by the MTA and were replaced by a continuous longitudinal seat. One of the seats on the opposite side was turned to a longitudinal position. Handbrakes were installed, the heating system improved and Tomlinson couplers fitted.

In 1963 the MTA's Rolling Stock & Shops Department prepared drawings converting the Dallas cars into two-car multiple-unit sets, but the plans were never implemented.

The desire to expand beyond its traditional boundaries, and to take advantage of federal aid

Boston MTA car 3324 (ex-Dallas 616) is sporting Boston's neat orange and cream livery in this 1959 view. NORTON D CLARK

Boston 3332 (ex-Dallas 618) loads students for Northeastern University at Copley subway station in December 1977. The car is in green and white livery with a grey roof.
STEPHEN P CARLSON

legislation, led the MTA being replaced by the Massachusetts Bay Transportation Authority (MBTA) in 1964. Two years later the MBTA adopted a colour-coded system for its rail services and the ex-Dallas cars were repainted from the MTA orange, cream and silver livery to red and white, grey and white or green and white.

Over half the double-ended units had been assigned to the isolated Mattapan route for all but a short period since entering service in 1960. As this line terminates in loops at both ends, the Authority had, from 1970, converted 13 of them to single-ended cars with the removal of the front trolley pole and the rear motorman's controls. Light Rail Vehicles replaced these battered veterans in the subway in March 1978 and, with the closure of the line for rebuilding in March 1980, they became surplus to requirements.

Prior to March 1980, the following cars had been removed from the passenger car roster: Car 3326 was converted to a sand car, used to sand wet rail, in 1973; car 3339 was scrapped in 1975 and cars 3335 and 3324 followed in 1978; 3343 became an emergency car in 1979 and had a sliding centre door fitted; 3333 was restored to double-ended operation in 1977 and went to the Connecticut Electric Railway Association in the following year; and car 3342 was acquired by the Seashore Trolley Museum, also in 1978.

During 1980, car 3323 went to the Branford Electric Railway, and cars 3340 and 3328 went to the Seashore Trolley Museum in 1982. Car 3328 is in storage at Seashore for the National Tramway Museum at Crich in Derbyshire, England. The MBTA also retained one car for preservation during 1982, car 3334. Car 3338 went to Trolley Inc. of New Bedford, Massachusetts in 1983 and cars 3331 and 3344 were acquired by the Seashore Trolley Museum for spare parts in 1984. These two cars were stored on MBTA property until the following year.

By 31 December 1984, car 3327 had joined the service fleet as a works car and six cars, 3322, 3325, 3337, 3341, 3345 and 3346, were stored.

In January 1989, the Connecticut Electric Railway Association, now known as the Connecticut Trolley Museum, was exploring the possibility of acquiring car 3338 from Trolley Inc. whose plans for the car had not materialised as expected.

1959 — BUENOS AIRES, ARGENTINA

The Pacific Electric's 30 double-ended Pullman-built cars, stored in the Hill Street subway tunnel in Los Angeles since 1955, were bought by the Ferrocarril Nacional General Urquiza (FCGU) in August 1959 and shipped to Buenos Aires shortly after.

The cars were renumbered from PE 5000-5029 consecutively to 1500-1529. Prefixes added to the numbers indicated whether the cars were motors or trailers. They were equipped with third rail shoes as well as trolley poles for current collection and were the only PCC streetcars so fitted. Some of the cars were operated as motor cars and some as trailers in two and three car trains. Doors were cut into one end of 13 units and both ends of 12 cars so that a single conductor could work the entire train. These end doors were fitted with home-made vestibule connections. Cars with two passageways had no motorman's cabs and were used solely as middle units in the trains.

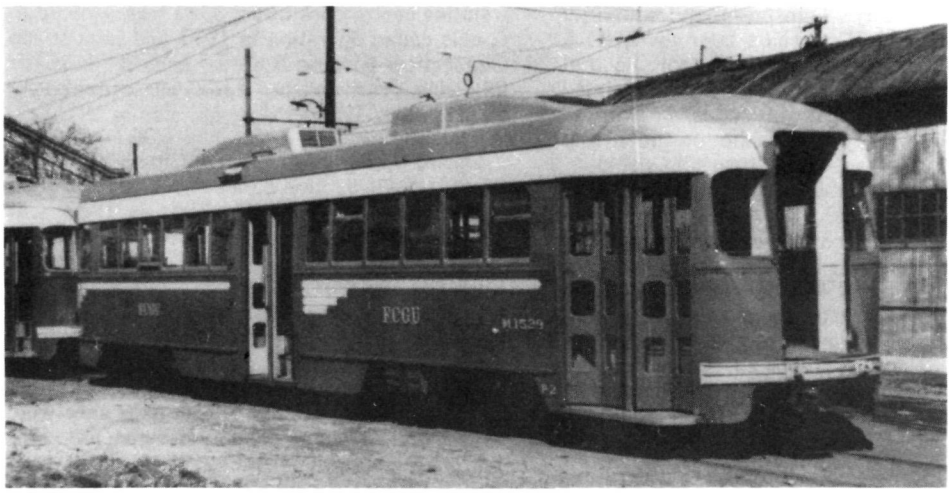
The cars were allotted to the San Martin line and the Campo de Mayo shuttle, both light connecting lines. The condition of the track on the FCGU made for very rough riding. The PCCs did not stand up well in this service and experienced many problems including truck frame cracks. Because of this, and the deteriorated condition of many of these cars before they left the United States, the cars were retired from service in mid-1962. Car 1529, for example, entered service out of Strobel Depot on 28 July 1960 and was retired from service on 21 October 1961. The cars were stored for a number of years and eventually scrapped.

1975 — SHAKER HEIGHTS, OHIO

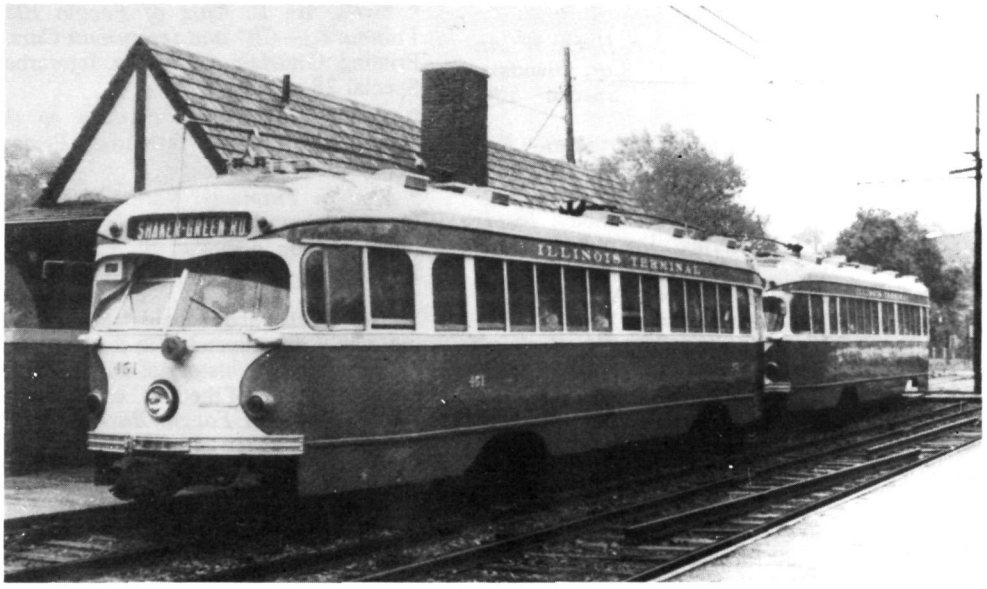
Near the end of World War II the City of Shaker Heights acquired the Cleveland Interurban Railway. That system had been built by the Van Sweringen brothers to promote their model city of Shaker Heights by providing a transit link to Cleveland. Modernisation was an important goal for the City and to that end it ordered PCC cars from Pullman-Standard.

Before the expressway construction boom of the 1950s and '60s, the Shaker Rapid was the fastest way to enter downtown Cleveland from the southeastern suburbs. Park-and-ride lots along Van Aken and Shaker Boulevarde divisions were filled to capacity every weekday as Shaker Heights residents rode the Rapid to work. To provide additional services the SHRT purchased second-hand cars from Minneapolis.

By 1956 Shaker Heights was in the market for more PCCs. Since it desired to have them fitted with couplers for train service, SHRT examined the surplus Pacific Electric and Illinois Terminal



Former Pacific Electric car 5029 in its new guise as M.1529 of the General Urquiza National Railway. The vestibule connection has not yet been fitted to the end of the car.
ARNOLD IRVINE REID



Museum-owned Illinois Terminal cars 451 and 450 in multiple-unit operation on the Shaker Heights line. They ran briefly in peak periods. GERALD H LANDAU

cars. Neither group was acquired as repair costs for flood damage to the line consumed the available funds. In 1958 it was again searching for more cars and bought some from St Louis Public Service Co.

The electorate approved the creation of the Greater Cleveland Regional Transit Authority (RTA) on 22 July 1975. When the new authority took over SHRT on 5 October, passenger counts on the Shaker Light Rail Division rose by 27 percent because a new regionwide flat fare structure encouraged transfers between bus routes and the ex-Shaker Rapid cars. SHRT had anticipated the passenger increase and had leased two former Illinois Terminal double-ended PCC cars in December 1975 to augment their PCC fleet.

Car 450 was leased from the Ohio Railway Museum at Worthington, Ohio, while car 451 came from the Connecticut Electric Railway Association at Warehouse Point, Connecticut. Both were in service in Cleveland by January 1976 after being overhauled mechanically and repainted in their original livery. The two cars saw brief service mainly during the peak periods.

Still searching for more cars, the RTA obtained some ex-Cleveland cars from Toronto in 1978 and the introduction into service of these cars allowed the return of cars 450 and 451 to their owners in March 1979.

Car 450 is believed to have since changed museums and is now with the National Capital Trolley Museum at Wheaton, Maryland.

SOURCES

This account of the double-ended PCC cars of North America could not have been written without recourse to the research carried out by Stephen Carlson, Fred Schneider III, Seymour Kashin and Harre Demoro, and published by Interurban Press. The compiler gratefully acknowledges the assistance received from the following publications:

* Carlson, Stephen P and Schneider III, Fred W: *PCC — The Car That Fought Back.* Glendale, California. Interurban Press, Special 64, 1980.

* Central Electric Railfans Association: *The Colorful Streetcars We Rode.* Chicago, Illinois. CERA, Bulletin 125, 1986.

* Cox, Harold E: *PCC Cars of North America.* Philadelphia, Pennsylvania. Community Press, 1963.

* Crump, Spencer: *Ride the Big Red Cars.* Second Edition. Los Angeles, California. Trans-Anglo Books, 1965.

* Cummins, O.R. and Cox, Harold E: *Surface Cars of Boston.* Philadelphia, Pennsylvania. Community Press, 1963.

continued on page 20

from page 19

° *Kashin, Seymour and Demoro, Harre W: An American Original — The PCC Car.* Glendale, California. Interurban Press, Special 104, 1986.

* Long, Raphael F: *Pacific Electric's Big Red Cars.* Universal City, California. T C Phillips, 1966.

* McKane, John and Perles, Anthony: *Inside Muni.* Glendale, California. Interurban Press, Special 79, 1982. * Moreau, Jeffry J: *The Pacific Electric Pictorial.* Los Angeles, California. Pacific Bookwork, 1964.

* Perles, Anthony: *The People's Railway.* Glendale, California. Interurban Press, Special 69, 1981.

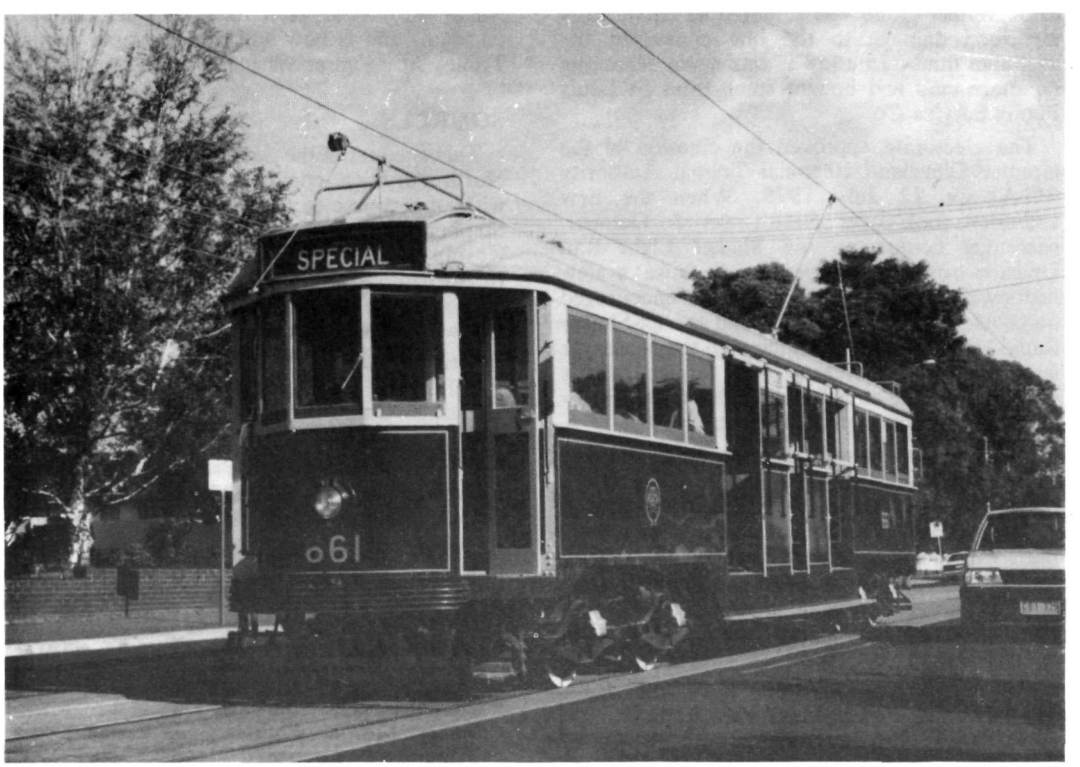
* Schneider III, Fred W and Carlson, Stephen P: *PCC — From Coast to Coast.* Glendale, California. Interurban Press, Special 86, 1986.

* Swett, Ira L: *Cars of Pacific Electric — Volume 1 — City and Interurban Cars.* Second Printing. Glendale, California. Interurban Press, Special 28, 1975.

* Young, Andrew D: *Trolleys to the Past.* Glendale, California. Interurban Press, Special 85, 1983.

* *Modern Tramway.* Various issues. Museum News section compiled by JH Price and World News section compiled by PG Haywood and MR Taplin.

Two of the above publications in particular are highly recommended to readers who wish to read more on the history of the development and technical details of the PCC car. These are *PCC — The Car that Fought Back* by Carlson and Schneider, and *An American Original — The PCC Car* by Kashin and Demoro.



A study of car 661 looking magnificent on tour in Cotham Road, Kew.

WILLIAM F SCOTT

A W3 CAR RUNS AGAIN IN MELBOURNE

By William F. Scott

Twenty years after withdrawal from regular service a W3 class car ran six all-day tours in Melbourne during three consecutive weekends in April and May 1989. The W3 was Ballarat Tramway Preservation Society's car 661.

Three motormen at Malvern depot had formed a group to run tours in Melbourne, independent of any specific tramway heritage society and chose the name Yapper Tours. Yapper was a name given unofficially to Melbourne's Y and Y1 class cars 469 and 610-613. The first tour occurred in 1988 with Y1 car 613.

In early 1989 a member of the group conceived the idea of a tour with a W3 class car as they had not run in Melbourne for many years. The car sought was Ballarat's, since the only other operable car of this class in Victoria was the Tramway Museum Society of Victoria's example undergoing repainting at the time.

The BTPS was willing to charter their car, and the Metropolitan Transit Authority agreed on the tours. Events thereafter moved steadily ahead with ail MTA, insurance, cranage, haulage and publicity arrangements for the venture. Owing to the high total cost, the fare for each outing was set at $20 a head.

661was transferred to the MTA's Preston Workshops on Wednesday, 5 April 1989 by Hi-Haul Transport P/L of Bayswater. Barry James Mobile Cranes P/L of Ballarat had lifted the car body and trucks separately onto the lowloader.

After arrival at Preston an MTA crane placed the body upon pyramids. The trucks were then checked over and subsequently reunited with the body. The reassembled car was given a test run and judged to be in excellent condition by the MTA staff involved.

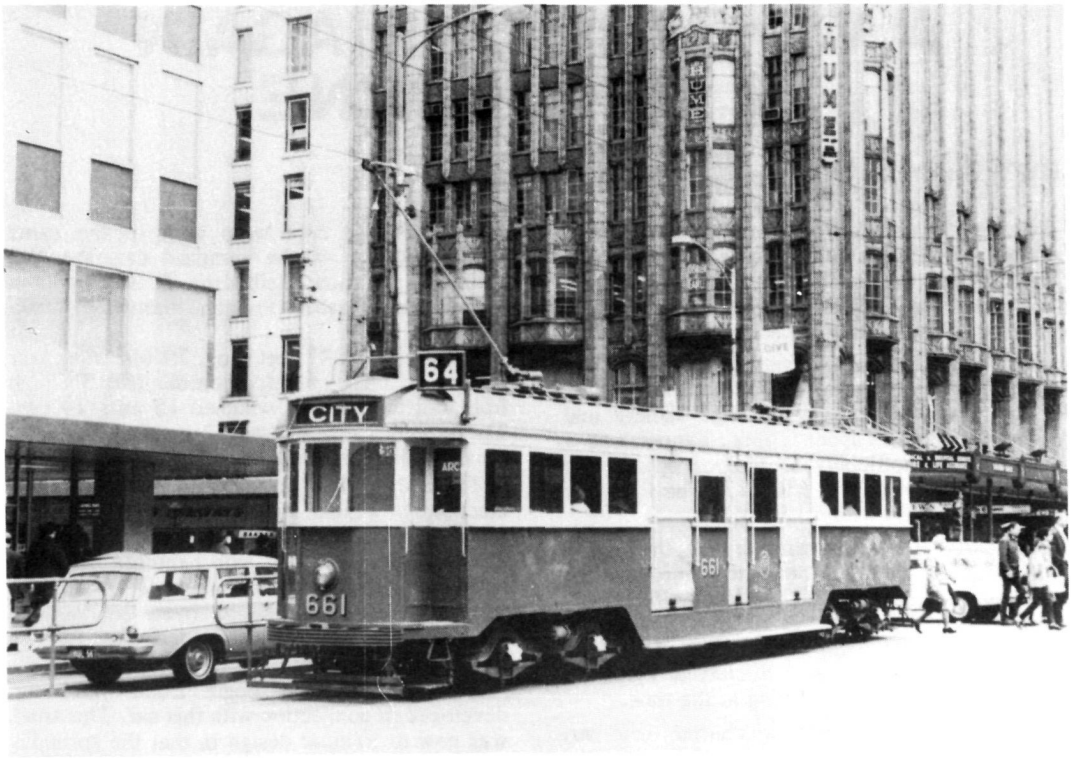
Much more thought and care went into the design and construction of the W3 cars than is generally realised today. They were all built between 1930 and 1934, with 661 constructed in 1932. Technically they were considerably different from their immediate predecessors, the W2 class, as was revealed in *The Electrical Engineer and Merchandiser* for March 1932. The article explained that the tramcars had been designed with the special objects of improving the riding qualities and reducing noise, and the expected improvements had been more than realised. These cars were built to the same general outline as the standard car, the W2 class, at the then Melbourne & Metropolitan Tramways Board's Preston tramway workshops.

Each car was 47 feet long, 7ft 6in wide over pillars, 9ft wide over footboards, 10ft 5in high from rail to roof and weighed 15 tons 14 cwt. The seating capacity was 52 persons, the total crush loading capacity was 150 passengers.

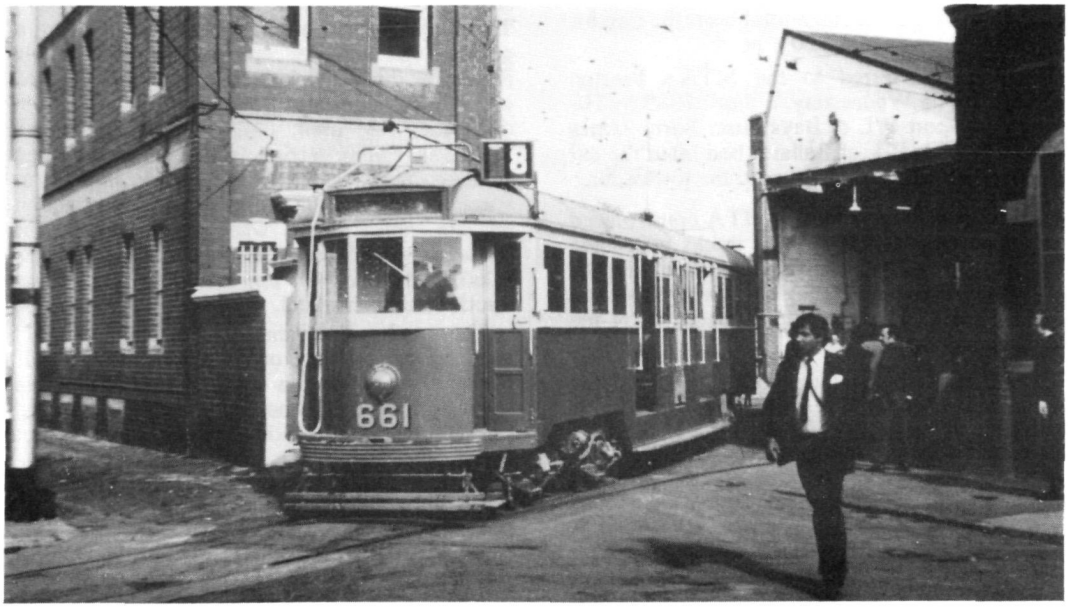
The bodywork of these cars was built of steel, electrically welded, woodwork being used only for interior facings on the steelwork. Considerable strength combined with lightness had been achieved with this design, about 2 1/2 tons in weight having been saved over the wooden superstructure on a steel underframe for the same design of car.

A new design of bogie truck had been developed in connection with this car. This truck was new to tramcar design in that the springing had been made similar to motor car practice, that is long, semi-elliptic springs clamped to the axle boxes and attached to the truck frame by shackles, through which the drive was taken. This arrangement eliminated the use of horn guides, and thereby cut out a considerable amount of noise. The maximum size wheels used in tramcar operation, namely 33 inches in diameter, were used. Large wheels give much smoother rolling action along the rails than smaller ones, which reduces the impact at special work and the noise of the rolling action on the rails. Large wheels also have less tendancy to corrugate the rails. Each truck was fitted with two 40 hp motors giving equal traction on each wheel.

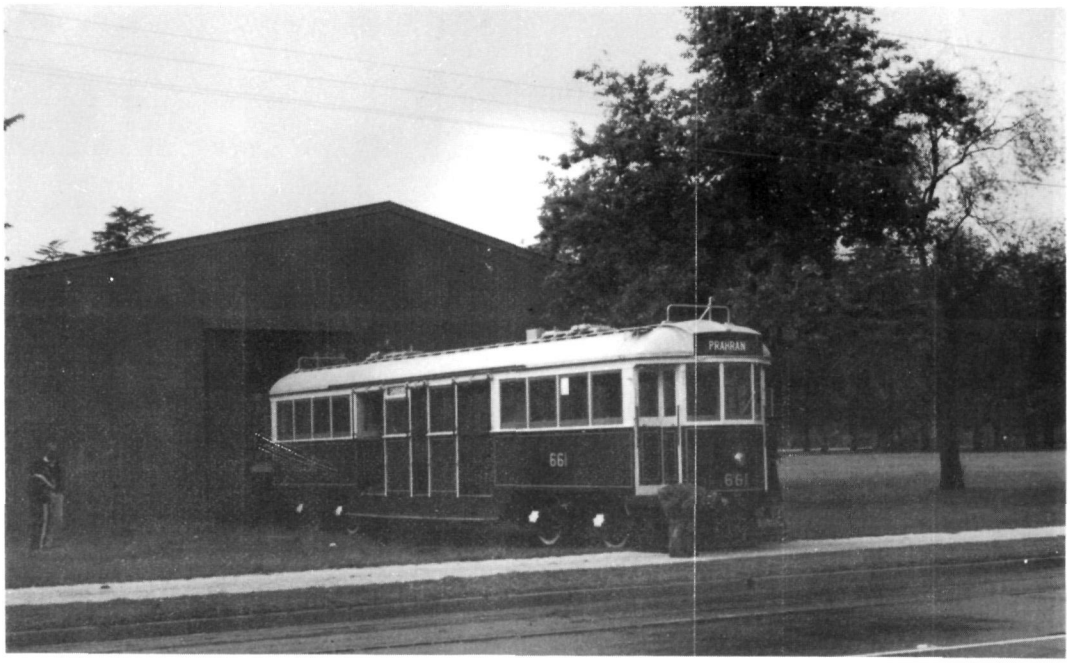
The truck side frames were made of mild steel, by using a piece of 7in x 3 1/2in x 15 lb I-beam. First, a section was cut away from the web by oxy-acetylene flame. The top and bottom flanges were then bent to the correct shape, the web being cut away allowing the angle smith to carry out the work very much more easily than bending the full 7 inch depth section. The difference of length between the top and bottom flanges, after bending, was about 2 inches, which represented the amount of draw that would have had to take place had the web not been cut away. After forging to shape, the web was again joined together, by electric



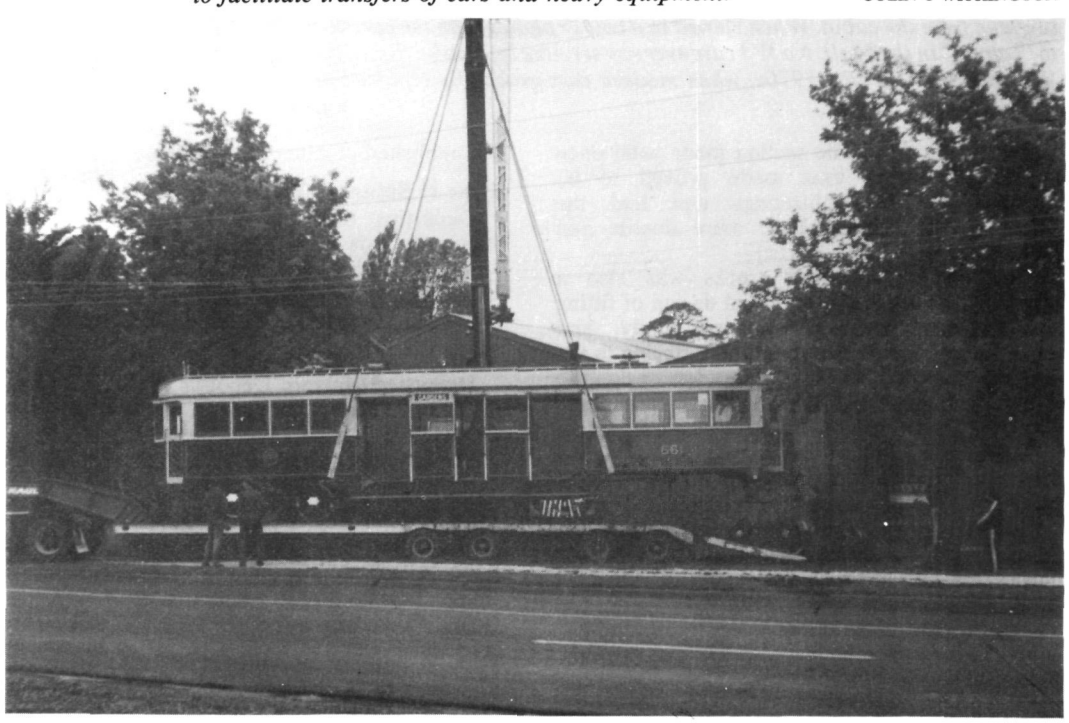
Car 661 in Swanston Street, Melbourne running in regular service before its withdrawal in 1969 for storage. E JOHN BELOT COLLECTION



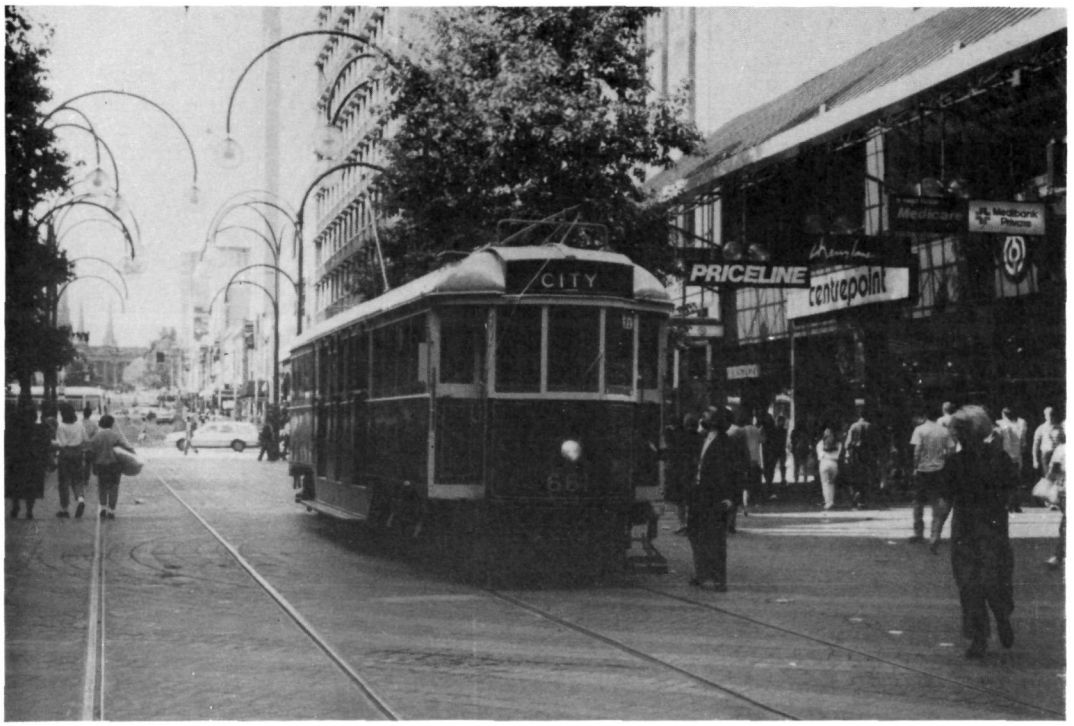
M&MTB car 661 being shunted at Malvern Depot in 1976 before transfer to Preston. E JOHN BELOT



W3 661 being prepared for loading at Ballarat and transfer to Preston Workshops. The car is at the rear of the BTPS depot on the recently extended track laid specifically to facilitate transfers of cars and heavy equipment. **COLIN C WITHINGTON**



W3 661 at the rear of the BTPS depot being loaded by crane onto the Hi-Haul low loader. **COLIN C WITHINGTON**



Car 661 on a photo stop in Bourke Street Mall. Tour initiator Peter Bardho has just alighted from the cabin. When viewed in a colour photograph the car seems somehow to "belong" in the Mall. No W3 cars ever ran services in Bourke Street, the preserve of W7 cars until the late 1970s, when modern cars gradually replaced them.

WILLIAM F SCOTT

welding, and the whole section made solid once more. Sideframes thus made proved to be cheaper than steel castings and had the advantage of being lighter, more ductile and homogeneous.

The braking on these trucks was also a departure from the conventional design of fitting one brake cylinder on the car body, and operating through foundation brake rigging to the brake gear on the trucks. On the new design the brake cylinders were fitted upon the trucks and operated directly upon the brake beams. Clasp brakes were fitted to the wheels and although this was standard practice in railway rolling stock, it was new on tramcar design. The air cylinders were connected to the straight air brake system through a relay valve by a flexible hose. The use of two brake cylinders on each truck eliminated a heavy brake cylinder on the car body, plus all the brake levers, rods and pins, with their loss of efficiency, weight and noise.

While in the service of the M&MTB, car 661 ran 1,027,792 miles.

The principal points of call were planned as follows, in date order of fulfillment and showing the published commencement times:

Tour 1: Saturday 22 April 1989

Departing Camberwell Depot at 10.30am visiting Wattle Park, East Burwood, Hawthorn Depot, Balaclava Junction, East Malvern, East Brighton, Glenhuntly Depot and Hawthorn East.

Tour 2: Sunday 23 April 1989

Departing Malvern Depot at 10.30am visiting Richmond, Kew, Kooyong, Camberwell, Caulfield siding, North Coburg, Brunswick Depot, St Kilda Junction, Albert Park siding and Malvern Town Hall.

Tour 3: Saturday 29 April 1989

Departing Kew Depot at 10.00am visiting Mont Albert, North Balwyn, Brunswick Street siding, Bourke Street, Glen Iris, Dudley Street siding, Footscray and Show Grounds siding.

Tour 4: Sunday 39 April 1989

Departing Malvern Depot at 10.00am visiting Carnegie, St Kilda Junction,Luna Park, North Richmond, Batman Avenue, South Melbourne Depot, South Melbourne Beach, Moreland, East

Coburg, Brunswick Road siding, Prahran and South Caulfield Junction.

Tour 5: Saturday 6 May 1989

Departing Thornbury Depot at 10.00am visiting West Preston, Bundoora, South Melbourne and St Kilda Beach, Kew, Malvern Depot, St Kilda Junction, Simpson Street siding and Northcote.

Tour 6: Sunday 7 May 1989

Departing Preston Workshops at 10.30am visiting Domain Road interchange, South Melbourne siding, West Coburg, West Maribyrnong siding, Moonee Ponds, Essendon Airport, Essendon Football Ground, North Melbourne and Barkly Street siding.

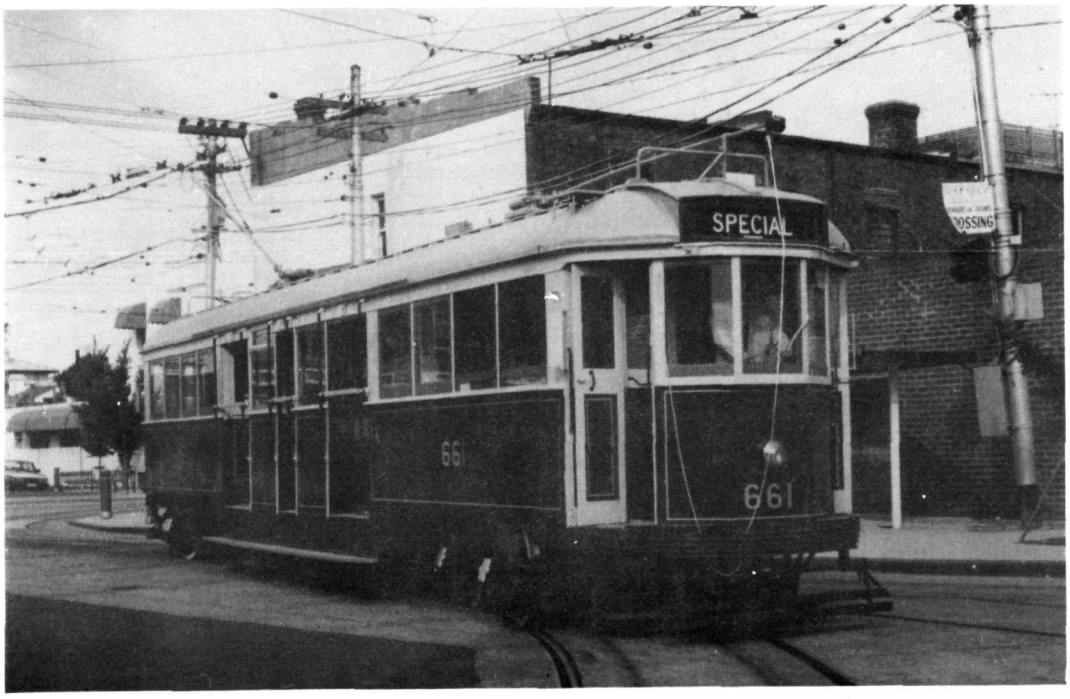
Car 661 performed perfectly throughout this series of tours with impressive turns of speed in suitable locations. The BTPS's Engineer made regular checks of the car, particularly for brake adjustments as required. Spare brake blocks were stored under a centre section seat as a precautionary measure.

Yapper Tours showed themselves to be very competent in arranging and managing the outings. Strict guidelines were required of participants in that no alcohol of food was to be consumed on the car and no tampering with equipment would be permitted. That these directives were made and adhered to has paved the way for further excursions with Yapper Tours of an even more unusual nature to occur in the future, finances permitting.

It was purely by a happy coincidence that the tours were held in the twentieth anniversary year of the W3's withdrawal from regular service.

Tour car meets tour car in Batman Avenue. Car 661 was held back about 10 minutes for the MTA's X2 class 676 to appear. Both cars carried the M&MTB's later livery of green and cream when new, and have displayed the Board's early colour scheme of chocolate and cream since becoming tourist cars. COLIN C WITHINGTON

Car 661 about to leave Hawthorn Depot. The car was stored here on weekdays between the weekend tours. COLIN C WITHINGTON



BTPS car 661 being shunted at Malvern before transfer to the newer depot area for tour participants to photograph. WILLIAM F SCOTT

HERE AND THERE

NEWS ITEMS OF INTEREST FROM ALL OVER

Canberra Tradesmen's Union Club

Annemarie Driver has forwarded us news of the latest happenings at the Canberra Tradesmen's Club at Dickson in the ACT.

The Club (home of the Old Canberra Tram Co.) has now completed an extension to the Club's Dining Room and the effect is quite dramatic. First impressions on entering the Dining Room is a very visual impression that a house has grown in the wrong place.

Two of the trams obtained by the Club are Sydney R class cars 1806 and 1819 that were found about 20 miles outside Braidwood. The trams were built into a house and a family lived in it for about eight years.

The Club has created a 1920 style farmhouse using the two trams, and has called it the "Tram House Museum". It is complete with old kitchen fuel stove, enamel kitchen sink, tin bathtub, chip heater, hand wringer washing machine with plunger, pianola, wind-up gramophone and other '20s style furniture and fittings.

The house also contains many 1920s products, posters, magazines and knick-knacks.

The house features pressed metal walls and ceilings of the period as well as panel and framed doors, ornate skirtings and old fashioned gutters.

In the outbuildings of the farmhouse (but still inside the Club) there is an original 1923

A view of the two R class cars in the club. The car on the left has been painted in a livery similar to that carried by R class 1925 for the 1954 Royal visit.

CANBERRA TRADESMEN'S UNION CLUB

An interior view of one of the R class trams in the Club. All woodwork has been restored to its original varnished magnificence. CANBERRA TRADESMEN'S UNION CLUB

Fordson tractor complete with solid steel tyres and no brakes. Brakes were not fitted to this model until about five years later as the makers thought it was heavy enough to stop by itself, and it was cheaper!

The outbuildings also contain a working Southern Cross windmill that actually pumps water, a 1920s bicycle, an outside dunny and a Furphy water cart.

The Tram House Museum is the most unusual restaurant in Canberra. It is well worth a visit, even just to look at — yes, it's free admission.

Tramming High

Dave Macartney, Ballarat Tramway Preservation Society, and recently editor of *Australian Railway Enthusiast*, has provided the following heights above sea level (in feet) for most tramway museums, based on nearest railway station elevations and railway gradient diagrams.

Ferny Grove 189, Rutherford 122, Loftus 355, Bendigo 758, Wendouree 1497, Bylands 1411, Ferrymead 18, Paekakariki 23.

Dave reports some approximations are involved and made the observation that the highest museum above sea level is also the one that floods most!

Oops!

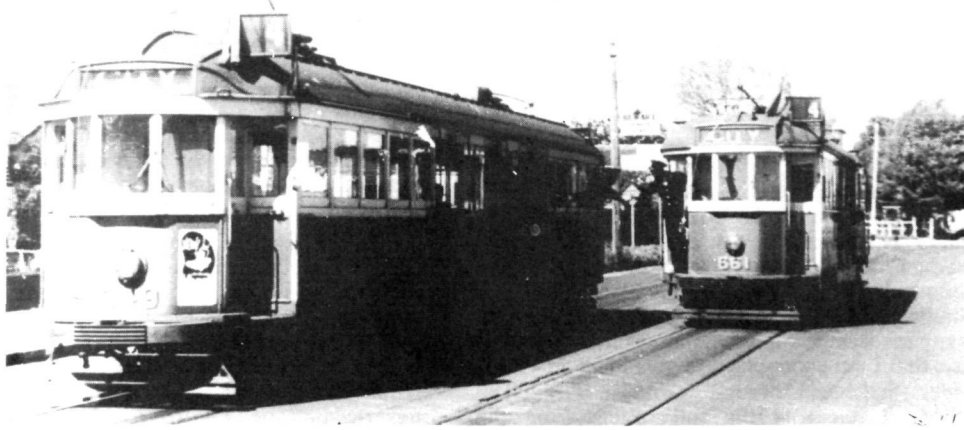
In Bruce Thomas's Overview of Developments of the Melbourne Drop-centre Trams in the May 1989 issue of *Trolley Wire*, a couple of lines of text were accidentally omitted from between the first two sentences in the first paragraph on page 14.

This paragraph should read as follows:

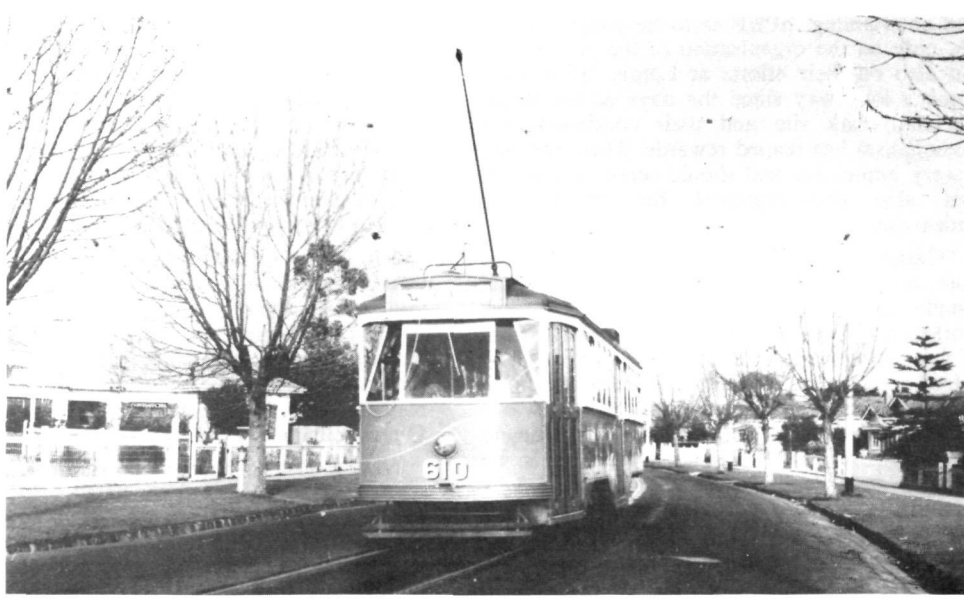
"The advent of the W3 class was a further stage in the development of drop-centre trams. Although similar to the W2 class, they had different mechanical features in an attempt to improve riding qualities. The W4 class had a wide body and was the first of the W-series to use the transverse seating in the saloon (see Fig.4a).

The appearance of the W5 class in 1935 introduced a further successful series of trams. Fifty years later an upgrading programme for these trams began..."

Our sincere apologies to Bruce Thomas for this unfortunate omission.



The last single track section of Melbourne's tramways, in Truganini Road, Carnegie, at the end of Route 67, is being double tracked. The photo above by the late John Alfred shows W2 car 349 and W3 class 661 exchanging the staff in Glenhuntly Road, at the start of the single track section, in the late 1950s. Dave Macartney took the photo below of Y1 class 610 on a fan trip on 10 July 1965, before the first widening of Truganini Road removed the trees and bluestone gutters a couple of years later.



C.O.T.M.A.

Council of Tramway Museums of Australasia

From Executive Officer Bill Kingsley

Musing about Museums

The COTMA Memoranda are occasional informative communications from the Executive Officer to the museum boards and committees. There is sometimes an editorial. In Memorandum 53 I borrowed some very astute philosophy from Troy Thomas of the Brisbane Tramway Museum Society. There have been so many favourable comments on what Troy had to say, that I am encouraged to give his words even wider audience through *Trolley Wire*. The following, then, is the full article from the Memorandum.

Troy Thomas has recently resigned from the position of President of the BTMS in order to pursue other avenues of success in England. We sincerely wish Troy all the best of British luck and thank him appreciatively for his considerable contribution to tramway preservation whilst he was with us. Shortly after our tremendous Sydney Conference last year, Troy penned the following wisdom for the BTMS newsletter *Baby Dreadnought*.

"All in all, the conference was informative and entertaining. SPER is to be congratulated, not only on the organisation of the conference, but also on their efforts at Loftus. They have come a long way since the days of the Royal National Park site and their continued professionalism has reaped rewards. Their new site is very impressive and should serve as a model and also encouragement for us in our endeavours.

"Cargo Cultists" in our midst should take note, however, that SPER's success is not due simply to Government handouts. They have worked very hard and raised a considerable sum of money themselves. In the last two years they raised approximately $25000 in donations from their members alone. In addition, it is obvious they only became eligible for government assistance by establishing their credentials, by doing a great deal of work themselves and by adopting a professional approach to all their activities.

Indeed, professionalism seemed to be the by-word at the conference. As on participant remarked, "We may be volunteers, but we are not amateurs." The survival of museums world-wide depends upon the service they provide to the public — hopefully being both educational and entertaining.

The difficulty, of course, for tram enthusiasts is to reconcile their hobby with the need for professionalism. In my view the choice is clear — we must provide the public with entertainment and education, and our own personal pleasure derived from our hobby must fit into the requirements of the public. The public not only pay the bills, they justify our existence in the eyes of the Government. The trams are not just 'toys for the boys'. The museum must be committed to a professional approach. Our track, overhead, car maintenance and grounds are all good and I would hope the commitment to quality extends to the traffic staff."

Travelling About Trams

Your Executive Officer has spent one third of the first half of 1989 visiting some of the furthermost outposts of the COTMA fraternity and talking with operators on their home soil.

First there was New Zealand. Fantastic. The absolutely superb scenery, real trolley buses in Wellington, a marvellous and joyful sharing amongst kindred souls at THS, WTM and MOTAT, and superb hospitality. The welcome was overflowing and the friendship tremendous. Certainly it was the most rewarding journey that I have ever undertaken. Thanks to everybody, for it was a magnificent experience.

So, all you Aussies who haven't yet been over to the land of the long white cloud, why haven't you? But don't panic, because next year COTMA will give you a great opportunity with our Conference in Wellington. Just make sure that you are all there to participate enthusiastically and to enjoy the superb scenery at Queen Elizabeth Park.

Now it just so happens that whilst I was in Christchurch visiting Ferrymead, Ron White (AETM Adelaide), Len Manny (STRPS Parramatta) and Vic Solomons (SPER Sydney) were doing likewise. It is on occasions like this that you realise what a magnificent family we

really can be. Friends that you made through COTMA in Australia suddenly being there with you in New Zealand, all drawn together by their common dedication to tramway preservation. This, more than anything else, is what COTMA is all about.

Then it was to Perth. I continue to admire the teamwork and the achievements of PETS at Whiteman Park. To be a part of a full weekend work party was terrific. To participate with the traffic staff on Mother's Day was incredible. And you, dear reader, thought that peak tram travel in Melbourne was tough on connies!

Finally I arrived at our newest member museum, the Maitland Tramway and Museum at Rutherford. On a ghastly day with the rain pelting down, I witnessed a museum going through the same excited infancy that we have all been through. The thrill of achievement, the comraderie of pioneers, the dedication of true preservationists and the courage to face and conquer problems —it is all there. Well done, chaps. Keep it up.

Visas for Visiting

Very frequently, members of museums visit other museums. That is tremendous and is to be encouraged. But please, when you do, advise the museum which you are to visit at least two weeks before your arrival. Only then will it be possible for the museum to accord the friendly welcome and assistance for your visit that you seek.

1990 Wellington Conference

Leslie Stewart, Secretary of the Wellington Tramway Museum, has provided the following proposed programme for the next COTMA Conference. The details are not final. It is provided at this early stage in order that leave passes from work might be organised and your appetites might be suitably wetted.

WTM must be congratulated on the purposefulness of its early planning. It should be a most rewarding time together.

Friday 1 June 1990
Day (optional) — Trolley bus tour of Wellington, inspection and ride on Cable Car, tour of Kilbirnie Workshops.
Evening — Conference registration and informal gathering over drinks.

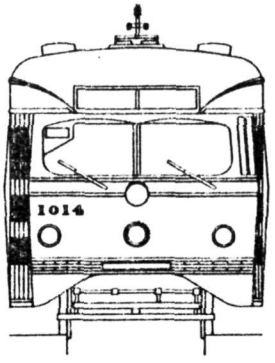
Saturday 2 June 1990
Day (optional) — Join with National Federation of Rail Societies (NFRS) delegates for trip to Palmerston North. Visit North Island Main Trunk Electrification facilities and steam hauled trip through Manawatu Gorge.

Sunday 3 June 1990
Day — Conference opening followed by papers and workshops.
Evening — Museum update: usual evening of slide and video presentations by individual museums. (Guidelines will be set for this event.)

Monday 4 June 1990
Morning — Continuation of papers and Workshops.
Afternoon/evening — Visit Wellington Tramway Museum with evening barbecue. As the NFRS Conference finishes at lunchtime it is possible that Silver Stream Railway and/or Steam Inc. may be in steam during the afternoon for visiting NFRS delegates. There may be an option for COTMA delegates to visit these museums on the way to WTM.

Tuesday 5 June 1990
Day — COTMA General Meeting. Evening — Closing Dinner (Guest Speaker?)

Wednesday 6 June 1990
Day (optional) — Open day at WTM. Visit Trolley Bus Museum at Foxton and Southwards Vintage Car Museum at Paraparaumu.



ST. KILDA . . .

Australian Electric Transport Museum

Track Relay

In a joint effort with the Salisbury Council, the track across Mangrove Street was relaid between 5 and 7 June 1989. The sleepers under the bitumen surface had gradually deteriorated, but the need to cut the bitumen and restrict vehicular access required Council approval, assistance and funding. Fortunately the Council agreed to a joint relay venture with the AETM and funded the project.

The project involved digging up the tarred road, excavating the road bed and removing the old sleepers. New sleepers were then placed on a bed of very coarse cracked stones to assist drainage. The Council also installed drainage culverts on either side of the crossing to lead water away to the town drainage system. The road was resealed after allowing a couple of weeks for the road base to settle down.

Christopher Steele co-ordinated the project with the Council, and both Christopher and Peter Perin assisted Council employees with the relay over the three days. Peter spent the previous weekend with our CSO workers

Board members of the History Trust of SA listen to the views of AETM President Colin Seymour (left), while partaking in a meal in the western saloon of F1 type car 264 on 19 April 1989. TREVOR TRIPLOW

preparing for the relay and excavating the earth around the old sleepers on the eastern approach. He also realigned the checkrail following the exercise (wider spacing is required to allow the wider flanges of our Brussels trucks to negotiate the curve). CSO workers have been busy for some time assisting with replacement of rotting sleepers and regauging of track.

History Trust Meeting

In a first, the Board of the History Trust held its first decentralised meeting at our Museum on 19 April 1989. The History Trust of South Australia is a Government body responsible for the operation of a number of State Government museums (eg: Birdwood Mill, Old Parliament House, Maritime Museum, etc.) and is empowered to make grants to various regional museums. The AETM has received History Trust grants for the restoration of Toastrack No. 42 and the Display Gallery.

The meeting, which included a fine luncheon prepared by Neville and Jennifer Smith in the Bouncing Billy Tea Room, was actually held in the saloon of F1 car 264. Prior to the meeting AETM President Colin Seymour and Secretary Trevor Triplow took the Board members on a tour of our Museum. They were invited to join the luncheon on car 264 and discuss possible future grant proposals with the Board.

New Postcards

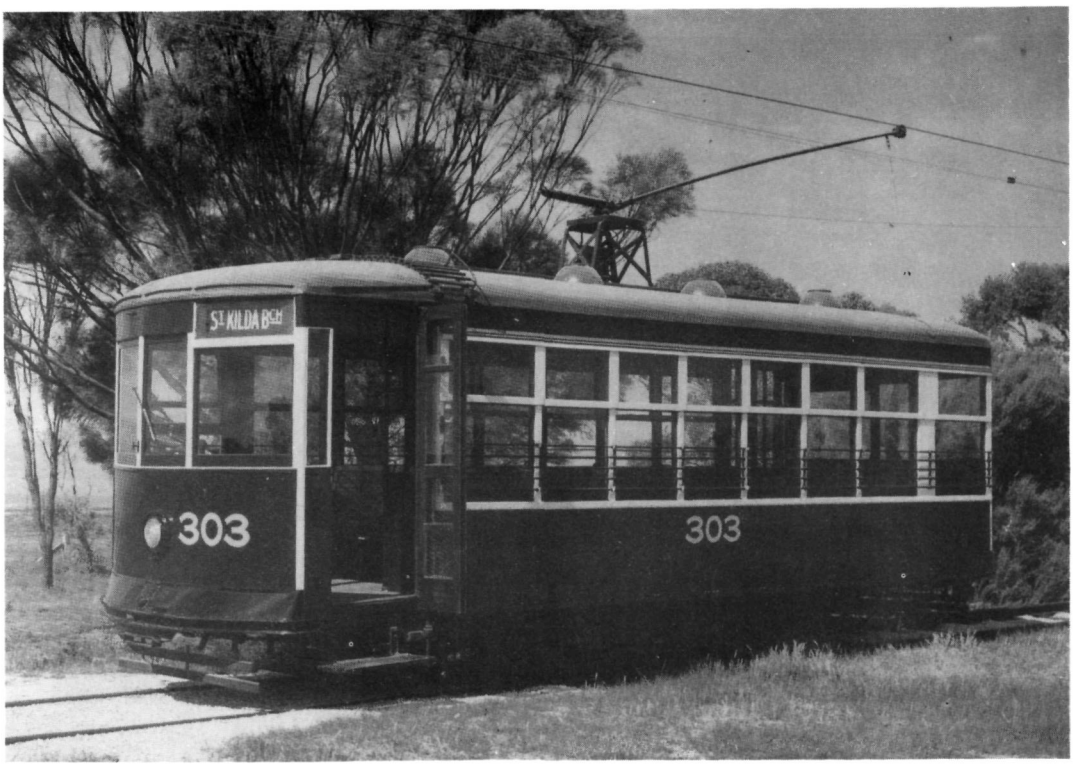
Three new postcards have been added to our selection of postcards of AETM trams. They are:

- Car No. 1 along the lakeside track,
- Birney 303 along the tree reserve track,
- Cars 111, 264, 294 and 391 on the Depot fan.

Earlier series postcards of No. 1 have been out of stock for some time, and it was felt that a postcard of the car in its 1980s refurbished style was required. Cars 264, 294 and 303 have not previously been represented.

Workshop Activities

Minor finishing work continues on Desert Gold No. 186. This includes brass polishing, fitting of minor woodwork items and small amounts of painting and varnishing.



One of the AETM's new postcards showing Birney 303 in the Museum tree reserve at St Kilda. TREVOR TRIPLOW

Ian Seymour has completed the general improvements to Birney 303's air system which included the braking and doors. He has also restored the hand brake to full running order.

Robbo's World

The AETM recently received a request from Channel 7 in Adelaide to purchase an Adelaide tram destination box for the national news programme "Clive Robertson's Newsworld". It seems that Mr Robertson has an interest in trams and bemoaned that his studio set, which includes a number of destination boxes, did not have an authentic Adelaide destination roll and box. We gratefully obliged, but suggested that publicity for our Vintage Transport Day would be more beneficial than monetary payment. The station agreed and gave coverage before and after the event.

A side destination box from F1 car 280 was supplied and was forwarded to Sydney with the destination blind from F1 type 270. The box and blind were added to the Newsworld set, and Clive Robertson acknowledged the AETM's contribution at the start of his show on 8 May 1989. In fact word has been received that the segment was even seen in Lae, Papua New Guinea (which receives North Queensland television)! Newsworld also reported on the launch of Desert Gold 186 on the day after its launch on 12 March 1989. Clive Robertson appreciates the new addition to his set and the AETM certainly appreciates the national publicity!

Annual General Meeting

The Annual General Meeting of the AETM was held on 26 May 1989, and the following officers were elected: President — Colin Seymour; Vice President — Paul Shillabeer; Secretary — Trevor Triplow; Treasurer — John Hoffman; General Manager — Chris Dunbar; Operations Manager — Max Fenner; Rolling Stock Manager — Peter Keynes; Site & Safety Manager — Jack Pennack; Track & Overhead Manager — Peter Perin.

It is pleasing to see two of our newer members taking on Executive roles. Chris Dunbar joined the AETM after completing his role of contract coach builder for car 186. Peter Perin has taken an active role with our CSO workers and was a force behind completing the exterior of our Display Gallery.

AETM Treasurer John Hoffman, who played a major role in the restoration of car 186 (and also recently restored F1.264) stands on the running board of 186 as Max Fenner takes over the controls from the Mayor of Salisbury, Pat St. Clair-Dixon as the tram re-enters the depot yard on its inaugural trip on 12 March 1989.

JOHN RADCLIFFE

BENDIGO

THE BENDIGO TRUST

On Thursday 13 April 1989 an historic civil reception was held for Mr Ken Hesse at the Bendigo Tramways Depot. The reception was given by Bendigo City Council in recognition of Ken's outstanding effort in helping to retain Bendigo's trams as tourist trams.

The Mayor of Bendigo was in attendance, together with councillors, the president of The Bendigo Trust and Trust directors. Tramway staff and many others were also present at this important occasion. It is believed this is the first time in Australia a civic reception has been given to a person in recognition for outstanding effort in saving and preserving historic trams for a working museum situation.

A happy Ken Hesse holding the plaque presented to him by the Mayor of Bendigo in appreciation of his contribution, marked by belief and persistence, in development of Bendigo's tourist tramway concept. DENNIS BELL

The plaque presented to Ken Hesse on 13 April 1989. DENNIS BELL

Ken was lobbying for the retention of Bendigo's trams as a tourist venture well before they actually stopped running in public service on 16 April 1972. Approval was finally given to The Bendigo Trust to run them as Vintage "Talking" Trams for a trial period. The first "Talking" Trams began to ply the streets of Bendigo in December 1972. So successful were they that they are still running 17 years later. In fact they now carry approximately 60,000 tourists a year and the number is growing. Recently, Ken was on hand to make a presentation to the 750,000th passenger to ride the grand old trams of Bendigo since the inauguration of the tourist service.

Ken has been President of The Bendigo Tramways since 1972. He is a quiet, unassuming person, but has played an important role in making The Bendigo Vintage Tramways one of the best working museums of its type in the world.

RUTHERFORD . . .

Maitland Tramway Museum

Track Open

The track is now open from the Highway to the end of the old railway line, a distance of about 1.75km or just over a mile. The bridge's old timbers have been replaced by "new" second-hand bridge timbers. Those who work on sites know the euphoria of opening another section. The next section to be worked on will be the completion of the second line through the station and the provision of a second standing road at the highway end.

Car 668

The workers decided that there should always be a tram at this terminus and 668 was towed there for use as a waiting-room. It is in running order but we wish to renew the brake blocks before it enters service. We will obtain replacement blocks in August.

Rain

The newsletter from every tram museum in Australia complains about the rain! Our site has suffered greatly and part of it has been under water since last year. The part where our visitors walk has been very soggy and we cancelled our first two charters. Both rebooked and came to ride the trams. We could do with a period of drought, perhaps for three months for everything to dry out.

Future Plans

It has been borne on us that we have to make the Museum waterproof. At the Highway end we need a shelter so that visitors can alight from cars and coaches and board the trams without getting wet. At the other end we need our depot building. This will have four roads to hold four trams each and since we have twelve trams, we will have some spare space. It means that one road can be used as a covered shelter for the time being. The new toilets and cafe-tram 762 could also be located on this road.

We are now seeking sponsorships for the erection of the buildings.

State of the Trams

We have found some rot in the centre of car 1995. In the restoration several years ago, the gutters were lined with bitumen-coated metal. The metal has failed in places on one side and water has rotted one pillar. The same metal was used to cover the wiring along the centre of the roof and it, too, has failed. This is no reflection on the person who worked on the tram; who would know that metal would fail on one side of the car but not on the other? There is a short circuit and we think that water has entered a break in the main trolley cable and grounded it to the tram. The cable used was second-hand. We are glad that our SRA friend who supervised the rewiring of 668 insisted on new wire for the trolley cable. We are carrying out some preventative maintenance on 1995 but proper attention will have to wait until we have a depot.

We have consulted experts in dealing with wood rot. They have prescribed a drying out period, stablising the rotten parts with chemicals and reconstituting the wood. We have seen examples of this process and are sure that the damage can be reversed.

The roofs of 244 and 245 have been scraped and a coat of navy dressing applied to one end of 245. Rain and overnight dew have interfered with the work which can only be done in the afternoon.

The roof of 471 needs slight attention but this can wait for a while.

There are splits in the roof of Brisbane FM 550; its stay in Newcastle was not good for it. The repairs to the roof will be easy once the car is under cover.

L/P 284 needs cosmetic attention, otherwise the car is sound.

O class 824 is deteriorating and two roof stringers have rotted. We know from the restoration of 668 that this presents only a small problem.

Maitland Steamfest 1989

We exhibited Brisbane 550 at the Maitland Steamfest during Heritage Week. The organisers asked us to exhibit and offered a $200 fee. We spent $50 per lift and $100 for the crane so we got the tram from Newcastle to Rutherford free. As usual, Ross organised the move and transported the tram for us at no charge.

During the lift at Newcastle we were alarmed to see the crane sinking through the asphalt surface and we were very glad to see it on the pigs at Rutherford. It is not quite where we wanted it but we had no choice. It has been placed right on the right-of-way for the line on the western side of the station.

Tree Planting

The money spent on spraying the ground preparatory to planting trees and shrubs has, unfortunately, been wasted due to the rain. The ground has been too wet and boggy for planting and the trees will be put in next year. A member's wife did manage to plant six silky oaks (Grevillia Robusta), however.

Members' Meeting

This meeting was attended by our regular workers and three additional members. The meeting was useful and several very valuable contributions were made concerning the future running of the Museum.

Visit by German Enthusiasts

We were honoured by the visit of the German Museum party on Saturday 15 April. The party was half an hour late due to single line working on State Rail's tracks north of Sydney. We met them with a vintage single deck bus and took them to the Hunter Valley Training Company who now occupy the former South Maitland Railways workshop at Maitland. They were able to inspect, through the fence, the steam locomotives formerly operated by the SMR. They had refreshments in cafe-tram 762 and some rode on the tram. At 5.30pm they witnessed the installation of the last piece of track at the Highway terminus and were the first passengers to ride over it.

Overhead Fittings

A mine has given us its stock of overhead fittings and these have been moved to Rutherford. There is more than enough to enable us to erect the overhead. We possess about a kilometre of proper wire and can obtain enough wire for the whole line. Although some members have urged us to erect overhead, the Board decided that the more urgent priorities are to finish the main line (now done), complete the second track through the station and begin the trackwork for the depot. We cannot use the overhead at the present time as we do not have sufficient funds for a transformer, although we do have the rectifier, and our time is better spent on aspects which will produce immediate benefit.

WHITEMAN PARK . . .

Perth Electric Tramway Society

Fremantle 29

Several significant steps in the restoration of this car were completed in the period April-June. The newly overhauled GE compressor was slung below the saloon on 9 April. On the same day the saloon queen-bars were adjusted and tightened. Adjustments were made to the main supporting beams of both motorman's platforms and towbars were fitted on 30 April.

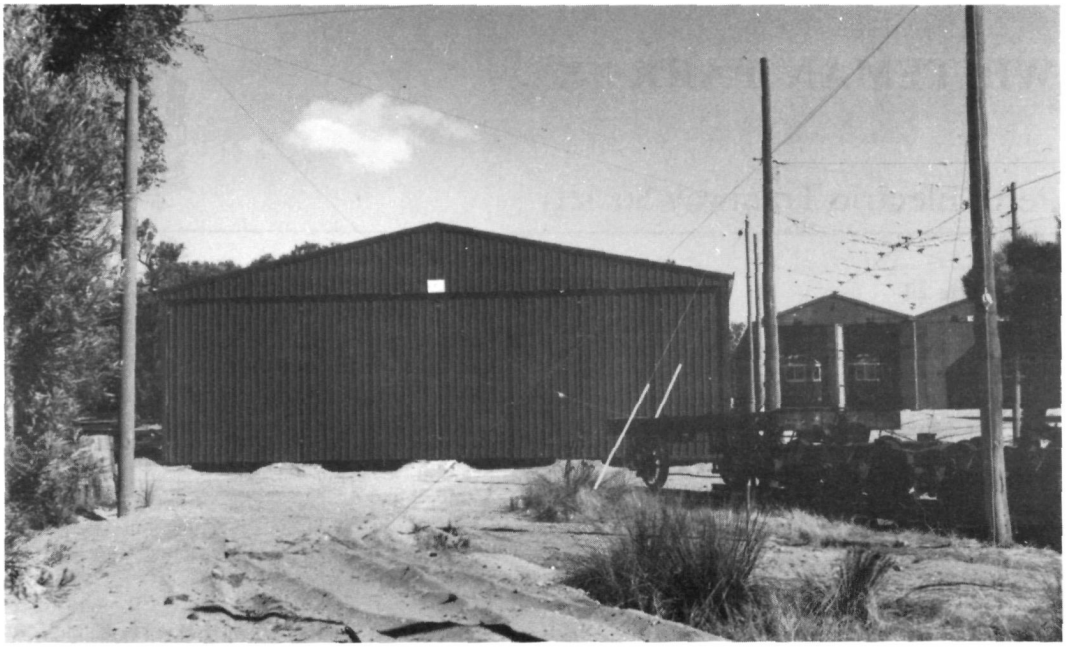
The bolsters of the Japanese 77E trucks had been modified earlier to fit No. 29. The trucks were thoroughly cleaned down and spray-painted black early on 6 May. On this workday almost every member in attendance was then involved in the bogie exchange, with the 77E trucks being substituted for the Melbourne No. 1 trucks on which No. 29 had been stored for several years. The body was lifted using a set of hydraulic jacks, which proved invaluable for this job. The whole operation was organised very successfully by Ray Blackmore.

Noel Blackmore has carried out a hydrostatic pressure test on the air tanks for No. 29 (ex Melbourne 6W), which proved to be very satisfactory.

Work is continuing on fitting out the interior of the car, with many time-consuming jobs still to be completed.

The appearance of No. 29 has been considerably enhanced by the 77E trucks, and the progress being made on this car now really shows.

Ray Blackmore operates the forklift to hold the compressor in position as it is attached under the saloon of Fremantle 29 on 9 April 1989. MICHAEL STUKELY



Early in March 1989 the new tram body storage shed was completed. The carbarn is at right. MICHAEL STUKELY

A car-battery operated rail-bond test unit has been designed and built by Ray Blackmore. Bonds on the main line from the carbarn to Central Station have been tested, and repairs and replacements made as required.

The curve which passes over the culvert between the Trade Village and Central Station was found to have many rotten sleepers after problems were experienced with the rails spreading. The track through the poorly sleepered section of this curve has now been relaid, defective sleepers have been replaced and a check-rail fitted. With this work going on, services terminated at the Trade Village instead of Central Station for most of June.

Due to these high-priority maintenance requirements on the main line, construction of the new fan and four roads into the tram body storage shed has been delayed.

Wheel Lathe Acquired

Recent visits to Hong Kong by Reg Francis have resulted in PETS being able to purchase the wheel lathe from the old Hong Kong Tramways workshop in Stanley Street, Happy Valley.

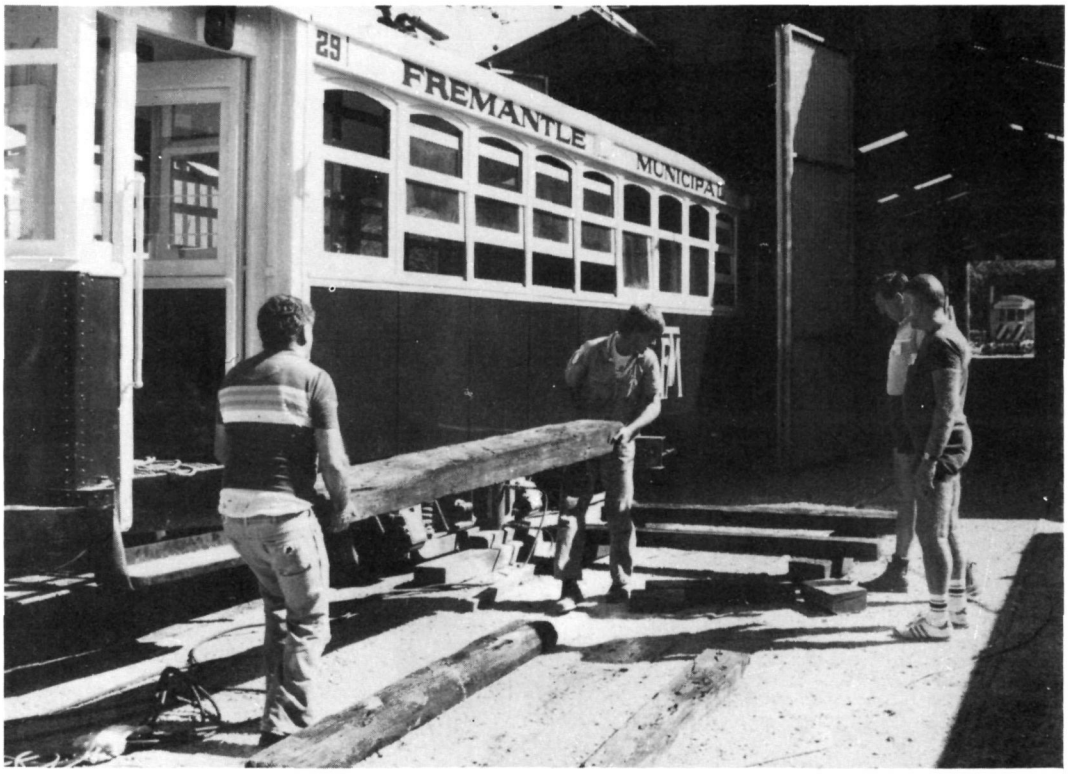
This piece of equipment is a museum piece in its own right, having been built in England by Hulse & Company of Manchester and installed in the Stanley Street shops in 1903. It survived the Japanese occupation during World War II and remained in use until May 1989 when it was purchased by PETS.

It is a flat-bed lathe with twin, four-jaw chuck heads and twin saddles with twin tool-posts.

The lathe arrived at Whiteman Park during the week of 29 May and will be installed in a re-designed engineering-cum-electrical maintenance area which is now being planned.

Other News

COTMA Executive Officer Bill Kingsley visited Perth in May and immediately immersed himself in all aspects of PETS activities, from the bogie exchange of Fremantle 29 to working a



"Pig-styed" sleepers are positioned to hold the body of Fremantle 29 as it is lifted for the first bogie exchange on 6 May 1989. Left to right can be seen Kevin Parker, Ray Blackmore, Lindsay Richardson and COTMA Executive Officer Bill Kingsley.

MICHAEL STUKELY

crew roster on a service car on Mother's Day, which was extremely busy. Bill's assistance was greatly appreciated, and we suspect that he probably needed a few days to recover after his return back East.

Vic Sweetlove's mechanical workers have exchanged the front axle of Tower Wagon No. 3 with that of the scrapped No. 18, with good results.

Operations

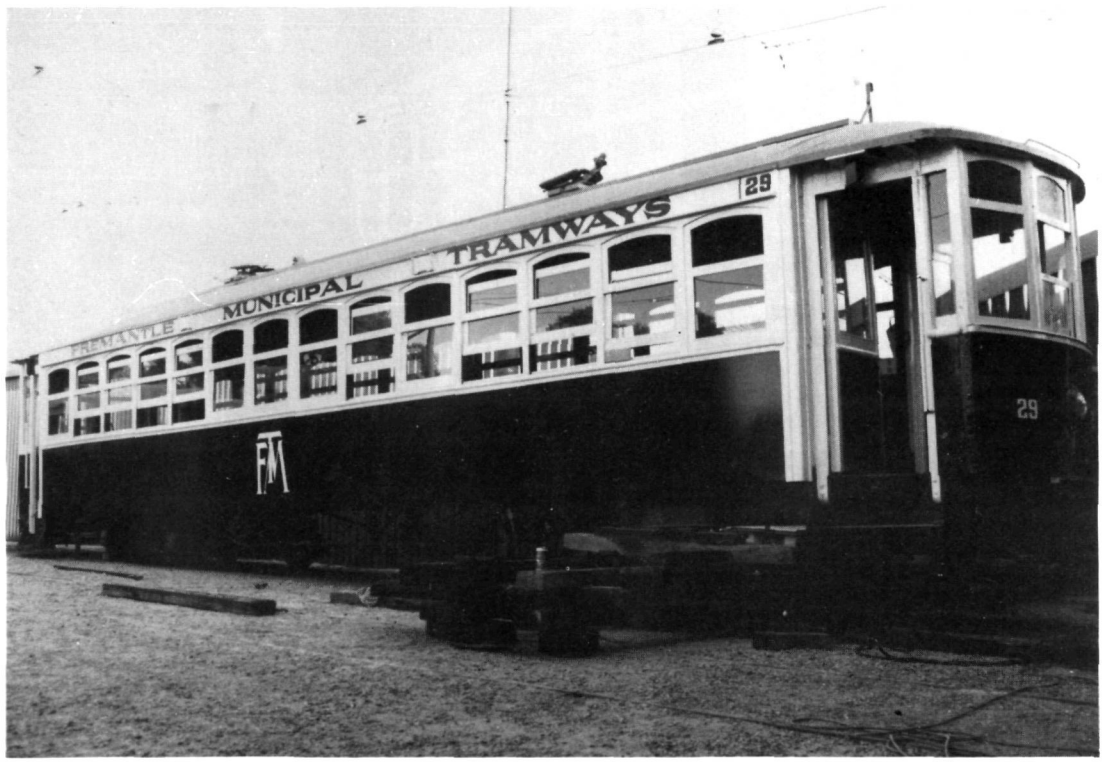
"Indian Summer" conditions were experienced in Perth through most of autumn and the fine weather has held for most weekends in June. As a result, patronage on the service trams has been very good, with two car operation required on most long weekends and on special occasions such as Mother's Day. The demand for special hires has also been good, and weekday running took place during the school holidays when crews were available.

The pleasant weather conditions have also been reflected in the very good attendance levels by members at Museum work-days.

Track

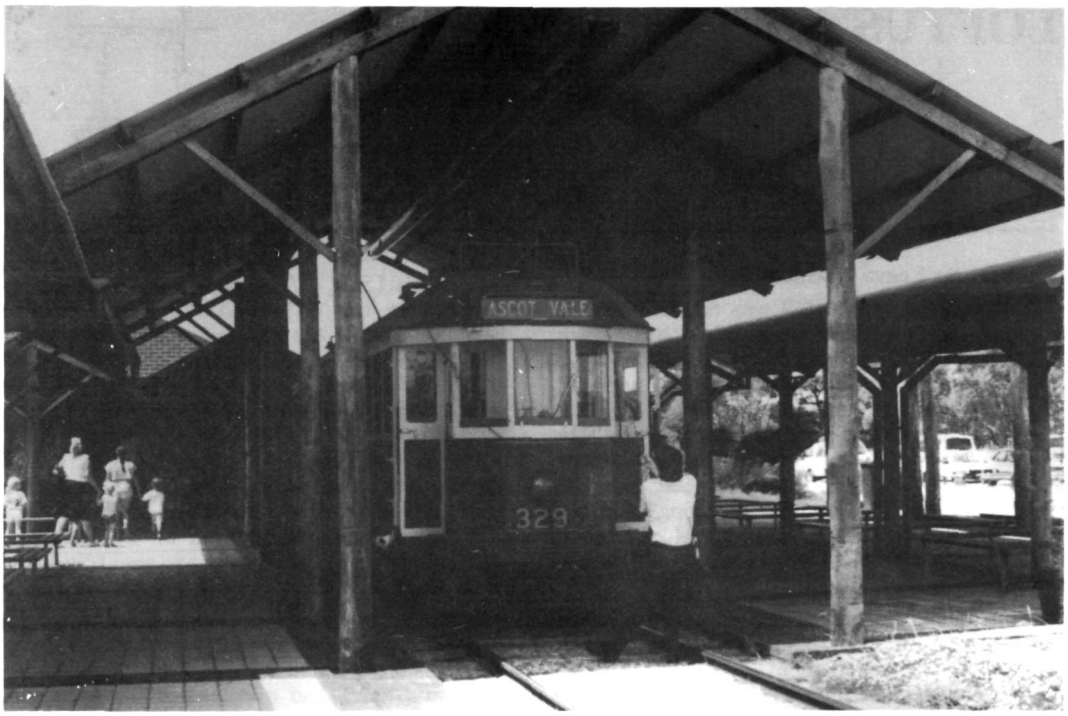
Following the re-laying of the track through the Trade Village using steel sleepers, the brick pavers of the street surface were replaced during April-May on all but about 100 metres at the southern end.

Westrail's Guildford Track Training School visited the Park during the week of 24 April. They completed the realignment, lifting and packing of the curve from 100 metres west of the Lord Street Entrance points to Bullpen Crossing — a distance of approximately 200 metres. As a result, cars now ride much more smoothly over this section.



The bogie exchange of Fremantle 29 is half-way through: the 77E truck is in place at one end (left), while the near end is at maximum lift awaiting its new truck.

MICHAEL STUKELY

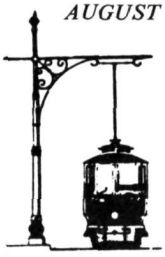


Another view of the tramway terminus with W2 329 preparing for the journey to the village and Central Station. **PETER HALLEN**

The entrance to Whiteman Park and visitor pickup point for the tramway. The information board and departure clock are prominent in this view while W2 368 can be seen at left. **PETER HALLEN**

LOFTUS . . .

South Pacific Electric Railway



Last Trams Leave National Park

Saturday 13 May 1989 was another historic day for our Society, as at 11.22am Breakdown Car 141s (ex O class 1030) was positioned on the back of a flat bed trailer at the northern (Princes Highway) end of the Royal National Park site. Less than an hour later, flat car 93u was hauled onto the same trailer by our Matador tram recovery vehicle. It was the last tramway vehicle to leave the "system", bringing to an end an era which began with the arrival of F class 393, Prison Car 948 and N class 728 at the Park on Monday, 18 March 1957.

This final transfer commenced just after 7.00am, the first car being Ballarat 37 which arrived at the new site at 7.37am. This was followed at regular intervals by R1 class 1971, PR1 class 1573, O/P class 1089, O class 957, Breakdown car 141s and flat car 93u. The honour of being the last railed vehicle to leave the site fell on 93u as it was to be transported on the trailer to the Hunter Valley Training Co. at Maitland for restoration to its original condition as a U4 type Ballast Motor; a long term project. Prior to departure for Maitland, 93u, on board the trailer, stood at the Loftus site while the truck driver joined our members for lunch. For the first time in many years all our tramcars were at the one site, if only for about an hour! The only vehicle at present off site is Weed Burner 144s, which is still at Maitland being restored.

Work has commenced on dismantling the remaining track and overhead at the Park site.

Breakdown car 141s prepares to propel O/P car 1089 to the loading ramp at the northern end of the National Park site. DALE BUDD

The erection of a security fence around the TAFE college site (right) has made it difficult to turn long vehicles outside the museum's top gate. The trailer had to be backed up Pitt Street before turning to line up with the Museum's unloading ramp. Here O class 957 is backing up Pitt Street on 13 May 1989. Brambles' driver accomplished this seemingly difficult manoeuvre with ease! **VIC SOLOMONS**

O class breakdown car 141s has been driven onto the trailer for the short road journey to Loftus, the last electric tram to leave the pioneer National Park site. Only flat car 93u remains, and it would be towed onto the trailer within the hour.

VIC SOLOMONS

Ballarat bogie car 37 (ex-HTT 13, ex-M&MTB N [later C] class 119, ex-Geelong 35, ex-Bendigo [4th] 1) was taken for a test run to the Sutherland terminus within hours of its arrival at its new home. The car performed well but requires some body and underfloor work before it enters passenger service. **DALE BUDD**

The brick kerb and concrete gutter in Tramway Avenue has been extended to the end of the restoration building. A gap has been left in this work to allow for sewer and water services to be laid to the toilet/shower facility inside the workshop building.

BOB MERCHANT

Members and CSO workers lay brick paving from the substation down to our temporary kiosks on 5 March 1989. BOB MERCHANT

Fortunately, we will not have to demolish the old corrugated iron depot structure as the National Parks & Wildlife Service has requested that it remain for their use.

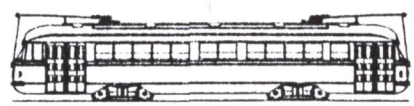
C29 Returns to the Museum

Towards the end of last year, a small item appeared in a Sunday newspaper under the "Dining Out" category, reporting on the impending closure of the Old Spaghetti Factory and its conversion to a totally different type of restaurant.

Our C class car 29 was leased to the Old Spaghetti Factory, a spaghetti restaurant at The Rocks, about 13 years ago. It underwent a restoration of sorts to enable it to be placed inside the restaurant where it was available for patrons to dine in.

The closure of the restaurant provided the ideal opportunity to have the car returned to the Museum, even though we did not have the space available for it at the moment. The removal of the car from the restaurant, however, was more difficult to achieve than when it was moved there. To make things difficult, the doorway through which it had entered had been bricked in and a lift shaft was later added in front of it.

The removal of the car required it to be dismantled entirely, even down to taking the wheel and axle sets from the truck. As the terms of the lease stipulated that it was to be returned intact to the Museum, compensation was sought to pay for its reassembly. This was successfully negotiated by Howard Clark. Consequently, the car now resides, in many pieces, in the workshop building where it will remain until time can be found to restore it.



PCC 1014 Enters Service

The long-awaited entry into service of San Francisco PCC car 1014 took place on Sunday, 9 April 1989. The ceremony was organised by ACTA Shipping, the firm which sponsored the transport of the car from Oakland to Sydney, while Museum Treasurer Howard Clark spent many hours following up and checking arrangements, despite the handicap of a broken leg.

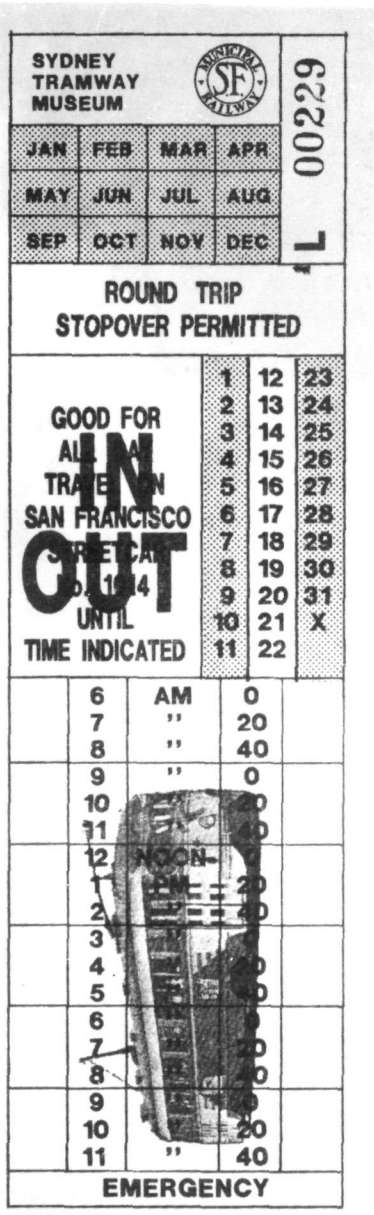
The car was officially handed over to Senator Graham Richardson, Federal Minister for the Arts, Sport, the Environment, Tourism and Territories, on behalf of the Society, by the United States Consul-General, Mr Phillip T. Lincoln, who represented the City and County of San Francisco. Also present was Society member and Federal Member for Hughes, Robert Tickner.

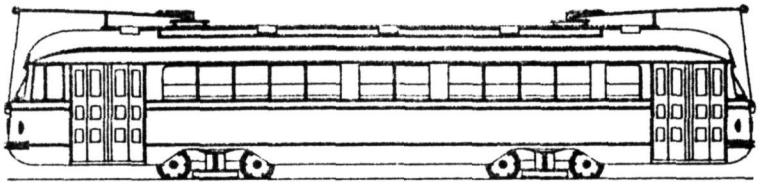
Senator Richardson commented favourably on the sponsorship provided by ACTA, particularly, and Qantas, and stated that the Museum was "was one of Sydney's best kept secrets". (The Senator had been given an initial inspection of the museum on his arrival earlier in the morning.)

After the ceremony all guests boarded 1014 and at 12.01pm the car departed for a run to the northern terminus and return. After refreshments, served in the workshop building, our guests were given an inspection of the display hall and operating depot. Although running late for an afternoon engagement down the coast, Senator Richardson would not leave until he had driven P car 1497 down the line and back!

The news team from Channel 10 flew in by helicopter (they landed on Loftus Oval) to cover the ceremony and operation of the car, and the subsequent item appeared on the news that night. As a result, business was brisk at the museum on the following Sundays.

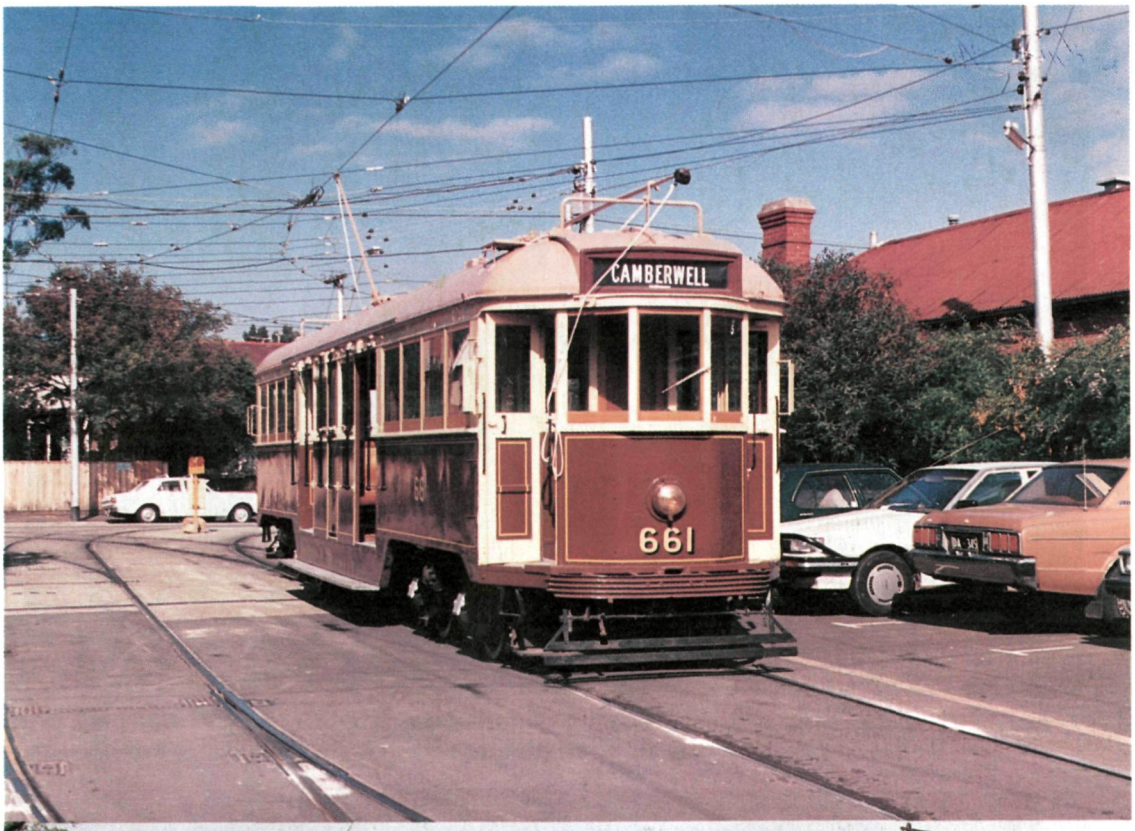
PCC 1014 now sees service on the first Sunday of each month and special tickets, based on a San Francisco cable car transfer, are issued to passengers travelling on the car.





The scene on Sunday morning, 9 April 1989. PCC 1014 stands ready while our invited guests wait in the picnic area for the ceremony to begin. **BOB MERCHANT**

Senator Graham Richardson (left) accepts the "key" to PCC 1014 from US Consul General Phillip Lincoln, while our local Federal Member Robert Tickner and Museum Treasurer Howard Clark look on. **BOB MERCHANT**



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