TROLLEY WIRE

Journal of
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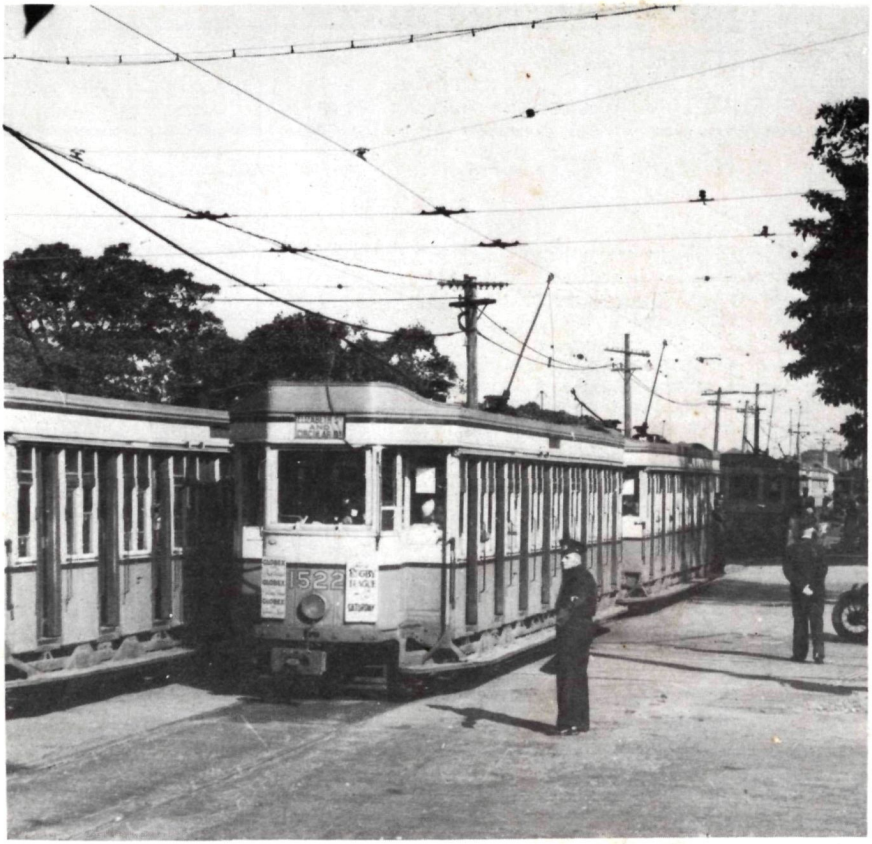

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TROLLEY WIRE

Journal of
- AUSTRALIAN ELECTRIC TRANSPORT MUSEUM
- BALLARAT TRAMWAY PRESERVATION SOCIETY
- BRISBANE TRAMWAY MUSEUM SOCIETY
- ILLAWARRA LIGHT RAILWAY MUSEUM SOCIETY
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- WESTERN AUSTRALIAN TRANSPORT MUSEUM

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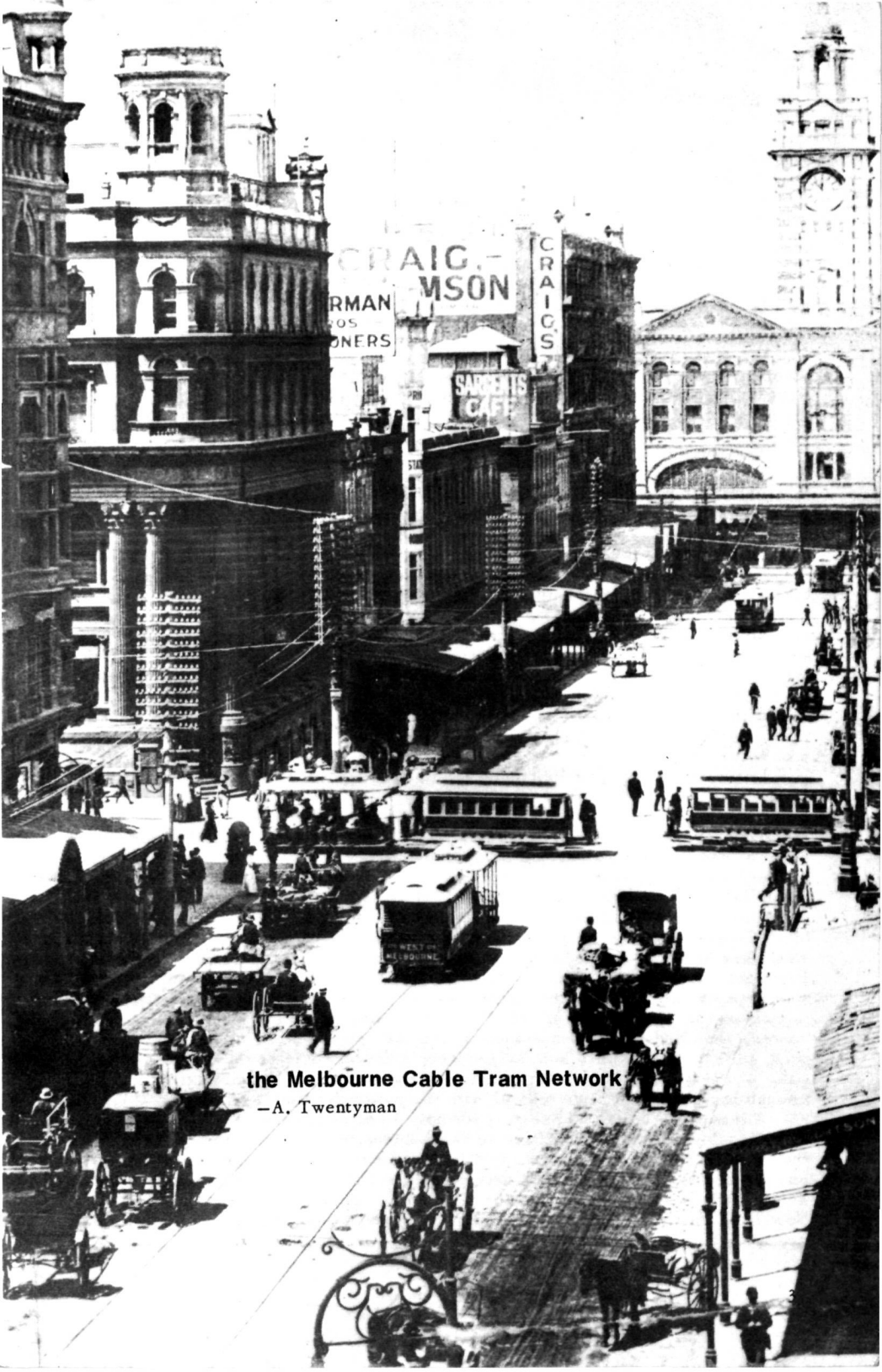
MUSEUM DIRECTORY – See page 35 of this issue.....

FRONT COVER: An echo from the past as Sydney P class car 1522 heads a row of city bound crossbench cars on the tramway reservation in Anzac Parade near the Showground. On the adjacent track, outward bound cars of the same class return to the Racecourse for another load of punters. –Ben Parle

OPPOSITE PAGE: A bird's eye view of the Collins Street-Elizabeth Street intersection in Melbourne near the turn of the century. A West Melbourne set, No. 176, waits for the Collins Street cable trams to pass before proceeding to the terminus at Flinders Street. –M.& M.T.B. Official Photo.



the Melbourne Cable Tram Network

—A. Twentyman

THE MELBOURNE CABLE TRAM NETWORK

by A. Twentyman

Ninety years have passed since the first part of the Melbourne cable tramway network was opened to the public. The Richmond cable tramway commenced operation on 11th November 1885.

* * * * * * * * * * *

For over twenty years, Francis B. Clapp, who had arrived in this country from America, had been trying to obtain permission for the laying down of horse tramways throughout the City and to the nearer suburbs. His first proposal in 1860, to the City of Melbourne, was refused and, as he commented later, fortunately for him.

The municipalities were jealous of their rights and management control over the whole of the streets, and were not prepared to surrender to anybody or company that central part of the roadway that would be required for tramways. There had been instances in overseas cities where, without due consideration to satisfactory agreements, tracks of inferior standard had been laid, which after deterioration and abandonment, it had become the responsibility of the municipality to restore the road surface to a safe condition. In the light of these experiences caution was exercised. However, the authorities in Victoria do appear now to have taken an inordinately long time in making a decision, but maybe it turned out for the good.

After several earlier attempts, a Bill was introduced into the Victorian Parliament on 4th July 1882, for the construction and maintenance of tramways. In the face of opposition, the consideration and debate was long and protracted. Finally, on 12th October 1883 the first tramways act was passed.

With reports coming from America of the success of the endless rope system, the question of motive power was left open, but the use of steam motors was prohibited.

In the meantime, The Melbourne Omnibus Company, under the management of Francis B. Clapp, had built a network of horse omnibus routes. In September 1877 this company was placed in voluntary liquidation, and consent was obtained to reregister as the Melbourne Tramway & Omnibus Company. The Melbourne Omnibus Co. had commenced service on 23rd March 1869, with a fleet of 11 buses, 23 men and 90 horses, running from the City to the Birmingham Hotel on the corner of Smith and Johnston Streets, Fitzroy. During the following years the Company continued with its building and development plans and opened many new routes, but its underlying object was to install and operate horse tramways. By November 1881 they had a fleet of 158 buses operating from ten different scattered stables. From the scanty records now available, it is apparent that a pretty close watch was kept on all facets of the operations, such as loading and bus requirements, reports on the weather, the arrival of country trains (often late), the welfare of the horses, their individual temperaments and the type of work to which they were most suited. Long shifts and fatigue were avoided where possible, but the Company was occasionally embarrassed at the end of the day by not having available enough horses in a fit state to cope with the passenger traffic offering.

Although the buses had seating for only 12 or 14 passengers, they maintained a reasonably satisfactory service to the suburbs within a three mile radius from the City, but some routes were a little longer, such as those to Prahran, Brunswick and Moonee Ponds. The normal service on the Fitzroy route was maintained with about 20 buses which ran from the City to the corner of St. Georges Road and Scotchmer Street, North Fitzroy at approximately three minute intervals. This seems to have been the busiest route but some of the others were not far behind and a service of four or five minutes headway was not uncommon.

The bus routes formed the basis upon which the subsequent success of the cable tramways was built.

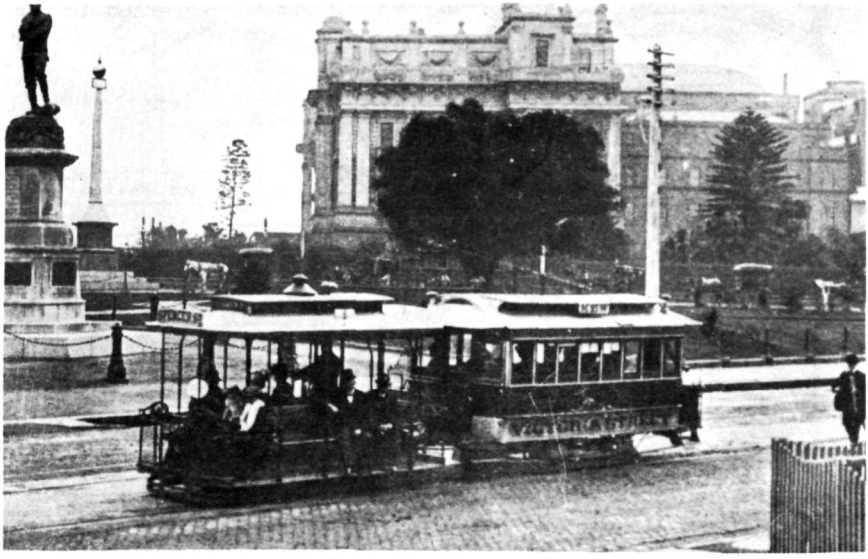
Provisions of the Tramways Bill and amending Bills of 3rd November 1883 and 24th April 1884, empowered the municipalities to form a trust which was comprised of seven representatives from the City of Melbourne, and one each from the other municipalities concerned. Alderman O'Grady of Melbourne was elected Chairman. The Trust held its first meeting in the Melbourne Town Hall on 7th March 1884.

The Trust was empowered to borrow money, build the tracks and lease them to the Melbourne Tramway and Omnibus Company. George Duncan, recently of New Zealand was appointed engineer. He had already had some experience with cable tramways in New Zealand. Both he and F. B. Clapp were sent overseas to study the feasability of the endless rope system for Melbourne. In due course, they returned, firmly convinced that the system would be ideal for Melbourne. Their recommendations were adopted and no time was lost in preparing plans and ordering materials.

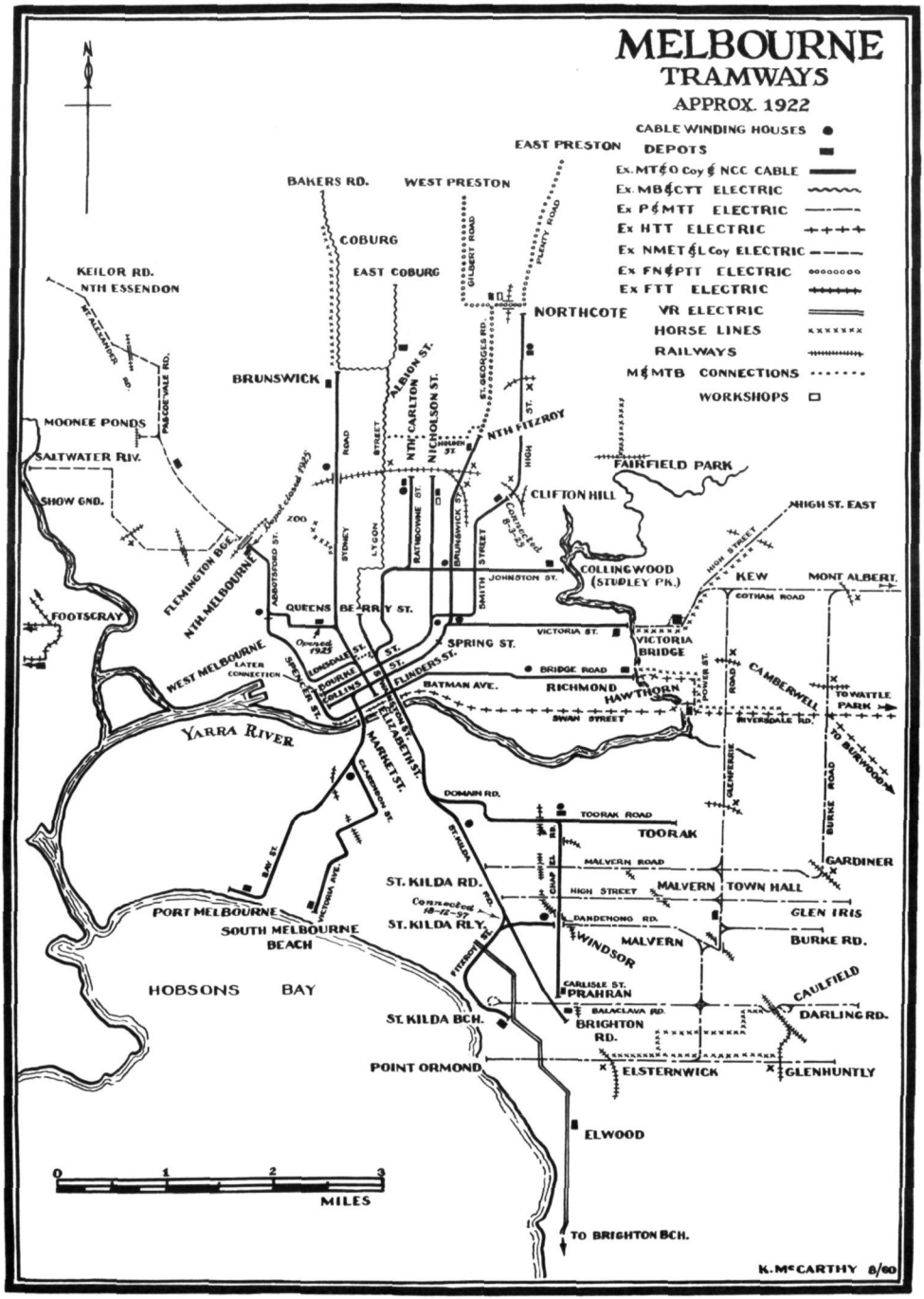
The Melbourne Tramway & Omnibus Co. contracted to build the Richmond line, the work being commenced in January 1885 and finished in October of that year.

The Company was responsible for the mobilisation of the fleets of cars needed for the proposed lines, and for the housing of the cars. Twenty sets of cars and dummies, also four 12 ft. cars, were ordered from and constructed by John Stephenson of New York, These were shipped to Melbourne and were ready for the opening of the Richmond line, which ran from the corner of Bourke and Spencer Streets to Hawthorn Bridge via Spencer and Flinders Streets, Wellington Parade and Bridge Road.

The engine house was on the corner of Punt and Bridge Roads, Richmond. The 370 hp engines powered two cables, one of 24,870 ft. to the City and one of 14,754 ft. to Hawthorn Bridge. The cables comprised six strands of seven steel wires laid around a hemp core, diameter 1¼", circumference 3¾", weighing 40 tons. A newspaper report at the time stated that, when threading the cable into



A standard cable tram set in MacArthur Street, at Spring Street.
—Keith Kings collection


MELBOURNE
TRAMWAYS
APPROX. 1922
CABLE WINDING HOUSES
DEPOTS
Ex. MTE&O Coy & NCC CABLE
Ex. MB&CTT ELECTRIC
Ex P&MTT ELECTRIC
Ex HTT ELECTRIC
Ex NMET&L Coy ELECTRIC
Ex FN&PTT ELECTRIC
Ex FTT ELECTRIC
VR ELECTRIC
HORSE LINES
RAILWAYS
M&MTB CONNECTIONS
WORKSHOPS
EAST PRESTON
BAKERS RD.
WEST PRESTON
COBURG
EAST COBURG
KEILOR RD.
NTH ESSENDON
NORTHCOTE
BRUNSWICK
MOONEE PONDS
SALTWATER RIV.
SHOW GND.
FAIRFIELD PARK
CLIFTON HILL
HIGH ST. EAST
KEW
MONT ALBERT.
COLLINGWOOD (STUDLEY PK.)
FOOTSCRAY
QUEENS BERRY ST.
SPRING ST.
VICTORIA BRIDGE
BRIDGE ROAD
RICHMOND
HAWTHORN
CAMBERWELL
TO WATTLE PARK
TO BURWOOD
WEST MELBOURNE
YARRA RIVER
BATMAN AVE.
SWAN STREET
DOMAIN RD.
TOORAK
TOORAK ROAD
GARDINER
MALVERN ROAD
ST. KILDA RD.
MALVERN TOWN HALL
HIGH STREET
PORT MELBOURNE
SOUTH MELBOURNE BEACH
GLEN IRIS
DANDENONG RD.
ST. KILDA RLY.
MALVERN
BURKE RD.
WINDSOR
HOBSONS BAY
PRAHRAN
CAULFIELD
DARLING RD.
ST. KILDA BCH.
BRIGHTON RD.
POINT ORMOND
ELSTERNWICK
GLENHUNTLY
ELWOOD
0 1 2 3
MILES
TO BRIGHTON BCH.
K. McCARTHY 8/60

the tunnel, as the engine house was neared on the way back from the City, it took 25 horses to drag it up Jolimont Hill. The report also stated that "According to experts, one of the finest pieces of work to be found anywhere" and concluded by saying that the trials have proved that the tramway works in the most satisfactory manner and expresses confidence and enthusiasm for the new form of locomotion.

During the following few weeks, as the trams gradually replaced the omnibuses, the speed of the trams was kept down to the average speed of the buses, namely 6 mph.; this caused some disappointment and dissatisfaction and created an impression and stigma that did not ever appear to be entirely eliminated. However, rope speeds were soon increased to 8/9 mph. and during those early years of operation several small increases were made until by July 1894 the City rope was running at 10½ mph and the suburban rope at 12½ mph. Further increases were made and in February 1910 the City rope ran at 12 mph. and the suburban at 13 mph.

Mr. Clapp's stated intention was to run a frequent service of small light cars. The cars weighed 2½ tons and the dummies 2.85 tons. The car seated 22 passengers inside and was licensed to carry 6 on each platform, but frequently carried a great many more standees both inside and on the platforms. The dummy had a seating capacity of 20 and it also carried at times a great many more standing along the sides and at the rear crossend.

In San Francisco there were six different systems in operation; the track gauges, the depth of the tunnels, the machinery, the type of grips, the style of the cars, were all different. Messrs Clapp and Duncan, two pretty astute men, made selections from what they considered to be the best features from the various systems which they inspected, even to the method of collecting fares by the bell punch. Patents and royalties were a problem and led to the failure of many small systems in America where the promoters, in trying to avoid the heavy expense of patent rights, opted for methods which were unsatisfactory.

Among their recommendations were the type of cars then operating in Sutter Street, San Francisco, and the "Hovey" type of grip. This grip was of the 'L' type and received the rope in its jaws from the side. The fourteen inch jaws were later extended to nineteen inches with a carrying pulley at each end which helped to save friction and wear when the rope was running freely through the jaws. Beside each of these pullies was a conical pulley, which, when the lever was thrown right over ejected the rope from the grip. The grip was seated on two large pins in the centre of the dummy and extended through the gap of 7/8" between the slot beams for 1' 11" into the tunnel of 3' 8" diameter below the road surface. The nine inch line pullies which carried the rope turned on axles mounted 2' 6" below the road and fastened to yokes at 33 ft intervals on straight stretches of the track. The rails, of the grooved girder type were 67 lb to the yard, but where traffic was expected to be heavy, rails of 87 lb were used. The gauge was 4' 8½". The yokes reinforcing the tunnel were pieces of railway line bent into almost the form of an 'O' with a small opening at the top and set in the concrete at 3 ft intervals and to which the slot beams were bolted. The rope did not run directly below the slot opening, but 1¾" to one side; this practice helping to protect the rope from falling water and dirt. At curves the rope was carried on large drum pullies with a wide flange at the bottom and placed at frequent intervals in the tunnel around the curve, a rubbing bar was set in the tunnel which supported the shank of the grip to prevent side strain. At corners on the level or with a descending grade, it was the custom to eject the rope and coast around, the rope being carried in a straight line to a 12 ft sheave which changed its direction to line up with the new direction of the track.

It would seem that most of the credit for being able to operate around curves must go to George Duncan. We are told by his niece that he conducted experiments by using string and by raiding the cotton reels from his wife's needlework basket and concluded that the rope could be made to successfully draw trams around curves. Whereas the early systems stayed with straight lines, the Melbourne system, when completed, had many curves.

With the Richmond line opened and working satisfactorily, work progressed on the Collins Street line from Spencer Street, via Brunswick Street to North Fitzroy. This was expected to be a very busy route, traversing the length of one of the main business streets of the City, passing over Eastern Hill and along Brunswick then a busy shopping street to the well developed residential area of North Fitzroy. The Trust had this track built by tender. It opened on 2nd October 1886. The Company had prepared 25 car sets for the opening, but this soon proved to be insufficient. By the end of the month 15 extra sets were installed at North Fitzroy and the whole forty put into service. On Melbourne Cup Day, 2nd November 1886, they made 462 round trips. It is almost certain that the fleet at this stage comprised cars numbered 51 to 75 and 96 to 110. Cars numbered 76 to 95 had been prepared for the opening of the Victoria Bridge line on 22nd November 1886.

This latter line assisted the North Fitzroy line with the City traffic in Collins Street. It branched off at Eastern Hill, went down the north carriageway in Victoria Parade into Victoria Street (then Simpsons Road) to the terminus at the Yarra River.

It is difficult to visualise the scope and range of activities taking place in the City streets and for three or four miles into the suburbs. Just imagine gangs of men excavating the roads for a width of seventeen feet and to a depth of four feet to provide for the twin tunnels with no modern mechanical excavators but only picks and shovels, horses and drays; and iron yokes to be set in concrete with no with no mechanical concrete mixers.

Apart from the street activity, works of huge magnitude were taking place with the erection of engine houses and the installation of the heavy machinery to power the ropes. At both Eastern Hill and at Nicholson Street, opposite the Exhibition building, engines of 750/800 hp to drive the ropes for the Collins Street and the Bourke Street lines were installed. The cylinders of these stationary steam engines had a piston diameter of 24" with a stroke of four feet, and worked at a pressure of 100 psi at 60 rpm. There were four at each point and they worked in pairs. Both these engine houses powered three long ropes and a short auxiliary rope. It was a fascinating sight to watch the huge wheels, apparently effortlessly turning at an even speed. Power was transmitted from the wheel on the engines by manilla rope to the 24 ft wheel on the main shaft and upon which the cable hauling wheel was fixed.

The Company's workshops at Nicholson Street, North Fitzroy must have been a hive of activity. Here, 150 artisans turned out trams at an almost incredible speed; when the 20 sets arrived from New York everything was set up ready to go. Blacksmiths, carpenters, carriage builders turning out for each car seats, 22 glazed window sashes, 2 sliding doors, 34 glazed clerestory ventilators, 16 wooden louvre shutters as well as a various and miscellaneous collection of brass fittings. Anybody who has experience in the restoration of one of these cars will appreciate the amount of work involved. The construction work was followed up and finalised by painters and signwriters resulting in a fleet of vehicles of the highest standard and appearance.

On 10th August 1887 the Clifton Hill line opened, with 25 car sets, Nos. 151 to 175. The Nicholson Street branch followed on 30th August; Brunswick into Elizabeth Street on 1st October 1887, and Carlton from Abbotsford into Swanston Street via Johnston and Lygon Streets on 21st December 1887. Brunswick was supplied with a fleet of 32 standard cars Nos. 119 to 150; Carlton with 25 sets Nos. 201 to 225.

So, in the space of a few months two more engine houses had been brought into service, each developing 500/560 hp.; about 15 miles of double track tramway were completed and approximately 120 new sets of dummies and cars put on the road. No mean achievement.

The fleet at Richmond had been augmented by eight sets, Nos. 111 to 118, and later by five more, builders Nos. 291 to 295. By quoting the builders numbers it gives an indication of the approximate date of allocation, namely about August

1888; for some reason these cars displayed numbers of 41-44 and 40 resp.

As most of the plan for the Northern section had been completed and placed in operation, attention was turned to the Southern section. A new Princes Bridge linking Swanston Street with St. Kilda Road opened on 4th October 1888. A week later the cable line to St Kilda from Flinders Street via St. Kilda Road, High Street and Brighton Road to Brunning Street opened and on 26th October the line from Flinders Street to Prahran via St. Kilda & Domain Roads, Park Street, Toorak Road and Chapel Street to Carlisle Street commenced. Shortly after, on 15th February 1889, the Toorak branch from Chapel Street to Irving Road via Toorak Road was put in operation; at first from South Yarra to Irving Road only but after three months the route was extended to the shunt at Princes Bridge.

There were two engine houses for this southern group of lines, one on the corner of St. Kilda Road and Bromby Street to power two cables – a long one to Brighton Road and the other to Flinders Street. The first city cable ran to Flinders Street only, but when replaced by a new rope on 20th January 1889 after service of 14 weeks and three days, the second rope was taken right through to Queensberry Street. The engines at Bromby Street developed 500/560 hp which was insufficient for the busy route, and later an electric auxiliary motor was installed. The other engine house on the corner of Chapel Street and Toorak Road had more powerful, 750/800 hp, engines and powered three cables.

The Rathdown Street branch, from Elgin Street to Park Street opened on 9th February 1889, and ran to the Cathedral in Swanston Street. The engine for the section was at the terminus on the corner of Park Street. The engines developed 150 hp only, although provision had been made in the engine house for an extension to East Brunswick, but this was never built.

The next group of lines were originally planned for horse operation but the cable had proved so successful and had attracted such huge increases in passenger traffic that at an early date it was decided to build the North Melbourne, West Melbourne, South Melbourne, Port Melbourne, and later the Windsor lines for cable operation. The alteration to the plans necessitated a heavy increase in capital

Elizabeth Street, circa 1900, showing a grip car and bogie trailer set heading towards the city terminus. –Keith Kings collection

outlay, and the Trust was granted an extension of two years over the five years in which to complete the work. And so, North Melbourne was opened on 3rd March 1890, with an engine house on the corner of Abbotsford and Queensberry Streets, having engines of 500/560 hp, and West Melbourne on 18th April 1890. The 25 sets of cars allocated (B/Nos. 361–385) were housed at Flemington Bridge and worked both lines. Next came South Melbourne to Market Street, City on 17th June 1890 with 25 sets of cars (B/Nos. 406–430, Road Nos. 1–25), then Port Melbourne on 20th June 1890 with 20 sets of cars (B/Nos. 436–455, Road Nos. 26–45). The engines of 500/560 hp were housed in City Road, South Melbourne and worked three ropes – short one to Market Street, and two of average length to Port and to South Melbourne.

The Windsor to St. Kilda Esplanade line was the last to be built and did not come into operation until 27th October 1891. The engines were housed in Wellington Street, St. Kilda, not far from Chapel Street, and developed 290 hp.

Melbourne than had a uniform network of 43 miles of double track tramway built in a thorough and solid manner to the plans of an able engineer. He had introduced many curves into the system and there were eleven intersections where one track crossed another at right angles. At these crossings one cable had to pass beneath the other. In Swanston Street, for instance, the rope was beneath those of Bourke, Collins and Flinders Streets, so it meant that the cars in Swanston Street stopped before reaching the building line of the cross street. Upon the gripman receiving the signal to start, he would grip the rope and accelerate as quickly as possible, then eject the rope from the grip by throwing the lever over and coast across the intersection and retake the rope on the far side, where the rope was directed into the jaws of the grip by elevating pullies.

It is interesting to note the increase in bus and tram passenger traffic during those opening years:-

year – 1885	*passengers* – 11,659,937
.. .. .. 1886	16,355,260
.. .. .. 1887	17,992,047
.. .. .. 1888	31,133,444
.. .. .. 1889	46,000,364

The big increase is attributed to the popularity and convenience rendered by the cable tram.

On the Richmond line during the period October 1890–May 1891, the trams maintained a frequent service from 5.30 am until 11.30 pm with an extra half hour on Saturdays, which was the late shopping night in those times. They ran 347 round trips on weekdays and 411 trips on Saturday. At 5.30 pm on weekdays 32 cars were out on the road providing a service with a headway of two minutes.

In 1897, the Company stated that it had 428 dummies and 442 cars, some of which were horse cars. At the turn of the century, when business was recovering from the financial crash of 1892/3, the Company decided to place longer trailers on the almost straight and level Brunswick route. In November 1900 the first bogie car was brought into service; the fittings being the same as on the standard sixteen foot cars but the longer vehicle had twelve windows on each side instead of eight. During the next couple of years 42 bogie cars replaced the standard cars which were distributed around the suburbs; they also built over 30 more dummies. As time went on and passenger traffic on the Brunswick line increased more of the longer cars were built and placed in service; they sometimes, on special occasions, were used on the North and West Melbourne lines.

The terminal shunting was a fascinating and interesting feature of the system. Gravity was the motive force in many places. In some cases, the car, while travelling towards the terminus, was uncoupled from the dummy and brought to a standstill by the conductor by means of the gooseneck handbrake lever, while the dummy continued to the end of the track. The dummy was then allowed to roll back to the other track and pass the car before being stopped. The conductor would then allow the car to roll back over an unslotted crossover to be recoupled to the

dummy. In some instances where the shunting operations were performed on a down grade such as at the west end of Bourke Street or at the south end of Elizabeth Street, three crossovers were used; the middle one being slotted and used by dummies only. In Elizabeth Street it was usual for two cars to shunt at the same time. As the cars rolled towards the points they were uncoupled and the shank of the grip, by striking a lever in the tunnel, turned the points so that the dummy crossed to the other track. As it did so, another lever was struck which set the points straight for the car. The gripman checked the speed of the dummy in order to give the car time to overtake and pass and swing across to the end of the opposite track. The dummy followed and was recoupled.

Shunters were employed to assist with the coupling and for lifting the rope into the grip. While this was going on another car could also be shunted. The dummy used the same crossover, but the car would be switched further up the track and overtake the dummy to stop just in front of the tram it had been following. The dummy followed through the slotted crossover and coupled up. At peak times Brunswick cars were maintaining a less than one minute headway. The North and West Melbourne cars were also handled at this terminus.

At an enquiry held in 1910, principally as a review of fares, the manager of the repair and building workshops stated that the Company had 460 dummies and 498 cars including 50 bogie cars, that a sixteen foot standard size car cost approx.

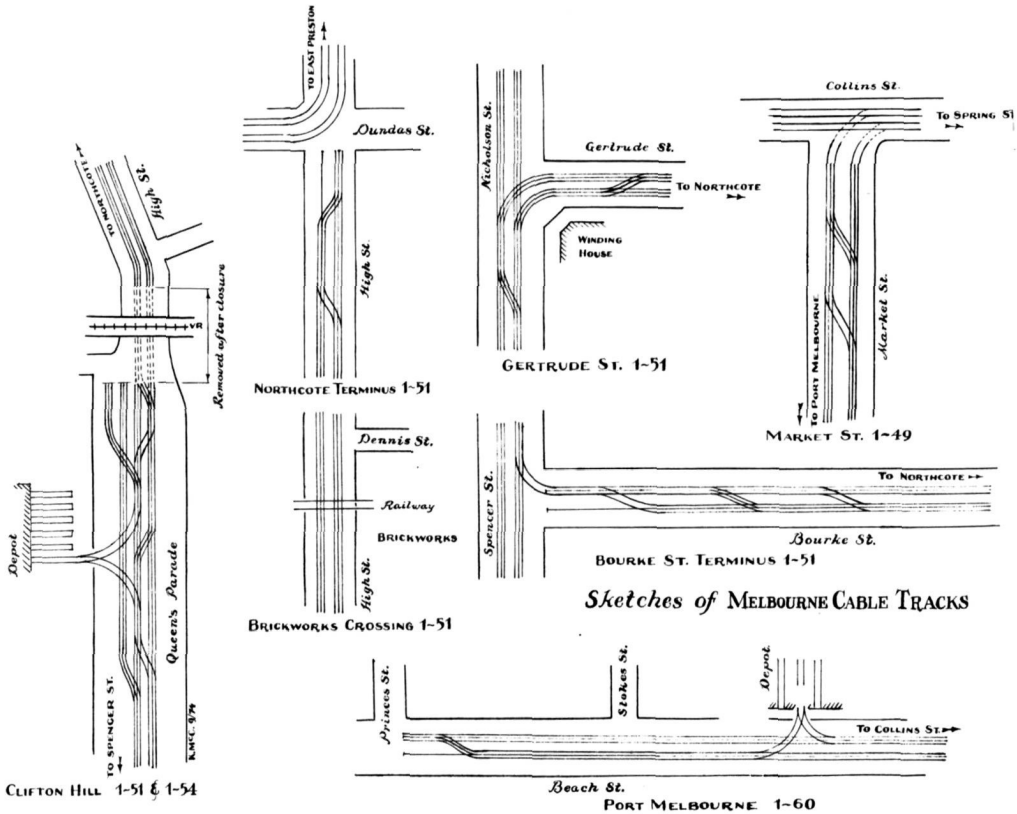


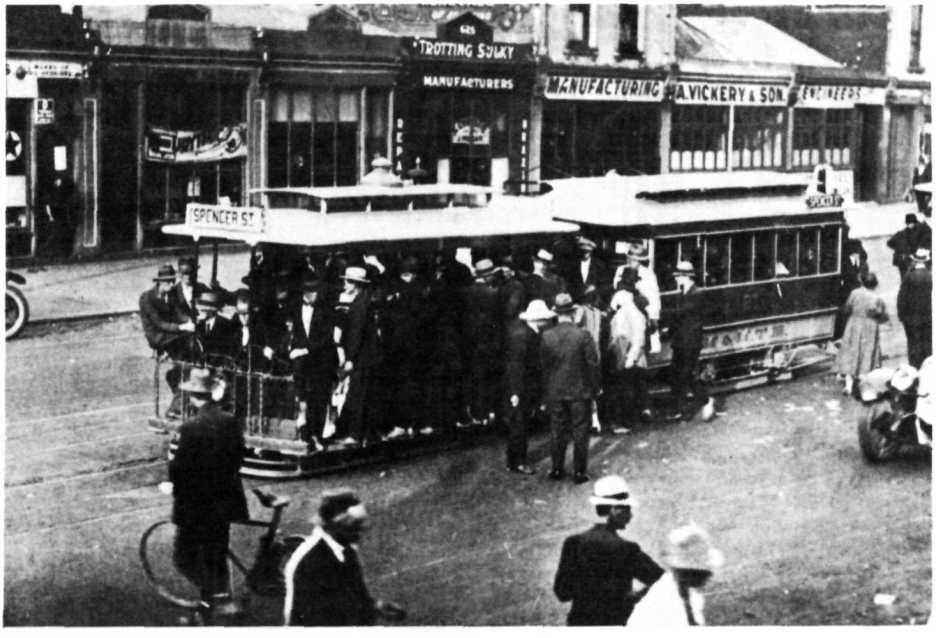
Diagram showing several of the unusual track layouts described in this article.

£220 ($440), a bogie car £320 ($640), a dummy £180 ($360) and a grip £20 ($40).

When the Company's lease expired on 30th June 1916, rolling stock handed over comprised 480 dummies, 460 standard cars, 56 bogie cars and 8 small or horse cars. The Melbourne Tramway Board (a temporary body) took over the management of the cable system on 1st July 1916. One of its first acts was to order 25 new cars and many new dummies. On 1st November 1919, the Melbourne & Metropolitan Tramways Board assumed permanent control, in order to cope with the ever increasing traffic of the city. In spite of the fact that the cable system was under condemnation of conversion to electric traction, the building of new cable cars continued, the speed of the ropes was increased, and in some places auxiliary power for the engines was provided. The cable system was coping with a volume of traffic for which it was never intended or envisaged, and electric systems were feeding into it at many points, mainly from the eastern and southern suburbs. The fleets at Victoria Street and St. Kilda were augmented by many additional cars until at Victoria Street it was not possible to get them all into the shed at night and close the doors.

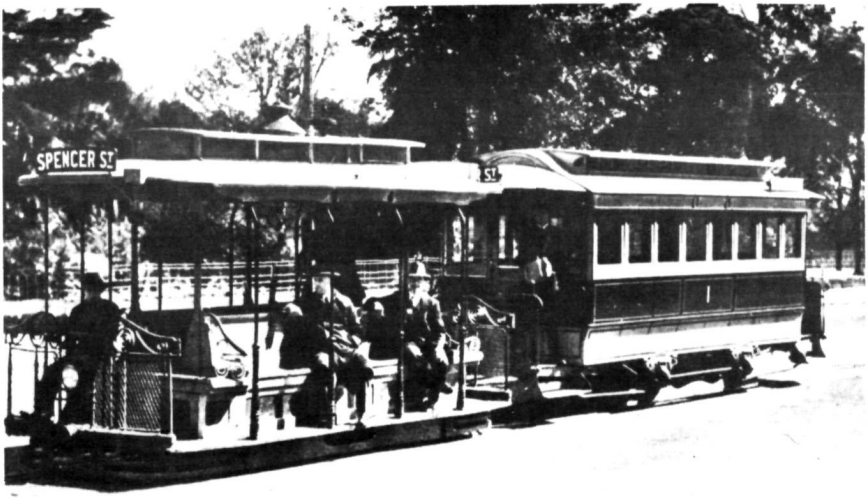
The Board took over the independent Northcote system on 1st February 1920 and replaced all the old rolling stock with new cars. By 1923 they were carrying 150 million passengers per annum with 592 dummies, 539 standard cars, 58 bogie cars and four horse cars on the Zoo line. The latter were destroyed by fire in November 1923.

As can be seen from the following table, the closure of the system was not an overnight affair. With the exception of the Port Melbourne, Northcote and Clifton Hill lines, all were converted to electric traction, forming part of the large system serving Melbourne to this day. The Bourke Street services were replaced by buses



"Hold on for the Curve!" Cable set No. 21 in Bridge Road, Richmond, in the 1920's with passengers fighting for a hand and toe-hold.

—M.& M.T.B. official photo



Cable set No. 1 shortly before withdrawal, in Nicholson Street, Fitzroy near the Exhibition Buildings. —M.& M.T.B. official photo

in a move which was later to prove somewhat unsuccessful, leading, in 1955, to the reintroduction of trams, albeit electric traction, to the Northcote and Clifton Hill areas. The Port Melbourne area retains bus services.

Melbourne cable tramway closing dates were:-

Windsor	29/8/25	West Melbourne	20/7/35
St. Kilda Esplanade	29/8/25	Brunswick	10/1/36
Brighton Road St Kilda	26/12/25	North Carlton	1/8/36
Prahran	28/8/26	South Melbourne	13/3/37
Toorak	1/10/26	Port Melbourne	13/3/37
Richmond	29/6/27	Carlton	15/4/39
Victoria Bridge	13/7/29	Northcote	26/10/40
Fitzroy	12/7/30	Nicholson Street	26/10/40
North Melbourne	20/7/35	Clifton Hill	26/10/40

Unfortunately the achievement was taken for granted and in later years scorned and derided, and it is only in recent times that some recognition has been made. The State Government made a worthwhile gesture when it made it possible for the Science Museum authorities to display the No. 1 cable tram set at the rear of the Science Museum last May.

The Melbourne & Metropolitan Tramways Board presented the No. 1 cable tram set about six months before cable trams ceased to run in Melbourne. For many years at was stored in a temporary shed beside the main building of the Museum. During September 1974 the vehicles were taken to the Tramway Workshops at Preston and splendidly restored in the livery of the Richmond line. It has been one of the Science Museum's most ambitious display projects and will provide much interest and pleasure for the residents of Melbourne and for visitors to the City.

C.O.T.M.A. Notes & News

Invitations to join have been sent to all tramway museums who were represented at the First Conference in Ballarat, also to the Steam Tram Preservation Society (Parramatta) and the Tramway Historical Society (Ferrymead). Each museum has been asked to appoint a delegate to the Council and all local contact should be through this delegate. Mailing address for the Council is 51 Lenna Street, East Burwood, Victoria, 3151.

Mr. Bill Daniells, President of the B.T.M.S., has prepared the Interim Constitution and this has also been circulated.

Although general news from COTMA will be reported in *Trolley Wire,* delegates and their museums will be kept up to date through official Memoranda from the Executive Officer.

The Proceedings of the Ballarat Conference, including all seven Papers, and reports from all Workshops is being published. Copies will be mailed to all who attended the Conference and will be available for purchase by others who are interested. These is much wisdom in its pages.

Information concerning COTMA is being sent to the relevant transport authorities in Melbourne, Adelaide, Sydney, Auckland, Dunedin, Wellington, Perth, Brisbane, Christchurch, the S.E.C. Victoria, the Tramway Museum Society, the Editors *Modern Tramway,* the Premier's Department (Victoria) and the Committee of Enquiry on Museums and Historic Collections (Canberra).

Mr. Mike Flinn of 106 Curtis Street, Northland, Wellington, 5 has been appointed Executive Officer for New Zealand. He is Deputy Treasurer of the Wellington City Council and currently Vice President of the W.T.M. (Wellington).

Chairman Dr. John Radcliffe has just returned from an overseas study trip on behalf of the South Australian Government and has, in his spare time, established relations between COTMA and a number of overseas museum groups, thereby developing additional lines of communication which may be helpful to Australasian museums.

The next Conference of Australasian Tramway Museums will be held in Sydney over the four days 30th April to 3rd May 1976. This is not the date previously advertised. Office bearers of the various museums should note this change. Council hopes that there will be an excellent attendance as David Rawlings, General Manager, and the members of the S.P.E.R. are determined to make it most worthwhile. The previous date clashed with the World Tram Tour being organised by the Association of Railway Enthusiasts (ARE) in Victoria.

Incidently, if any readers are interested in 8 weeks of world tramways commencing on 7th May 1976, you should write to the ARE World Tram Tour, Box 4810 Mail Exchange, Melbourne 3001. Cost $2,800. More information in *Trolley Wire* later.

An Expert Panel on Spare Parts and Tramcar Procurement is being set up. This Panel will endeavour to collate and co-ordinate the parts and car needs of all museums. It will act as a reference point for authorities such as the M&MTB whom we are convinced would prefer to deal with one independent representative body (COTMA) than separately with the burgeoning museums. COTMA has been notified of the intended disposal by the M&MTB of W3 and W4 type tramcars. Museum Secretaries have been advised by COTMA in this instance to apply direct

to the M&MTB. It is hoped that in future we will be able to channel all applications through the Expert Panel.

Prints of railway and tramway interest are being produced by Ed Devenport in Brisbane, The paintings concerned are excellent, likewise the production. If you are interested, write to the Secretary, B.T.M.S., 58 Frederick Street, Annerley, Queensland, 4103.

-Bill Kingsley
Executive Officer.

*MUSEUM Notes & News *

from ST. KILDA

Australian Electric Transport Museum

The Line

General Manager, John Pennack, regularly assisted by Mark Skinner, and other members from time to time, recently completed the initial re-packing of the whole line. This involved special attention at places of subsidence along the causeway and to a lesser extent in the Engineering and Water Supply Department compound and on the former cell wall road bed of the reclaimed foreshore area. At the last mentioned location the light 41 lb track has endured remarkably well.

The Corporation of the City of Salisbury Regional Employment Development scheme gang has continued to assist the A.E.T.M. on an *ad hoc* basis since the last report. Check rails were installed at the Shell Street curve, and on the long curve near the present site of the rubbish dump. This project took three full working days. A similar amount of time was spent by the gang replacing condemned sleepers. All traction poles have now been repainted, and for the first time, feature the traditional emerald green trim on the cast and wrought iron fittings for the full length of the line. The R.E.D.S. gang, using the heavy mobile machinery of the Council, have also transported and stacked the surplus 41 lb rail from the causeway in the museum's storage area at the rear of the depot.

Around the Depot

With the commissioning of the museum's rainwater storage and reticulation scheme, the environs of the depot have been restored and enhanced by the provision of additional gravel footpaths to all strategic locations. This desireable course of action has been evident for some time, as the huge catchment from the roof of the depot is difficult to drain away on the flat St. Kilda site, and ponding of water has proved most inconvenient.

John Hoffman and Malcolm Butler have shown considerable industry in setting up an orderly array of stores in the new 20' x 30' building set aside for this purpose. Max Fenner, in a parallel role, has been busy sorting and packing surplus overhead stores in containers for the time when the trolleybus line is erected.

The Cars

As work in connection with both the museum's and the Council's R.E.D. schemes has wound down, the tempo of activity on the cars has increased. Robert Magnussen recently completed making a fine new lifeguard for No. 1, the former one being damaged in a mishap.

Peter Keynes and Chris. Andrews continue to work conscientiously on No. 192, with other members lending a hand occasionally. The sill of its No. 1 end is presently being reconstructed with massive new timbers, and the finishing touches are being applied to the exterior of the clerestory roof The re-assemly of furnishings in the smoking compartment is not too far distant now.

Operations

Ron White again supervised the operations of the museum during the recent school vacation, when cars were run on two mid-week days in both weeks. Results were not entirely favourable, and this fact has impressed on the executive committee the need to exploit the charter potential to get a fair return on the time and energy spent in compiling rosters, summoning staff for duty and preparing cars for traffic. This is the museum's biggest forthcoming challenge.

It is timely to publish a resume of operations to date, it being two years since preliminary operations began, and eighteen months since full operations commenced.

Statistics Since Operations Began on 22nd September 1973.

Tickets sold (Admission and ride – Adult)	14,465
d (Admission and ride – Child)	10,268
d (Extra ride – Adult)	3,067
d (Extra ride – Child)	2,391
Single ride passengers (ie, one way trip)	67,617
Single trips offered	2,297
Average passengers per car	29.4

Car Mileages:-

Car	*Passenger*	*Non-Passenger*	*Total*
1	401.24	226.08	627.32
21	327.55	165.08	492.63
34	306.02	350.50	656.52
111	490.36	185.72	676.08
192	0.00	6.14	6.14
282	557.52	171.59	729.11
381	409,95	169.10	597.05
Totals:	2,492.64	1,274.21	3,766.85

from PARRAMATTA

Steam Tram Preservation Society

Works Report

The Society was fortunate to obtain the services of our friends from the S.P.E.R., Mal McAulay and Bob Harvey, plus the use of Mal's mobile crane, to

H class cars 361 and 367 depart the Victoria Square terminus in Adelaide, en route to Glenelg in October 1974. —Chris Jacobs

Tramway traffic in Adelaide at the intersection of Pulteney, Wakefield and Hanson Streets.was controlled by this signal box which is now in the A.E.T.M. display at St. Kilda. —John Radcliffe

enable us to remove the saddle tank from No. 2, the Stephenson, locomotive. The lifting took place on Saturday 20th September, to enable a thorough external inspection to be made of the tank and to execute any repairs needed, a task not possible with the tank in position over the boiler. The subsequent welding repairs took longer than originally anticipated. The result of this was an unscheduled exhibition to would-be riders the next day (our normal steaming day) of Mal and Bob's prowess in placing the saddle tank 'spot on' over the dome and funnel. Needless to say, it fitted perfectly. Our thanks go to them for the help on this job; we even let Mal and Bob go for a footplate ride on 1022!

The Stephenson is still undergoing repainting. The cabin and fittings have received their cosmetic attention whilst the outside of the locomotive has been fully painted green. Lettering and lining out is now being undertaken by our resident signwriter, Peter the Painter. The Society is fortunate in having returned to it one of the original builders plates, and this will be affixed to its rightful place in the near future.

Progress is still taking place on our shed extensions. A disappointment came to members when vandals entered through the temporary work, causing havoc with tins of paint. The worst daubing was on 103 A, but, fortunately no mechanical damage was effected. However, this unorthodox method of entry has been securely sealed-off and 103 A has been touched-up. We can now safely stand-by to repel boarders.

History Revealed

Readers familiar with the Parramatta to Redbank Wharf Tramway owned by Sydney Ferries Ltd. will know that the firm of Meggitt's Ltd. once had a direct siding connection with that tramway. Some time ago the entire complex owned by Meggitt's was demolished to make way for an office complex. A result of this demolition was the exposure of some 60 to 70 feet of 40 lb rail set securely into concrete. Any casual passer-by parking his vehicle on the cleared site can see this little piece of tramway history, right in the heart of the Parramatta business district. Also, from time to time, small sections of the George Street trackage is revealed as the thin layer of tar flakes of the rails still buried in this street.

from BRISBANE

Brisbane Tramway Museum Society

Museum Grant

Just before the September meeting of the Society, we were delighted with the news that the State Government had approved the granting to the Society of the sum of $19,242. The amount decided upon is about one third of the expenditure forecast in our submission to the Government. It should be understood that the grant is not a straight out gift, but a subsidy for capital works completed. As major projects are finalised, the State Government will pay us a reimbursement for a part of the cost of the project. It is anticipated that approximately $3,500 will be paid to the Society for work already undertaken, including the first depot building. A decision will be made very soon by the Council of the Society on what will be the next large outlay for work. The choice seems to be between completing the substation and installing 11kV power, or building the second depot. It is understood that the Government will now refer our submission to the Federal

Sections of the pointwork are towed into position at the junction of the proposed terminus area track and the depot access line. —Tim Atherton

Government so that they may consider a further grant of their own. We look forward to the results of this with hopeful anticipation.

Earthworks

On Thursday 11th September, through the kind help of the Brisbane City Council Parks Department, a Caterpillar DH8 bulldozer owned by Robert's Earthmoving arrived at the Museum to assist us in excavation work for our tram and trolleybus roadbed. The bulldozer was one that normally works in the dump immediately adjacent to the museum. Driven by Noel Madson, it spent four hours in the grounds, and, by the end of that time, had completed the roadbed from along the rear fence beside the creek, around in front through the future terminus area, and outside the leased area, swinging through the future period setting. A commendable four hours work indeed! The 35 ton, 270 horsepower bulldozer, which was fitted with an enormous 12½ foot blade moved hundreds of yards of earth, and filled in the sharp drop at the rear of the Museum where it is hoped to see the trolleybuses running one day, all with no effort and fuss. It saved us months of work and lots of money, and has allowed a basis for the large amount of trackwork which lies in the months ahead. It has had the added advantage of forming a permanent and safe entry for members to the museum.

Trackwork

The laying of track on the completed roadbed started the weekend after the bulldozer had completed its work. Earlier, during September, several truckloads of solid fill had been obtained from the hill being excavated in the dump, and used to fill in a depression just outside the fence between the terminus and the period setting. This had been allowed to settle, but is now ready for the laying of the track. The double track point-in-a-curve section from roads 13 and 14 at Ipswich Road Tram Depot was positioned to swing the single depot and workshop line into the terminus double track (see plan *T. W.* April 1975, p21.). Because of the comp-

Wall cladding being applied to the depot at Ferny Grove.
—Tim Atherton

licated nature of the junction, good drainage facilities will be needed and quotes for piping were obtained. It is anticipated that a quote will be accepted shortly and delivery made as soon as possible. Trenches for the drainage pipes were dug immediately. An electric welder is being supplied by member Alan Ward, for use in the making up of the crossings. The junction itself will be set on steel sleepers set in concrete, and, as all the track will be in the eventual roadway, will be set in bitumen. Consideration is being given to using mass concrete around the major area of crossings and points. To date, the curve point, and rails, and the point for the inside straight rail have been cut in and positioned. The whole junction will be fishplated, bolted and tie-barred, then levelled before the sleepers are bolted and welded to the rail and set in concrete.

In other trackwork, a large amount of blue metal ballast has been obtained, and used to pack the single line down from the depot and workshops. It has been decided to delay for a short while, the laying of the fanwork for the first depot, until such time as a surveyor can be brought in to properly determine the levels for the second depot. The second shed will be set slightly lower than the first, and this means, of course, some difference in rail heights, so we are not going to commit ourselves until calling in an expert.

Other News

Another R1: The sharp eyes of member Dennis Campbell have located on the Darling Downs another R1 tramcar in excellent condition, in fact, in better condition than some of our FM cars. The tram itself had a recently demolished house built around it, and was therefore protected from the elements. It is No. 1969, and is slightly more suitable than No. 1936 in that FM trucks will go under it without the modifications necessary with No. 1936. The car still has seats and all the fittings on it. It will be examined by some members of the Council before a decision on its acquisition is made. The owner of No. 1936, one of the five Sydney

R class corridor cars converted to the R1 type during construction, has notified the Museum that she wishes to donate the body of the car to the museum, and we have accepted her donation.

Depot Roof: Member Alan Ward is continuing with his painting of the depot roof, however, he isn't having much luck with the weather. Every time he rolls up at the museum, it either rains, or threatens to do so!

Gardening: Councillor and keen gardener, Peter Hyde recently gave the jacarandas at the museum some springtime attention. He replanted some that were in the way of bulldozing and trackwork, and mulched and cleaned up the soil around the others. Unfortunately, some of them were hard hit by the frosts that we get in the valley, but they are nearly all sprouting now.

Substation: John Hudson and his gang continue the tedious task of melting pitch out of the circuit breaker wiring, and replacing of unsuitable material. Work parties are now held on Tuesday nights to help speed up the work and the progress has been good. John recently rewired and improved the electrical facilities at the caretaker's residence.

Total Hours Worked For Year: Tom Carter points out that the total of 2004¼ hours is only equivalent to *one* man working forty hours a week. These figures were excluding hardworking Phil Smith, of course. In addition, Council members of whom there are only seven, did 42% of the work. In short, we would like to see some more new faces out the Museum in the next year.

Christmas Bus Trip: It is now known that Leyland *National* buses will definitely be used on this trip. See you there for the first excursion out of Brisbane by these buses.

from BYLANDS

Tramway Museum Society of Victoria

The Depot

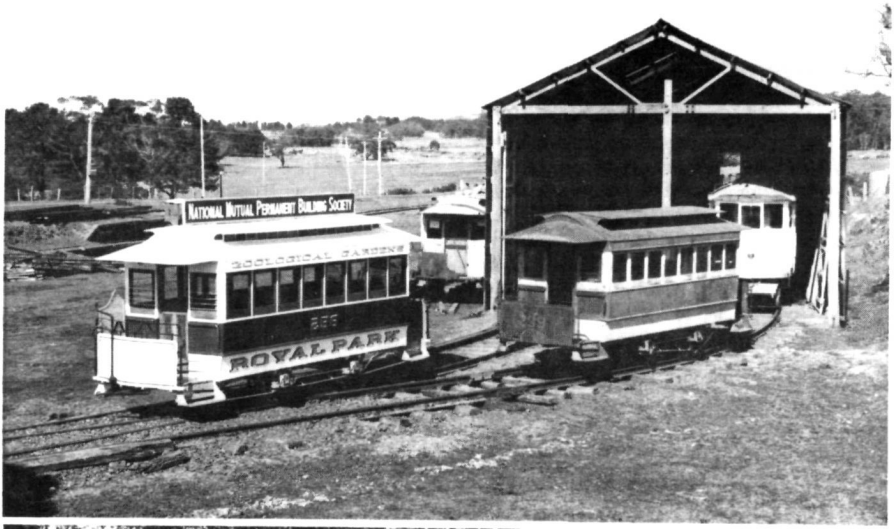
Filling has been spread along the inside of the west wall raising the floor to sleeper height. This work has proved very effective in keeping water out of the depot and at the time of writing has been completed along half of the east wall as well. Our Electrical Superintendent has been busy installing fifteen 40W fluorescent fittings which replaced the existing incandescent lights throughout the depot. Noel has constructed a main switchboard which is ready for installation and is at present overhauling our electric welding unit.

Trackwork

The 'bolt-on' flangeway was completed on No. 2 road during August and this has allowed No. 2 road and the area between this and No. 1 road to be filled to rail height with ballast. When the bolt-on flange has been completed on No. 1 road it will also be ballast, giving the depot a more tramway-like atmosphere.

Cable Tram Project

Over the past twelve months, the Society has acquired a number of additional exhibits to help adequately represent this important but often neglected area of Victorian Tramway history. Previously reported in *T.W.* were the acquisition of:-
Standard cable trailer No. 256 which has been restored to represent the Zoo horse


NATIONAL MUTUAL PERMANENT BUILDING SOCIETY
ROYAL PARK


290

tram; Bogie trailer No. 192 and the appropriate trucks; and trailer car No. 153 which has been dismantled to provide a vital source of spare parts for the restoration of the other trams in this project.

In addition to these vehicles, the Society owns a second Bogie Cable trailer (No. 35) which is located at Wycheproof, and we are fortunate in having available to us the two trailers and the grip car preserved privately by member Alf Twenty-man. Since our last *Trolley Wire* report, we have collected two further cable vehicles which, unless another grip car can be located, will complete our collection. During Juli, grip car No. 28, one of the first to be built in Melbourne, was transported from Rosedale (185 km east of Melbourne) to Mr. Twentyman's home in Northcote. The move was carried out using a tandem trailer towed by B.T.P.S. member John Withers. The tram was loaded on Saturday 26th July and proceeded as far as Moe where it was stabled overnight at the local high school. On the Sunday, it was hauled the remaining 140 km to Northcote where it was rolled off the trailer to be housed under cover with Mr. Twentyman's three vehicles. Although parts of the woodwork have deteriorated due to years in the open, the tram is essentially complete and by using parts obtained from grip car No. 417 (dsimantled in June) it is quite restorable.

Our second acquisition is standard cable trailer No. 299 which was located in the Melbourne suburb of Deepdene, close to the terminus of tram route 72. This car became available when the owner of the property demolished his back fence in the course of swimming pool construction. The bodywork of the car is in remarkably good condition due to a roof having been constructed over the car. This roof was demolished by members on Saturday 9th August and as No. 299 was without a truck the next day saw feverish activity at Bylands to provide one. The underframe of a cable trailer, which had arrived at Bylands in mid 1970 to become the first vehicle on site, was rescued from its fate as a standard gauge bufferstop. The body was jacked off this vehicle and scrapped, while the truck was removed to the depot where it was comp etely dismantled, cleaned, oiled, painted and reassembled and by the end of the day was ready to receive the body of No. 299. On Wednesday 13th August, No. 299 was lifted from its former resting place by crane and placed on a low-loader. On arrival at Bylands, the tram was lowered onto the overhauled truck and pushed into the depot.

Tramways Ball

This year, we were again asked to provide a dsiplay for the M.& M.T.B. Annual Ball. As well as usual displays and model trams, we exhibited two store dummies "Edward" dressed as cable tram conductor and as a contrast "Stanley" dressed in the new M.& M.T.B. uniform. Our Sales Department also operated successfully at the ball.

Operations

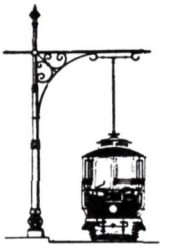
As from 1st July, revised admission/fare rates have been introduced for our Sunday open days. Each adult pays 40 cents, this allows for admission and one horse tram ride; children pay 20 cents. Additional rides cost 20¢ and 10¢ resp. Members are entitled to free admission and rides on production of their current membership cards. Although our museum at this early stage of development has only a limited offering to the visitor, we are continually surprised at the number of people who do come to ride a horse tram and watch the construction of the museum. Over 800 people rode during the winter months of July and August.

OPPOSITE PAGE: Top: Cable cars 256 and 299 outside the Bylands depot in August giving a unique before-and-after view of a restoration project. —Gary Davey
Middle: Grip car No. 28 in its former resting place at Rosedale and - Bottom: the car being pushed into Alf Twentyman's cable tram depot at his Northcote home.
—Graeme Breydon

Breakdown car No. 141S (ex-Oclass 1030), resplendent in a fresh coat of cream and green paint pauses at the Depot junction at Loftus. —Tony Cody

The S.P.E.R. workforce 'hard-at-it' moving the wall cladding from the old shed structure to the new supports on 30th August. —Vic Solomons

from LOFTUS



South Pacific Electric Railway

Work Report

Although negotiations regarding the site at Loftus Station are progressing favourably, it will be necessary to continue activity at the present site for some time, as has been mentioned before. While awaiting the 'turning of the first sod' for the new undertaking, however, work has been progressing in stages on the finalisation of the reconstruction of the present tram shed. At the time of writing, most of the necessary structure has been put in place, while the walling has been relocated on the new columns and the last bays of the roof are now being put in place on the purlins. The shed, as it now stands, bears little resemblance to the original design concept. Changing circumstances over the period of construction have lead to two major roof profile alterations, while we now know that the present structure will only serve for a definitely limited time and therefore need only be weatherproof, appearance being of only very minor importance.

The Cars

Now that we know that no further major tasks will be undertaken at the present site it is time to remind all members that the trams themselves will need continued attention. This period of 'marking time' is just what is needed to enable the back-log of car maintenance and restoration to be carried out. With major examination periods almost at an end, we expect to see a greater particiation in the tramcar work parties.

Work on R 1740 has reached the stage where the roof is complete and the trolley poles have been replaced. The tram has been moved out of the paintshop area and will undergo mechanical and electrical maintenance before being returned to service.

Brisbane 'Dreadnought' No. 180 has taken the place of the R car in the paint-shop to enable inspection of the work carried out some time ago on the roof to determine the suitability of our revised roof treatment and to make some minor repairs and adjustments.

Phœnix car 548 has had all the repairs to the damaged end completed and is now waiting for its turn in the paintshop. It is expected that No. 548 will be ready to join the tramcar traffic roster during December.

N 728, F 393 and O 1111 are all due for major attention in the coming months, while some work is required on the two Ballarat cars 12 and 37. The E cars 529-530 are slowly undergoing a colour change – from the nondescript patchwork of faded cream and green with daubs of red lead, primer and bare timber to a more uniform shade of pink as the 'outside' paint crew continue their task. Although not intended as an A1 overhaul, the proper stripping down and application of undercoats and a finishing coat to the trams will enhance their appearance beyond belief and will stave off further deterioration.

Around the Depot

Thanks to the continuing work by Peter MacDonald, ably assisted by local ILRMS member Bob Hague, a clean-up of the area has been carried out and further

con siderable quantities of rubbish have been conveyed to the local tip.

Water has now been connected to the mealroom.

In preparation for the coming summer season, undergrowth around the depot has been cleared, to reduce the fire hazard. The Society's Fire Officer, Jim Lucas, has supervised these operations.

New Uniform

It would seem that the problems surrounding the commissioning of the new traffic uniform have been resolved and the new uniform will become effective from the first operating day in November 1975. It is expected that the new list of crew authorisations will come into effect from the same day. An invitation is extended to all prospective member/crew officers who have not already done so, to see Bob Cowing with regard to ordering their uniforms through the special supplier.

After considerable discussion it was decided not to pursue, necessarily, a uniform of historical significance, but rather to select from standard designs readily available a neat and tidy uniform. To this end, we have selected a dark brown jacket and trousers and matching cloth peaked cap, with tie, shirt and shoes. A summer uniform is also available. A cap badge, reminiscent of earlier tramway badges in Sydney, bearing the legend *Sydney Tramway Museum* and a membership number will also be available to all members, whether on the traffic roster or not. Further details of these items will be available on request to the Traffic Manager, Peter Kahn, or from Bob Cowing.

from ALBION PARK

Illawarra Light Railway Museum Society

'South Bulli' Loco

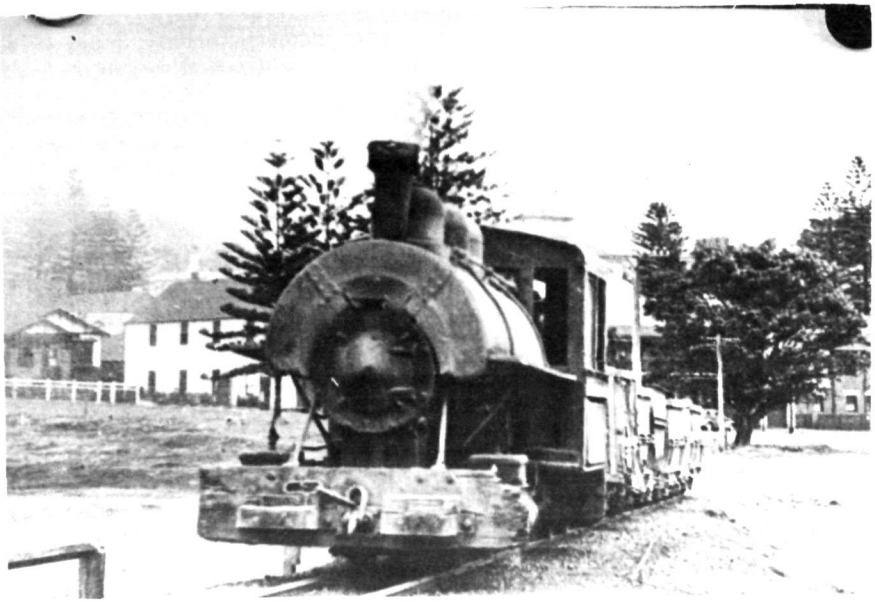
When the standard gauge *South Bulli No. 2* loco was transported from Enfield to Albion Park twelve months ago, the engaged mobile crane sub-contracted to another firm resulting in the loco being lifted at Enfield with slings direct from the hook and not with spacing bars. As a result the side footplates were badly bent under the water tanks.

The Australian Railway Historical Society, the owners of this 90 year old loco, gave the I.L.R.M.S. authority to have this damage repaired. On 30th August a boiler maker was engaged and for a nominal cost cut out the damaged sections and reconstructed the side members using material supplied by the I.L.R.M.S. This tradesman carried out an excellent restoration job and the loco is now ready for repainting.

Kiama Point Retrieval

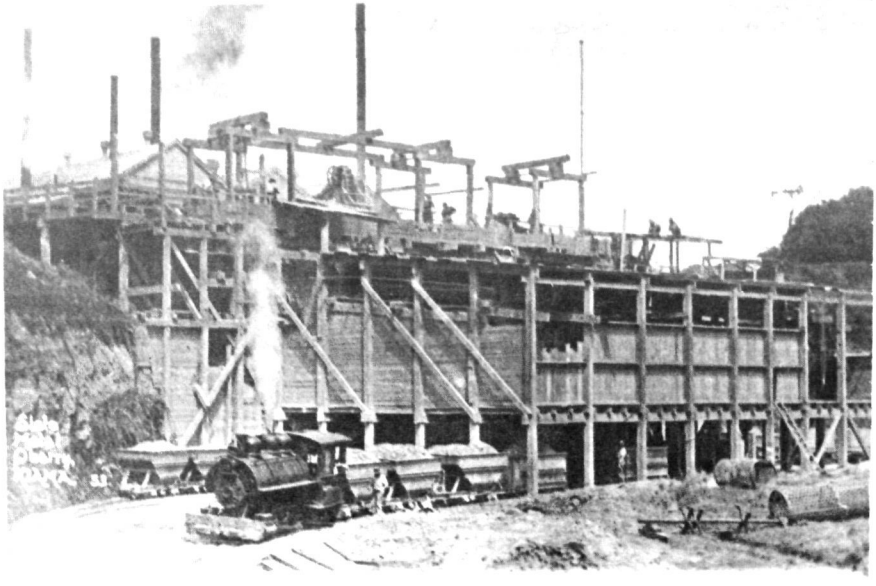
Between 1913 and circa. 1938 a large 2 ft gauge steam tramway undertaking connected the Pikes Hill quarries with the Wharf at Kiama Harbour and the railway station along Terralong and Manning Streets. This facility carried blue metal gravel to the port and railway sidings for transportation to Sydney. Limited stone quarrying and crushing continued until the late 1950's in this region with motor trucks being used in place of the tramway.

During the 1940's the street track was gradually covered, but the locos and rolling stock remained in the shed at the quarry. During 1956 the Davenport loco was taken to the steam tram museum (S.T.P.S.) at Parramatta Park (see *T.W.* -



ABOVE: Davenport loco, on 2ft gauge Kiama tramway near the wharf, Circa 1934.
BELOW: The loco shunting at the quarry bins on the Kiama tramway, circa 1920. The points in the left hand lower corner were recently retrieved for use on the I.L.R.M.S. railway at Albion Park.

—Ken Magor collection



April 1972, p5.) but was transferred to the Marsden Museum of Historic Engines at Goulburn in 1967. The Kiama Fowler loco reached Goulburn directly, during 1958, leaving the remains of a 2 ft gauge petrol-electric loco and gravel wagons at Kiama. (See *T.W.* - April 1971, p18.)

These rolling stock relics were scrapped after Easter 1962 and with the demolition of the large store hoppers at the quarry and the wharf, only the Manning and Terralong Streets plant and some quarry yard tracks, covered with road surface tar and earth, remained.

Work started during June at the old quarry railway yard in preparing the site for a retirement village, revealing considerable 2 ft gauge track work. During July the I.L.R.M.S. work parties were able to lift several tons of straight 40 lb rail from this location, and two sets of points of a large radius turnout. These have now been transported to Albion Park where they will be used on the main locomotive worked roads.

Corrimal Track Lifting

The most recent track lifting efforts on the 2 ft gauge Corrimal railway were undertaken during last November; work again commenced on track lifting at the northern end during September, a task that will now continue until all reasonable quality lengths are retrieved. Although the I.L.R.M.S. has now about 25 tons of 40 lb and 45 lb rail in store for main line construction the on site supply of lighter 30 lb and 35 lb plant has been exhausted. The need for this in siding construction together with the desire of the A. I.& S. to fence off the Corrimal property due to mini bike riders damaging the fire fighting trails on the Illawarra Escarpment, means that this task must be completed by the end of the year.

The heavy rains of last March and June had washed away the small bridge near the centre of the old one mile railway, although the larger "A" frame bridge had stood firm on this occasion. During three Saturdays between 23rd August and 9th September the washed out bridge was restored, the previous span of 24 ft now having been gouged out to a much wider ravine of over 30 ft in length, and after clearing back almost 12 months growth of lantana from the tracks work commenced on 13th September lifting the remaining half mile of rail. When this task is completed, all major projects away from the Albion Park museum site will be at an end, resulting in a concentrated effort being undertaken to have the museum development in the initial 6 acre lease at Albion Park pushed ahead without respite.

City Section

NEWS OF THE M.& M.T.B.

Z Class Trams

As of 8th September, 'Z' class trams 1 to 10 were available for service at North Fitzroy depot, although only 6 (5 plus 1 spare) were at the depot with nine W6/W7 cars. Of this total of fifteen cars, 12 are used in the AM peak, 13 in the PM peak while most offpeak and all the night time services are believed to be run using the new cars. A full complement of Z cars will come to North Fitzroy when 18 cars are available, to give sufficient spare cars. Cars 11 to 19 have been delivered to Preston Workshops, Nos. 11 to 15 were undergoing tests at the time of writing.

Freight car No. 19W sporting its new number, entering the former Hawthorn tram depot, now used as the M.& M.T.B. clothing store and training centre.
—Bruce Davey

W6 Class Movements

Since the introduction of the Z class cars, a number of W6 class cars formerly attached to North Fitzroy and Preston depots have appeared at other depots. Cars 992 and 989 are now attached to Malvern while No. 983 is at Glenhuntly.

Works Car Renumbering

Works cars 15, 16 and 19 have been renumbered 15W, 16W and 19W and it is understood that all works cars are to be thus classified. This has been done to avoid a numerical clash between the service stock and the new Z cars. No. 15 (now 15W) has received an overhaul and repaint and in addition has been fitted with a small crane to lift heavy items onto and off the car.

Track Relays

The section of the West Coburg route between Moreland Road and Reynard Street has been relaid with the new type of rail. The job was completed on Sunday 31st August when buses replaced trams between the Daly Street crossover and the terminus.

The track in Royal Parade, Parkville on the bridge over the North Fitzroy goods railway was renewed over the weekend of 23rd/24th August which required the use of replacement buses.

The curves from Commercial Road into St. Kilda Road were relaid on 20th August which resulted in some 'wrong road' running in St. Kilda Road.

Essendon Aerodrome Terminus

The Act of Parliament closing the section of tramway between Matthews Avenue and the terminus at Essendon Aerodrome was passed some time ago but until recently nothing further was done about it. A number of steel tramway poles

have now appeared in the plantation of Matthews Avenue for a short extension to a new terminus 400 yards to the north of the point where the line crosses Matthews Avenue.

New Bundy Time Recorder

An experimental bundy clock will be installed 50 ft south of the West Coburg terminus on the Up track. This will record the passing of a tram by stamping the time on a tape when the trolley shoe passes a contactor on the overhead. If this proves to be successful, it could be installed at other locations. At the present time, tram drivers manually operate the bundy using a small brass key.

BUS STOP

IN TROLLEY WIRE *for April 1975, in the article "Double Deck Buses in Wollongong", Ken McCarthy made mention of two buses converted from single deckers of a rather unusual body style. Vic Solomons takes up the story.....*

THE CAMEL-BACK BUSES

In September 1935, the Department of Road Transport and Tramways placed in service two buses of a design unique in Sydney. These were given fleet nos. 393 and 394 and were built by the Sydney motor body building firm of Waddingtons, on Leyland *Tiger* chasses imported from England.

The most apparent difference between these vehicles and other buses operated by the Department was the 'deck-and-a-half' coach style. The rear section was raised to enable the provision of luggage lockers below the saloon floor. Access to these lockers was provided at the rear and the side of the bus. Inside the bus comfortable upholstered seating was fitted in place of the harder bus type seating; this accommodated 30 passengers, while another 7 standing passengers were permitted. Passenger entry was through a door situated immediately behind the nearside front wheel.

The two buses were powered by six cylinder compression-ignition (diesel) engines driving the rear wheels through a torque converter. The converter was later replaced by a conventional four speed manual gearbox.

Both vehicles entered service between Manly Wharf and Palm Beach on 4th October 1935, painted in an attractive colour scheme of white with brown roof and red waist band. The waist band swept down over the rear wheels and carried in a large panel across the back of the bus. The buses later saw use on another of Sydney's lengthy suburban routes, that from York Street to Cronulla (Route 61) which operated until the opening of the Sutherland-Cronulla electric branch railway in 1939. In 1940 the buses had been given altered fleet numbers in line with a policy to make fleet and registration numbers coincide. They became Nos. 1193 and 1194 respectively.

Leyland M/O 1393, later 1193, as a Parlour Coach in 1935. This was rebuilt in 1941 to a double deck style.

In order to provide greater seating capacity, a plan was evolved by the Department in 1939 whereby all single deck buses wherever possible would be rebuilt into double deck types. In line with this policy, both vehicles were returned to Waddingtons for re-bodying. No. 1193 re-entered service as a double decker on 29th August 1941 and No. 1194 on 5th September 1941.

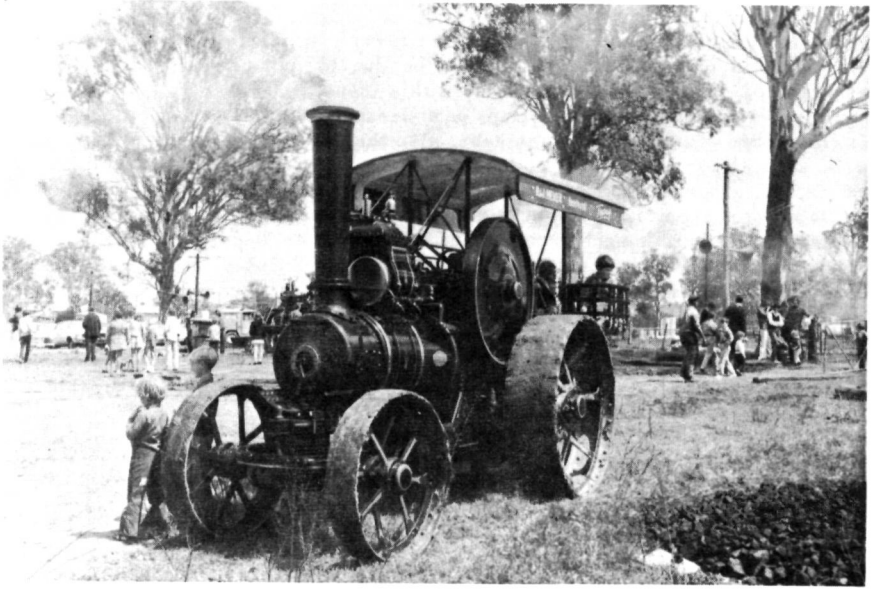
In this new guise, the vehicles had been fitted with a double deck body seating 57 passengers, 4 less than the number carried in the standard double decker of that period. As the chasses of Nos. 1193 and 1194 were not built with a lowered rear section to accommodate an entrance platform, it had been found necessary to adopt a modified design. Two narrow doors were provided, each fitted with a vertical canvas blind; while access to the upper deck was by means of a staircase commencing in the lower deck saloon forward of the rear wheels. This, in turn, required a rearrangement of the seating which was achieved by the overall loss of only 4 seats.

Both vehicles were sold out of Government service in August 1953, and one, No. 1194, saw further service with the Wollongong bus service of Ruttys. It was noted deregistered in 1964 and later derelict.

Here and There.

From time to time we receive photographs which are quite interesting, but for one reason or another cannot be used when offered. From our files of such photos we present this pictorial supplement. Above we see a scene now past – a 40-class loco hauls the Central West Express through Valley Heights in 1956. All this class of loco have now been withdrawn from service with the New South Wales

Railways. Below we see a six car interurban double deck set at Hazelbrook. Until May this year and the completion of the widening of the Glenbrook Tunnel this type of rolling stock had been prohibited on the Blue Mountains run. On the right (top) is a massive road steam roller, while below is a somewhat lighter Fowler steam traction engine as they appeared at the Ingleburn Steam Rally of the New South Wales Steam Preservation Society in October 1974.



from the S.P.E.R. Publishing Department.....

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from the Editorial Committee

IF THERE appears to be more words and fewer pictures in this issue of *Trolley Wire* than in previous issues, it could be due to the unusually low number of good photos submitted for consideration this issue. The present economic crisis more or less dictates that we scrap, or at least seriously curtail, our earlier idea of filling odd spaces with photographs; also that we view those to be used with a more critical eye. *Trolley Wire* is entering its (almost) annual crisis period, but we expect, as usual, our Fairy Godmother will wave her magic wand (or should it be Magic Trolleypole) and off we'll go on another year, bigger and brighter then we were before. One thought occurs to us, though. The December issue, while not planned to be anything special, is proposed to be published in mid-month, so the deadline for any news to be included in that issue will be 28th November. We won't be able to offer any assurance of 'Stop Press' facility.

–*Bill Denham,* for the Editorial Committee

BACK PAGE: Another gem from the archives. Kalgoorlie, c.1901, with single truck and bogie cars being assembled at right and a row of motored Brill bogies at left awaiting the bodies.

–Ric Francis collection

–MUSEUM DIRECTORY–

SYDNEY TRAMWAY MUSEUM, Princes Highway, Loftus.
(South Pacific Electric Railway Co-operative Society Limited)

Tram Rides: Sundays and most Public Holidays – 10.30 am to 5.00 pm.

Correspondence to:- The Secretary,
Box 103, G.P.O., Sydney, NSW 2001

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC.
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Tram rides; static display of trams, trolley buses, perway equipment, photos, etc. 2.00 pm to 5.00 pm Sundays and Public Holidays (Good Friday and Christmas Day excepted).

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P.O. Box 33, Maylands, WA 6060

BALLARAT TOURIST TRAMWAY, Ballarat Botanic Gardens,
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Tramway Museum:- Saturdays, Sundays and Public Holidays – 12.00 noon to 4.00 pm.

Correspondence to:- The Secretary
P.O. Box 632, Ballarat, Victoria, 3350

ILLAWARRA LIGHT RAILWAY MUSEUM SOCIETY, Albion Park

Inspection of exhibits by arrangement (phone Wollongong 71 3707)

Correspondence to:- The Honorary Secretary,
P.O. Box 1036, Wollongong, NSW 2500

STEAM TRAM PRESERVATION SOCIETY, Parramatta Park

Tram Rides:- Third Sunday of each month – 1.30 pm to 4.45 pm.

Correspondence to:- The Secretary,
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VICTORIA'S TRAMWAY MUSEUM, Union Lane, Bylands, Victoria
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Correspondence to:- The Secretary,
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THE OPINIONS EXPRESSED IN THIS MAGAZINE ARE THOSE OF THE AUTHORS AND NOT NECESSARILY THOSE OF THE PARTICIPATING SOCIETIES

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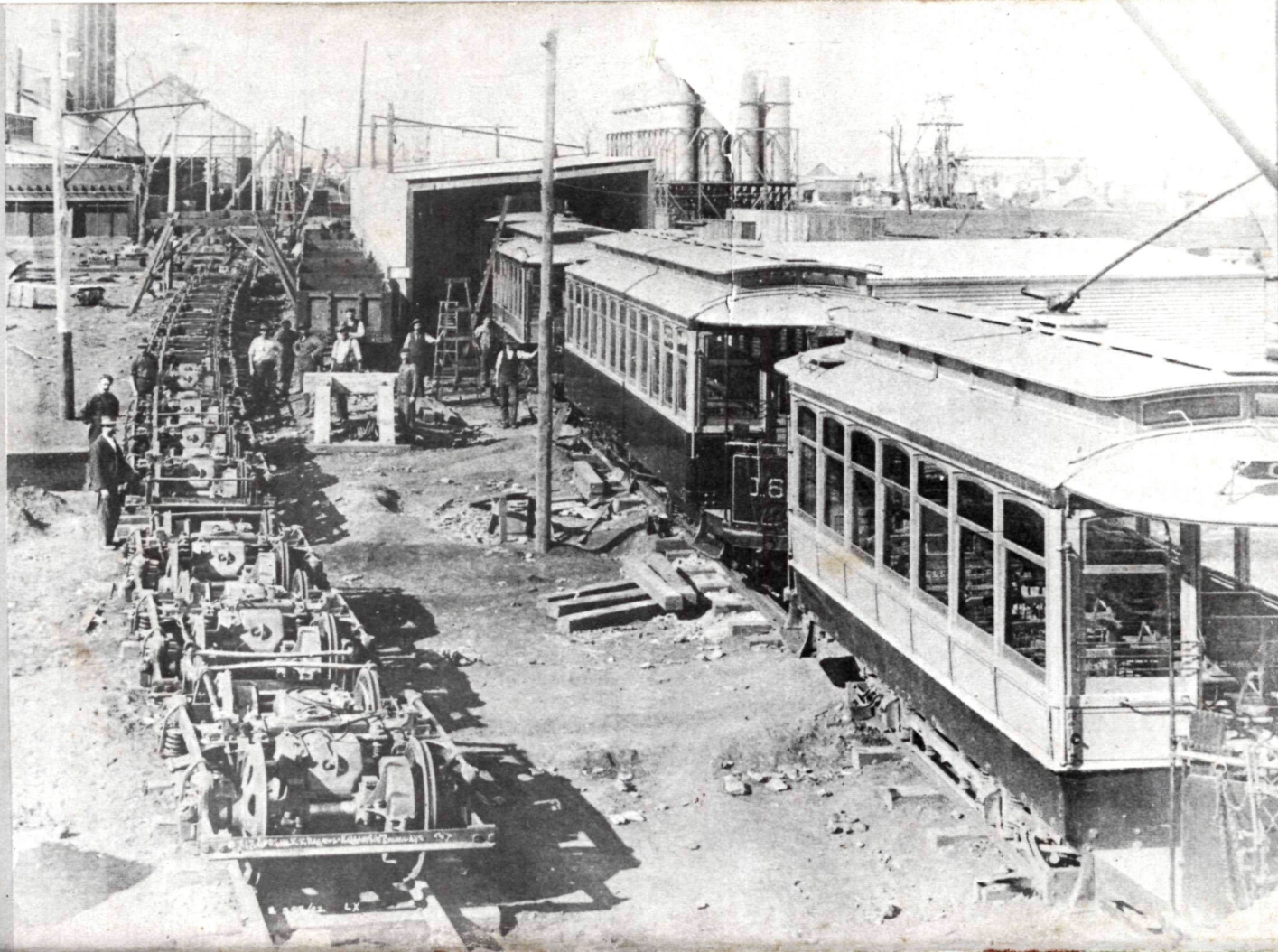
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