

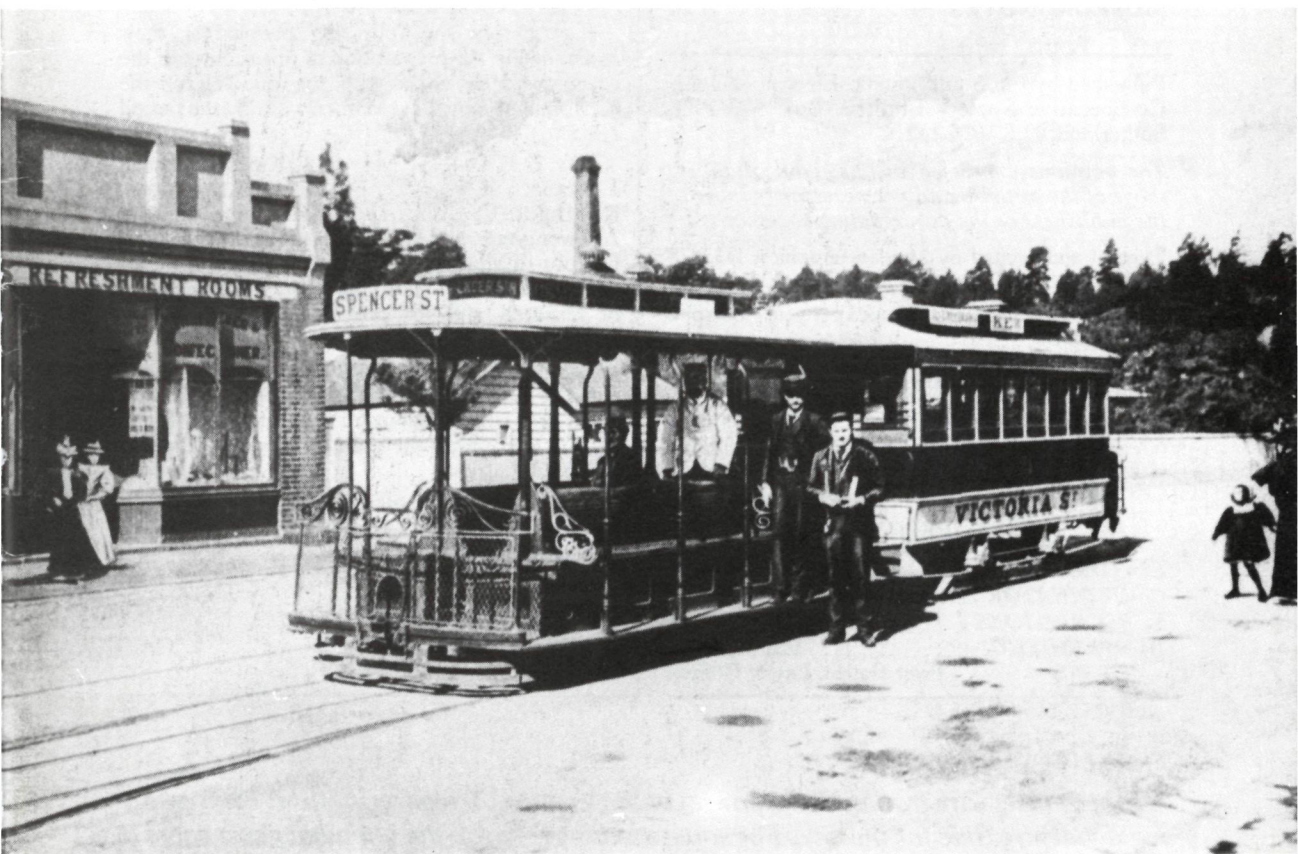
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ISSUE No 220



MELBOURNE TRAMWAY CENTENARY — CABLE TRAM ERA

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Melbourne Tramway Centenary — The Cable Tramway Era

Ken McCarthy assembled, with major assistance from Keith Kings, Jack Stranger and the late Wal Jack, an article on the Melbourne cable tramways in 1960 to mark the 75th anniversary of the opening of that undertaking. This appeared in the magazine "Electric Traction".

Since then a considerable amount of data has emerged about all facets of the Melbourne cable tramways and much of this material will be presented in this magazine.

Ken thanks the following people for their assistance in the preparation of this section of the account which deals with the opening of the network and route developments during the period 1885 to 1898:

Rev. C. B. Thomas, Messrs. K. Kings, R. Green, J. Stranger, R. Prentice, D. Cooke, V. Solomons, K. Magor, C. Coop, D. O'Brien, and the late A. Twentyman and W. Jack. Messrs. R. Green and C. Coop of Melbourne are particularly thanked for their assistance in clarifying many difficult points of research and for providing many valuable reference clues.

It is planned to publish future articles dealing with the rolling stock, the horse worked lines, the cable and winding houses, the transfer to M. & M.T.B. ownership then closure, preserved relics and rolling stock.

Material dealing with these aspects or reminiscences are welcome for publication as are photos to accompany the articles.

FRONT COVER:

A cable car set with trailer No. 81 pauses at the Victoria Bridge terminus c. 1895 awaiting departure time for the city. For some unknown reason the intended passengers at the left and right of the photo have been touched in by an artist.

C. B. THOMAS COLLECTION

BACK COVER:

A City bound cable tram crosses Princes Bridge at the northern end of St. Kilda Road, c. 1905.

C. B. THOMAS COLLECTION

MELBOURNE TRAMWAY CENTENARY

THE CABLE TRAMWAY ERA

By Ken McCarthy

On Wednesday, 11 November, 1885 the first city tram route in Melbourne opened for traffic. This was the 3.5 mile (5.8km) cable tramway between Spencer Street Station and Richmond along Flinders Street. This was the first route of a planned major transport undertaking . . . this was day one of a public service which has continued to expand and use updated technology to the present day. Over the last 100 years Melbourne has never lost faith in the tramway mode as the best system for mass street passenger transport.

The construction and commissioning of the comprehensive cable tramway system in Melbourne a century ago was carried out during the economic "boom" period. The period when the metropolis was known as "Marvellous Melbourne".¹

The riches of the goldfields, especially those at Ballarat and Bendigo, helped initiate four decades of commercial expansion and prosperity in the colony of Victoria. This "gold economy" blossomed from 1851, the year in which the Port Phillip District of New South Wales became the independent colony of Victoria.

The trade policy of protection was well developed by the 1880's and the colony was able to develop its economy on a rural, mineral and manufacturing base. By the 1880's Melbourne was the financial capital of Australia. Overseas finance, especially from the London investment market, poured into the colony and during this zenith of 19th century prosperity an extensive and complete transport system of cable tramways was established in Melbourne.

A Comprehensive Transport System

At a period when the daily wage of a labourer was 7/- (70¢) and when tradesmen such as carpenters received 11/- (\$1.10) per day, the co-ordinated cable tramway system was established at a cost of £1,671,966-4s-8d (\$3,343,932.47). If the feeder horse tramways at Hawthorn, Kew and the Zoological Gardens are added to this amount, as well as some adjustments made during the early operational phase of the system, the total investment reached £1,705,794 (\$3,411,588) for 47.456 double track miles (76.43 km) of 4ft 8½in gauge street tramway.²

The cable tramway system was controlled by two instrumentalities, the Melbourne Tramways Trust and the Melbourne and Omnibus Company. The Trust comprised representatives of 12 municipalities and this body was originally empowered to raise £1.2m under the Act to construct the tracks, the associated cable haulage gear and engine houses. These facilities were then leased to the Melbourne Tramway & Omnibus Company for 30 years.

This Company provided the rolling stock, car sheds, officers and operating staff and guaranteed 4½% interest on the Tramway Trust loans. The Company also contributed to a sinking fund to clear the entire debt over the period of the 30 years. Any losses were to be made good by the Company but profits could be dispersed as thought fit by the Directors of the M.T. & O. Coy.

In addition to the initial funds of £1,671,966 raised by the Trust, the Company raised £480,000 (\$960,000) in 10/- (\$1) shares to finance their portion of the establishment costs.

During the "boom" decade the population of Melbourne and suburbs almost doubled in size:

Year	POPULATION		
	City	Suburban	Total
1880	65,000	190,000	255,000
1890	72,000	400,000	472,000

Corporate Development

Francis Boardman Clapp arrived in Melbourne during the gold rush period of the 1850's and by the end of that decade operated country stage coach lines in Victoria with lucrative mail contracts. During the 1860's he requested permission to operate a horse tramway in Melbourne but the City Council would not grant authority for such an undertaking. Research suggests that some horse cars similar to the G.F. Train designed Sydney horse trams of 1861 were actually imported for an early Melbourne scheme.³

The Melbourne Omnibus Company was formed during 1869 with F.B. Clapp, Henry Hoyt and William McCullough as directors and commenced horse bus operation. Throughout the 1870's the horse bus network expanded but the Company was



An MT & O Coy Clifton Hill bus c 1885, prior to the introduction of cable trams on that route.

K. MAGOR COLLECTION

still keen to substitute horse tramways on the more heavily patronised routes. The Company was reformed in 1877 as the Melbourne Tramway & Omnibus Company Ltd with rail operations in mind.

Henry Hoyt formed the Victorian Tramway Company in 1881 to build a system of tramways based on the new cable traction technology. He gained the support of several municipal councils in this venture. Tramway construction was not encouraged at that stage by the Berry government as such a system would take passengers away from the then comprehensive, but still expanding, government owned suburban railway system.

A Tramway Bill was introduced into the Victorian Parliament by the M.T. & O. Coy. Ltd. in 1882. After lengthy debate and referral to a Select Committee the Tramway Act was finally passed in October 1883. The government of Bryan O'Loughlen was forced into an election in early 1883 and the new government, with James Services as Premier, and the champion of the tramway scheme Duncan Gillies as Minister for Railways, rapidly moved the Bill through the Lower and Upper Houses. Major opposition to the Bill was also reduced by the Victorian Tramway Company shareholders accepting shares in the M.T. & O. Coy. Ltd.

The Tramway Act of 1883 clearly directed that the tramways were to be operated by animal power, or by cable traction powered by stationary engines, or by such other power except steam locomotives. The problems being experienced with the steam tram system in Sydney at that stage had been emphasised in Parliament during the debate on the Bill so any attempt to use that form of traction was blocked.

During the late 1880's the Victorian economy progressed on a "boom" course. Banks and building societies lent money for land speculation generally accepting the false and inflated land value as security for the loans. As the land changed hands so the apparent value increased. Purchase options on large areas of subdivided estates were usually secured on the minimum deposits and profits were made by reselling these land options in a short time at a much higher price. So fortunes were made without outlaying much capital.

Overseas' finance flooded into the colony providing funds for such major public works expansion as railways, gasworks and tramways. By late 1890 land values levelled out. Those holding allotments on deposits were forced to find the full purchase price or enter into bankruptcy. This resulted in a rapid fall in land and property valuation. Over the next 2 years, as banks called in

overdrafts, respectable and less than respectable institutions and community leaders collapsed. This in turn caused a loss in confidence by overseas investors and their capital was withdrawn from Victoria as loans matured.

The initial expansion of the large cable tramway system in Melbourne from 1885 to 1891 proved to be the only construction phase. Routes planned for a second phase of cable tramway expansion were not established until 15 to 20 years later. By that stage the cable method of traction had been overtaken by electric operation in first costs and efficiency.

Social distress and unemployment reached extreme proportions during the 1892-3 period of the economy "crash" and it was not until 1898 that the colony was on the path to slow and sober economic recovery.

Planning and Construction

With the enactment of the Tramway Bill the Trust engaged George Duncan as engineer for the undertaking. This man had constructed more tram lines than any other engineer available at that time having then just completed the construction of cable tramways in Dunedin, New Zealand. G. Duncan travelled with F. Clapp overseas in 1884 to inspect the latest tramway technology. On their return to Melbourne plans were finalised to construct cable tramways along the heavily

patronised horse bus routes and horse tramways on the more lightly loaded runs.⁴

An extensive tramway system set out on the grid pattern was outlined in the Tramway Bill, but the first two routes selected for construction were along Flinders Street to Richmond, and Collins Streets to North Fitzroy and Victoria Bridge.

The first sod in the construction of the "Richmond Wire Rope Tramway" was turned on 1 January, 1885 and road excavation for track construction commenced on 12 January.⁵

The Richmond route of 3.5 miles extended from the Bourke Street corner of Spencer Street. The tramway followed Spencer, Flinders Streets, Wellington Parade and Bridge Road to terminate at Hawthorn Bridge, Richmond.

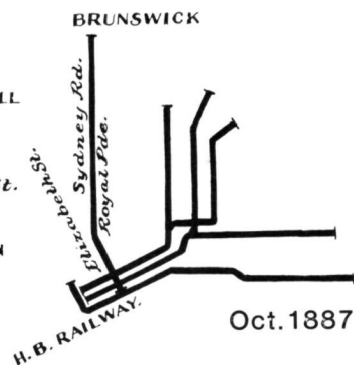
The track work was divided into three sections. The middle portion between Russell Street and Punt Road was let to tender first. A right angled track crossing at Swanson Street was included in the western contract for the intersection with the planned St. Kilda Road lines. The construction of these southern routes was delayed for three years pending the completion of the new Princes Bridge. The tender for this first section of cable tramway was let to Messrs. Thornton & Company for £10,550 (\$21,100).

The total cost of the Richmond tramway was expected to reach £100,000. Of this amount



An MT & O Coy bus bound for Clifton Hill and Northcote rounds the corner of Gertrude and Smith Streets, Collingwood c. 1885.

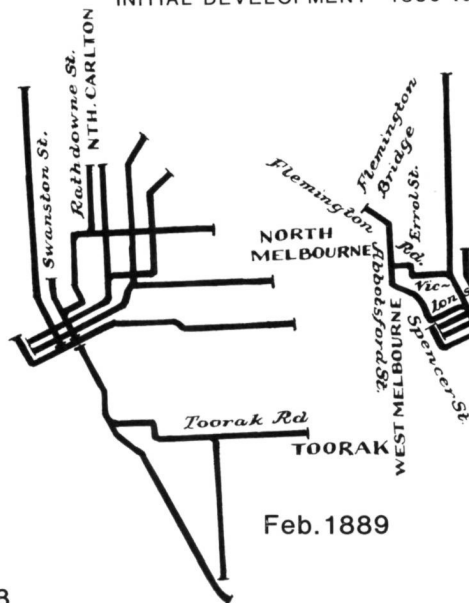
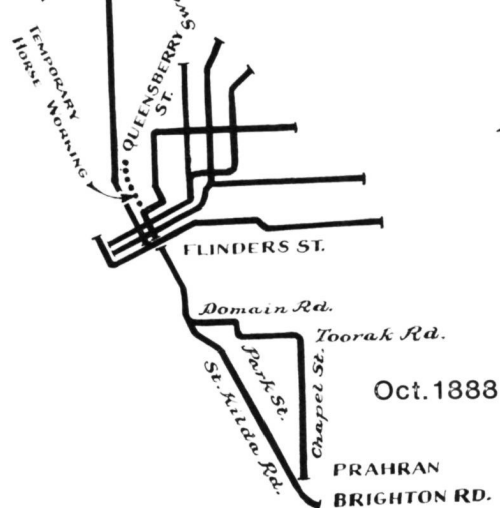
K. MCCARTHY COLLECTION



MELBOURNE CABLE TRAMWAYS

INITIAL DEVELOPMENT 1885 to 1891

K. MCCARTHY 5/85



£85,000 would be consumed in track costs. By January 1885 contracts of £67,000 had been let by the Tramways Trust. These included £15,732 to McEwan & Coy. for rails and £9,393 to the same firm for cement. The cable pulleys and sheaves were to be furnished by Langlands Foundry for £2,911, driving gear by Messrs. Wright and Edwards for £2,491 and wooden paving blocks by various contractors for £11,911.

The yokes which supported the rails to gauge, held the slot lip rails in position, supported the cable pulleys and generally formed a foundation for the permanent way were manufactured by Johnson & Coy. for £1,942. These yokes were spaced at 3ft intervals along the track.

Johnson of Yarra Bank forged these yokes from old 50lb tee rails obtained from the railways using a technique developed by tramway engineer George Duncan. Duncan calculated that cast iron yokes used on previous constructions had cost 10/6d (\$1.05) each. By fabricating these from

railway rail Johnson could produce 12 yokes per hour at 3.6d (35¢) each.

The initial system was to consist of 33 miles of cable tramway routes and 17 miles of horse operation. Horse traction was planned for feeder routes beyond the cable lines from Richmond to Auburn, Victoria Bridge to Kew and from Windsor to St. Kilda Beach.⁶ In addition horse haulage was planned for the Market Street lines to Port and South Melbourne as well as the West Melbourne and town of Hotham (North Melbourne) routes. Of these, only the West and North Melbourne horse cars would traverse portion of the cable tram routes, that along the southern end of Elizabeth Street.

In 1887 the success of the early operational stages of the cable system caused a policy change which resulted in the North, West, South and Port Melbourne lines as well as the Windsor to St. Kilda tramways being constructed for cable traction. Although the cable lines cost £23,000 per mile to construct as against £14,000 for double track horse tramways, running costs for the cable tramways, when compared with horse haulage, resulted in a saving of 35%. The Tramways Trust was authorised to borrow additional funds to enable these changes to take place while an extension of 9 months was approved in April 1890 in the construction timetable.

Melbourne Cable Tramways — Initial Development 1885-1891. *This series of maps shows the progressive commissioning of groups of lines. It should be kept in mind that the North Fitzroy line, for example, was opened a few weeks prior to the Victoria Bridge route, while the Clifton Hill tramway opened for traffic a short time prior to the Nicholson Street line.*



Workshops

The Melbourne cable tramways workshops were completed in January 1885 in Nicholson Street on a planned route to North Fitzroy which was not opened for traffic until August 1887.

A large two story building covering an area of 300ft x 84ft was built by the M.T. & O. Coy. for £5,000. At that stage the workshops were being geared up to construct grip cars and saloon trailers.⁷

Sample cars were purchased from the John Stephenson plant in New York. This order consisted of 20 eight-windowed saloon cable trailers and 4 six-windowed saloon trailers intended for the horse worked lines. The eight-windowed cars were adopted as standard pattern vehicles for the cable lines. Patterns and templates were constructed from these sample vehicles and almost identical tramcars continued to be manufactured at the Nicholson Street workshops until 1925.

These shops were under the management of Mr. W. Don who had been in charge of a similar establishment in the U.S.A. The "Argus" of 7 May, 1885 stated that the tramcars "bear a prepossessing impress of the mechanical skill and restless ingenuity of the Americans".



Stephenson trailer car No 20 on the Richmond tram on what is thought to be the first day of tramway operation, 11 November, 1885.

LATE W. JACK COLLECTION

Construction Progress

On 6 May, 1885 an official inspection was conducted of the tramway undertaking. H. Turner, Chief Manager of the Commercial Bank and John Shields, Acting Chief Manager of the City of Melbourne Bank, which were bankers for the Tramways Trust, were guests of the Trust and the Tramway Company.

This party toured the city in two horse-drawn vehicles lent by Mr. James Garton, a member of the Tramways Trust. The party inspected the Stephenson cars which were described in the press as resembling a railway carriage with doors at each end like Pullman cars. The other car, which was called a "dummy", was similar to an Irish jaunting car!

The planned tramway system was described as being the largest such scheme in the world belonging to a single proprietor. By May 1885 most of the tracks on the Richmond line were nearing completion while a visit to the Nicholson Street workshops revealed that 48 cars had already been completed down to the painting of the sign boards.

The press remarked that local firms did not possess the experience at that stage to manufacture the tramway components, but it was planned to use the imported items as samples on the initial route and these could be copied by home firms in the future.

The engines in the Richmond winding house were provided by Jessop & Sons of Leicester, England and these transmitted power to the cable winding sheaves through helical gears made by Johnson of Manchester, England. Helical gears were selected to reduce noise in the engine house and to remove the possibility of slip which could occur with belt drives.

The noise of this gear drive was a source of complaint from residents living near the Richmond winding house so belt drives were successfully used on all later installations.

The original cable or wire rope, 3½ in. (sic., actually 3⅞ in.) in circumference, was imported by agents Walker & Company from Messrs. Felton and Guillaume works in Germany. The reporter remarked that the breaking strain of the cable was 33 tons while the strain caused by 50 cars and

dummies on the Richmond line would not exceed 2½ tons.

With the exception of two short sections of track in Bridge Road, Richmond the tramway was ready to receive the cable by 5 October, 1885. On Saturday, 3 October steam was raised for the first time in the winding house located on the corner of Hoddle Street and Bridge Road. Two steam engines were situated in the engine house and these were tested at 50lbs per sq. in. which was half the normal working pressure. The effective horse power was rated at 350 hp but only 250 hp was required to work the tramway.

The Richmond winding engines were fitted with 24in. diameter x 48 in. cylinders and at a speed of 45 rpm the cable travelled at 6½ mph. Hartnell's patent expansion gear was used on the engines to automatically supply and cut back steam as the load demanded. Four Babcock and Wilcox water tube boilers provided steam at the winding house.

A problem emerged by mid October. The tramway shed being erected by the M.T. & O. Coy. at the eastern end of Bridge Road was found to encroach 31ft at the east end and 16ft at the western end onto the public thoroughfare. The Minster for Lands suggested that this problem

could be solved by permanently diminishing the width of the thoroughfare!⁸

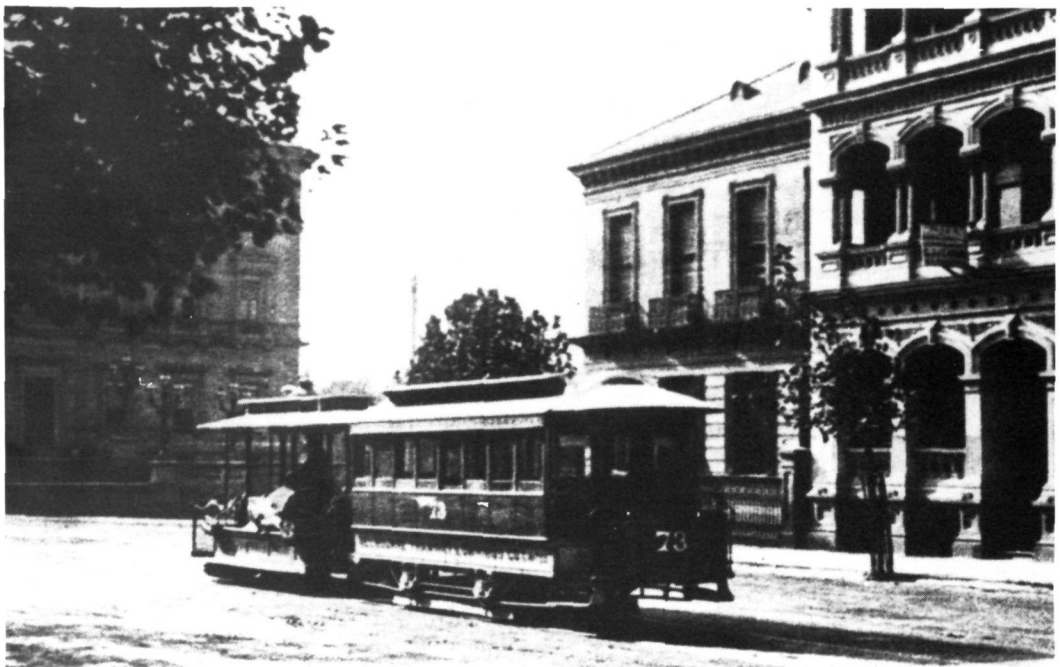
Threading the Cable

On Friday morning 23 October, 1885 the suburban end cable was successfully laid on the Richmond tramway. This cable or "rope" was 14,754ft long and weighed 10 tons-170cwt-3qrs-8lbs. The cable, which was coiled on a large roller at the rear of the engine house, was passed under the street and anchored to a grip car. This car was coupled to a heavy road dray to which ten horses were harnessed.

The contemporary report observed that bullocks would have been more suited to this haulage task as they gradually settle into the load, but horses were more readily available in Melbourne. The horse team moved off at 6.20am from the engine house and easily hauled the cable to the Hawthorn Bridge terminus. The cable had been drenched in oil to reduce friction.

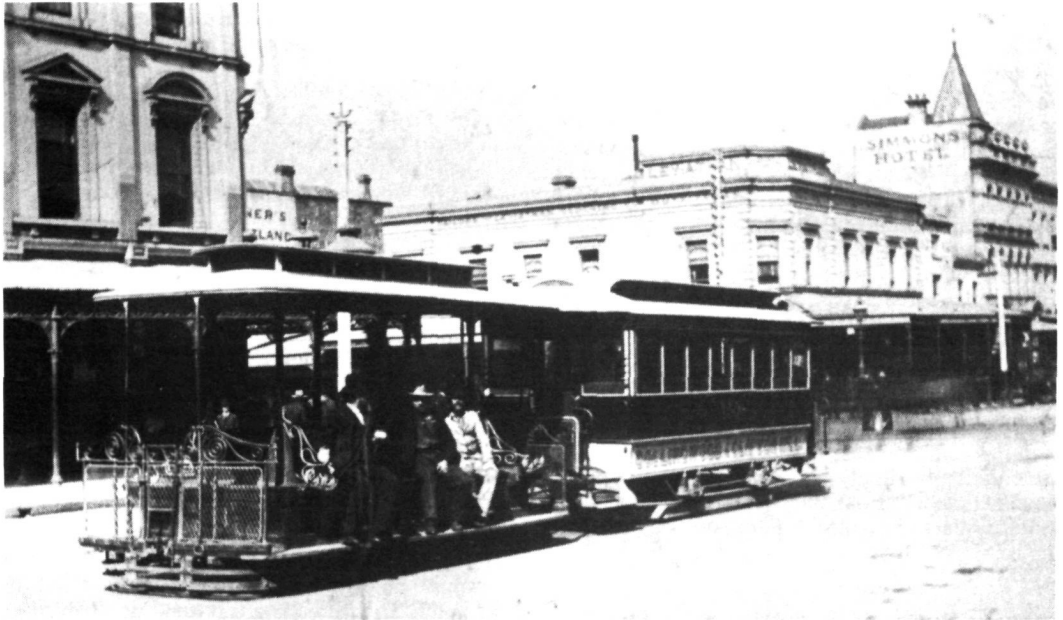
The cable was then passed around the large terminal pulleys which were 12ft and 9ft in diameter. This threading task took an hour, after which the team, now increased to 16 horses, commenced the return journey.

On the final grade approaching the engine house the grip car jammed in part of the track not yet



A North Fitzroy cable tram set showing trailer No 73 at the eastern end of Collins Street soon after the opening of the Collins Street routes in 1886.

C. B. THOMAS COLLECTION



A Clifton Hill tram with trailer No 152 has just crossed Swanston Street and is about to climb the rising grade eastwards along Bourke Street. 1887.

K. MCCARTHY COLLECTION

completed, causing a link to crack in the chain which connected the horses to the car. The return journey was completed, however, by 10 am.

While the cable was being threaded through the conduit, signalmen were stationed along the tram route in sight of each other. White flags were kept raised to indicate "all right" as the work progressed. If the horse team and grip car were required to stop, the signalmen raised the red flags.

To control the rate at which the cable paid out from the drum, a large lever brake was rigged against a flywheel on the cable store drum. The weight of five men was needed to control the flywheel as the cable was drawn through the down hill sections.

Some trial running was expected on the suburban rope on Saturday, 24 October, while the entire line could be available after the city cable was placed through the conduit on Monday 26th.⁹

The city end cable was laid as planned on Monday 26 October. This cable was 24,8700ft long and weighed 18 ton-6cwt-0qrs-9lbs. This task proved more difficult than the suburban end. Consideration was given to setting up a cable drum half way between the engine house and the city terminus so that this section could be treated in two portions and the ropes then spliced, but the same routine as used on the suburban cable was

adopted. The cable drum was again set up behind the winding house and rope drawn through the conduit in one stage.

The job was timed to commence at 3 am but due to overcast weather conditions action did not start for another hour at the first sign of daylight. The horse team experienced little difficulty until the Elizabeth Street corner in Flinders Street was reached. The job of laying the wooden blocks at the western end of Flinders street was incomplete and this prevented the team from making a direct pull. An auxiliary cable had to be placed in the conduit at this location to which the main rope was spliced. The team was then able to pull the main cable through to the Spencer Street terminus.

Fifteen horses were used on the return trip from Spencer Street and an additional ten men were added at the foot of the Jolimont Hill. The task was successfully completed but the team of 25 horses just managed to haul the cable up the final hill without stopping.

Flinders Street Tramway

The first cable tram ran through Melbourne on the following day, Tuesday, 27 October, 1885. On that occasion only one grip car and trailer set traversed the route, but a number of single grip cars were on the road to train the grip men in operating techniques for the opening of the tramway.¹⁰

The Richmond cable tramway opened for public traffic on Wednesday, 11 November, 1885. On that first day only five tram sets were in use and these provided a 15 minute service from 8.30am until 6.30pm. As the system gradually settled in to an operating routine, the Melbourne Tramway &

Omnibus Company planned to gradually increase the number of tramcars in service until all 20 trains were on the line providing a four minute frequency. At the same time the horse omnibuses would be progressively withdrawn from the Richmond route.



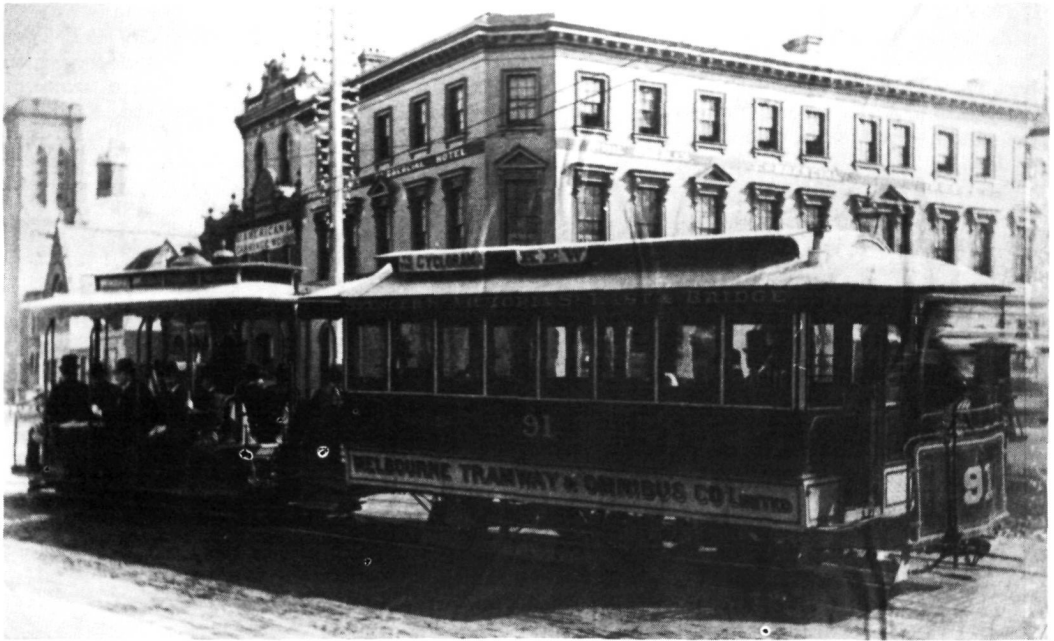
"Boom time" Melbourne. The spirit of the boom period is readily illustrated by the magnificent Federal Coffee Palace built during 1885-86 on the corner of Collins and King Streets. A grip car hauling trailer 62 to North Fitzroy is seen crossing the intersection in this 1887 view.

K. McCARTHY COLLECTION
POSSIBLY J. LINDT PHOTO



A tramway signalman controlling tramway traffic at the corner of Collins and Elizabeth Streets, c.1888. The building at the background was the City of Melbourne Bank on the south-east corner of the intersection.

K. McCARTHY COLLECTION



A cable tram with trailer No 91 from Victoria Bridge leaves the Victoria Parade cable and grips the auxiliary rope to turn across Brunswick Street into Gisborne Street on its trip to the City. Phil O'Neill's Commercial Hotel in the background was built in the late 1860's and carried such names as the Belvedere, Commercial and Eastern Hill Hotel. c 1888.

K. McCARTHY COLLECTION, POSSIBLY J. LINDT PHOTO

The new trams stopped at all corners and where required in the centre of city blocks. The through fare was 3d. with a special city section of 1d. between Flinders and Spencer Streets stations. The conductors were issued with a bell punch. When the passenger tendered the cash, the conductor would punch a trip slip pinned to his jacket with the punch. The sound of the punch bell would inform the passenger that the fare had been registered. The punch holes on the trip slip indicated the number of fares collected on that trip for accounting purposes while the punched pieces collected in a receptacle in the bell punch could be labouriously counted if further checking was required.

Night operation on this pioneer route was not introduced for a further three weeks until the full fleet of trams were in service. At the start the speed of the cable was held back to 6½ mph to match the horse omnibus speed, but this was increased as the grip men and the public became used to the new service.

The Richmond line engine house stood at the corner of Hoddle Street and Bridge Road, East Melbourne. The winding gear powered two cables:

1. 24,870ft, serving the city section, to Spencer Street.
2. 14,754ft, serving the suburban section to Hawthorn Bridge.

A. S. Hallidie — Inventor of the Cable System

On Monday, 9 March, 1886 the members of the Tramways Trust joined with the chairman and directors of the M. T. & O. Coy. in welcoming Mr. Andrew Smith Hallidie to lunch at Scott's Hotel.¹¹

A. S. Hallidie was the inventor of the cable tramway principle having constructed the Clay Street Hill Tramway in San Francisco. Hallidie applied the mine cable haulage system to street tramways and this first application opened for public service on 1 September, 1873.

Hallidie formulated his ideas after seeing horse teams struggling up steep San Francisco hills hauling heavy omnibuses during 1869.

Speaking at this Melbourne dinner Hallidie gave an account of the first slow period of expansion of his cable principle followed by the more rapid growth during the 1880's. At that stage

the Richmond cable tramway in Melbourne had been in public operation for four months and work was well advanced on the construction of the Collins Street cable routes.

Hallidie compared the Melbourne cable system with the steam tramways of Sydney. He stated that 100 steam motors of 14 tons weight each would be required to ascend Melbourne's hills had that mode been adopted, for the entire planned Melbourne network. Had the Sydney system been adopted Hallidie predicted that the Melbourne Company would be £20,000 behind in the interest payment account and there would be little chance of paying yearly dividends. The best frequency which could be provided by steam motors would be one of 15 to 30 minute intervals. Steam motors should be limited to that of an auxiliary service to a better system. A higher fare structure would be required in Melbourne to enable a steam tramway system to pay at the same rate as the cable cars.

Had a horse tramway system been adopted in Melbourne 400 cars and 4,400 horses would have been required to carry 40 million passengers each year. This figure seemed excessive at that stage, but it was exceeded in 1889 when five further cable lines of the complete system had yet to open for traffic.

Dr. Liantard, head of the American Veterinary College of New York was quoted by Hallidie in illustrating the problems that this number of horses would cause on Melbourne streets. Each day 4,400 horses would deposit 46,200lbs of manure and 19,300 gallons of liquid onto the city streets, or respectively 7,528 tons and 7,066,150 gallons per annum. In addition, the wear and tear of horses' hooves on the wooden blocked road surfaces between the rails would remove 3/8 inch of timber each year yielding 10,000 cu. ft. of vegetable fibre into the atmosphere!

Hallidie predicted that the cable system would spare the residents of Melbourne all these worries and provide a reliable and quiet public transport system with a very frequent service.

The Overall Scheme

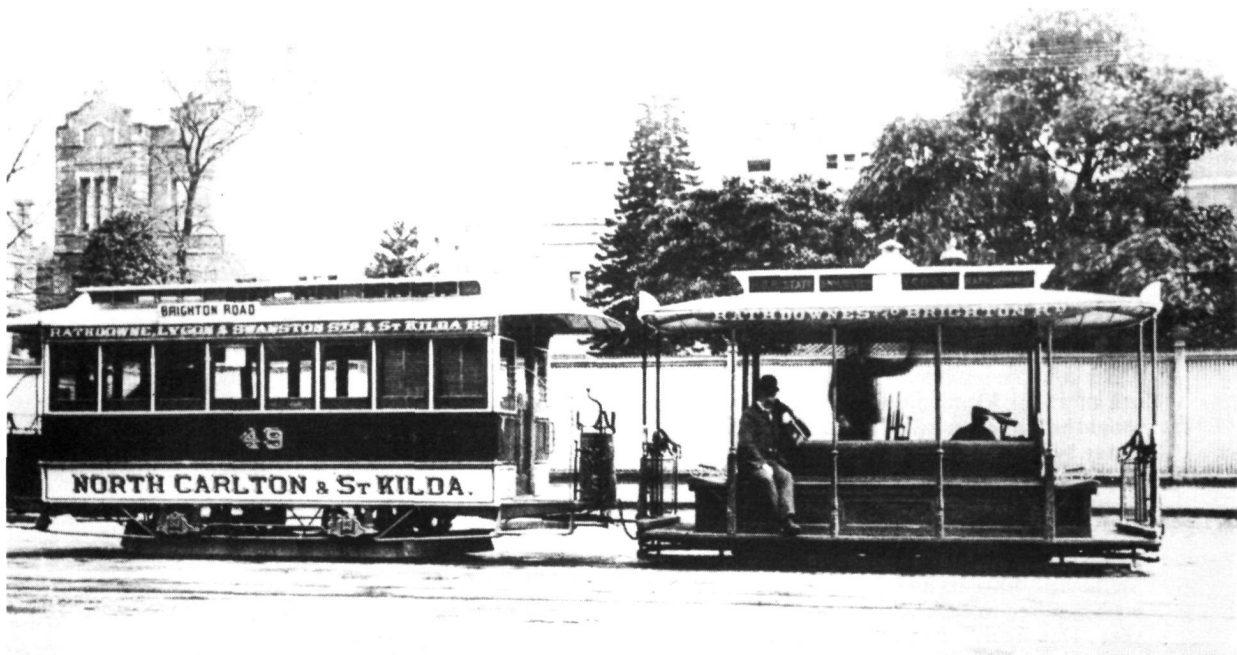
Although the overall M. T. & O. Coy. scheme provided for a comprehensive co-ordinated cable tram system, the network in its original form resulted in eight independent tramways reaching the suburbs from these thoroughfares:

1. Flinders Street
2. Collins Street
3. Bourke Street
4. Elizabeth Street
5. Swanston Street



A Bourke Street cable tram is working on short service to the Exhibition Building during the 1888 Exhibition. The handsome Grand Hotel and the 1886 addition to the Princess Theatre can be seen in the background.

V. SOLOMONS COLLECTION



A North Carlton bound tram in Lonsdale Street near Swanston Street c 1892. Trailer 49 is now preserved at the TMSV Museum at Bylands carrying its later unified fleet number 299.

K. MCCARTHY COLLECTION

- 6. St. Kilda Road
- 7. Market Street
- 8. St. Kilda Esplanade

Early in the M. T. & O. Coy's operational period, connecting curves and through routing reduced these to five isolated undertakings, while for a short period in the 1920's a further physical connection with through routing reduced this number to four isolated networks.¹²

Collins Street Tramway

By May 1885 tenders to the value of £180,000 had been called for the construction of the Simpsons Road (Victoria Bridge) and Fitzroy (North Fitzroy) lines.¹³

The common city track commenced at the western end of Collins Street at Spencer Street. The entire length of Collins Street was traversed and then the route traversed Gisborne Street to Eastern Hill where the two routes diverged at the winding house located at the corner of Brunswick Street and Victoria Parade.

The Richmond line winding house had only worked for 15 days on running trials when the Tramways Trust had to consider complaints made by residents near the Hoddle Street engine house concerning the smoke nuisance and noise. As a result of these complaints the engine house



The tram crew can be seen lifting the cable into the grip with the roadside lever at the Clifton Hill terminus prior to departure for the City. The level crossing with the inner circle railway is located just behind the tram with the Merri Creek bridge at the foot of the hill. The separate Northcote cable tram made an end on meeting with the M. T. & O. Coy. trams at this point and travelled up the High Street hill to Preston. c 1900.

V. SOLOMONS COLLECTION

chimney at Victoria Parade was raised from 120ft to 150ft during construction and all winding engines built after the pioneer installation on the Richmond tramway used rope transmission belts in place of helical gears.¹⁴

Throughout September, 1886 trial operations were conducted on the Collins Street to North Fitzroy tramway. The line opened for public traffic on Saturday, 2 October, 1886 with a full service to North Fitzroy. The new terminus was planned in St. Georges Road at the Brennand Street (now Park Street) intersection beyond the horse bus route. When opened for traffic the tramway had been extended two blocks further north to Holden Street where the car shed was constructed.¹⁵

The horse buses released by the new tramway were transferred by the M. T. & O. Coy. to two new routes which were to later receive tramways under the comprehensive scheme; from the City of North Carlton via Rathdown Street and from Prahran to St. Kilda Beach.¹⁶

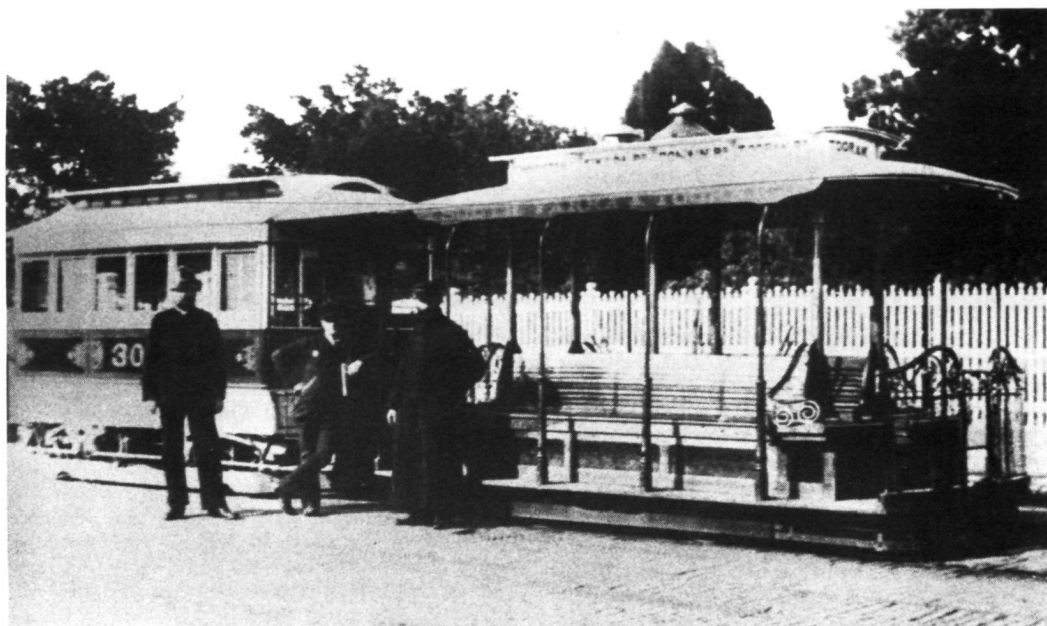
The special 1d. fare available on the Richmond tramway between the Flinders Street and Spencer Street stations was not repeated along Collins Street. The M. T. & O. Coy. stated in a press release that the 1d. fare would encourage too many passengers on what was expected to become the most heavily used thoroughfare in the city.¹⁷

After successful running trials conducted along the Victoria Street tramway on Friday, 19 November the line opened for public traffic on the following Monday, 22 November. This brought the Collins Street thoroughfare up to full tramway traffic frequency. The new route branched eastwards from the North Fitzroy tramway at the engine house and followed Victoria Parade and Simpsons Road (Victoria Street) to Victoria Bridge where the car shed was located on the southern side of the terminus.

This tramway used the northern carriageway for both down and up tracks in Victoria Parade. The centre plantation was kept clear of traffic for another 40 years until the conversion to electric traction.¹⁸

The Fitzroy engine house powered four cables:

1. 16,920ft, serving the city section to Spencer Street.
2. 22,680ft, along Brunswick Street and St. Georges Road to Holden Street.
3. 22,380ft, along Victoria Parade to Victoria Bridge.
4. A short auxiliary cable around the reverse curve across Victoria Parade from Gisborne to Brunswick Streets.



A grip car hauling Stephenson trailer No 30 is seen here on the Toorak line in 1889 when the St. Kilda Road routes terminated at Flinders Street. Car 30 is a short six-window type imported as a sample car from USA in 1885 for the proposed horse-worked tramways.

K. MCCARTHY COLLECTION



An outward bound tram crosses St. Kilda Junction to climb High Street on the final part of its journey to Brighton Road. The tracks curving to the right were installed in 1897 to allow the St. Kilda Beach trams to work through to the City. c.1900.

K. MAGOR COLLECTION

Bourke Street Tramway

The next city thoroughfare to receive cable tramways was Bourke Street. Two routes were constructed, to Nicholson Street, North Fitzroy and Clifton Hill via Collingwood.

The trial trip was made over the Clifton Hill tramway on Tuesday, 3 August, 1887 and the system was found to be in perfect order. Later that day the members of the Tramways Trust made an official inspection journey over the tramway and on returning to the engine house at Gertrude Street they drank a toast to the good health of the machinery contractors, Messrs. Wright and Edwards.¹⁹

This route provided the first crossing of two lines, at the corner of Brunswick and Gertrude Streets, Fitzroy. As the cable was to operate at full speed from the opening, and not at a reduced rate as was the case at the opening of the Flinders and Collins Streets routes, only experienced men were rostered to work on the new tramway.

The M. T. & O. Coy. intended opening the Bourke Street line on Monday, 8 August, 1887 but due to various problems this had to be postponed until Wednesday, 10 August. Several trams ran over the route on Monday, 8 August but a full service was not provided. On the following day a large guide wheel at the Gertrude Street engine house fractured early in the morning isolating a number of trams along the line. These had to be

hauled back to the Clifton Hill car shed by horses.

A duplicate wheel was fitted into place on Tuesday and after a successful trial conducted at 7 am on Wednesday, 10 August the Bourke Street to Clifton Hill tramway was opened to public use at 8 am.

Police kept special watch on the busy city intersections at Elizabeth and Swanston Streets while inspectors accompanied the grip men across the cable change sections outside the engine house at the corner of Nicholson and Gertrude Streets. In addition, flagmen were positioned at the right angled crossing with the Brunswick Street line in Gertrude Street and at the sharp curve at the Gertrude and Smith Streets intersection.

The car shed serving this route was constructed on the western side of Queens Parade at the terminus.

The Nicholson Street line, which extended northwards from the Gertrude Street engine house to Park Street at the inner circle railway, opened for traffic on Tuesday, 30 August, 1887 without any problems. The car shed stood on the eastern side of Nicholson Street near the terminus at Liverpool Street just north of the tramway workshops.

The M. T. & O. Coy. announced on 31 August, 1887 that over the previous nine months 99 grip cars and 116 saloon trailers had been constructed



A Clifton Hill tram at the left climbs from Spring Street into Nicholson Street while a Nicholson Street tram with trailer No.108 passes the Parliament House before turning into Bourke Street. c.1905.

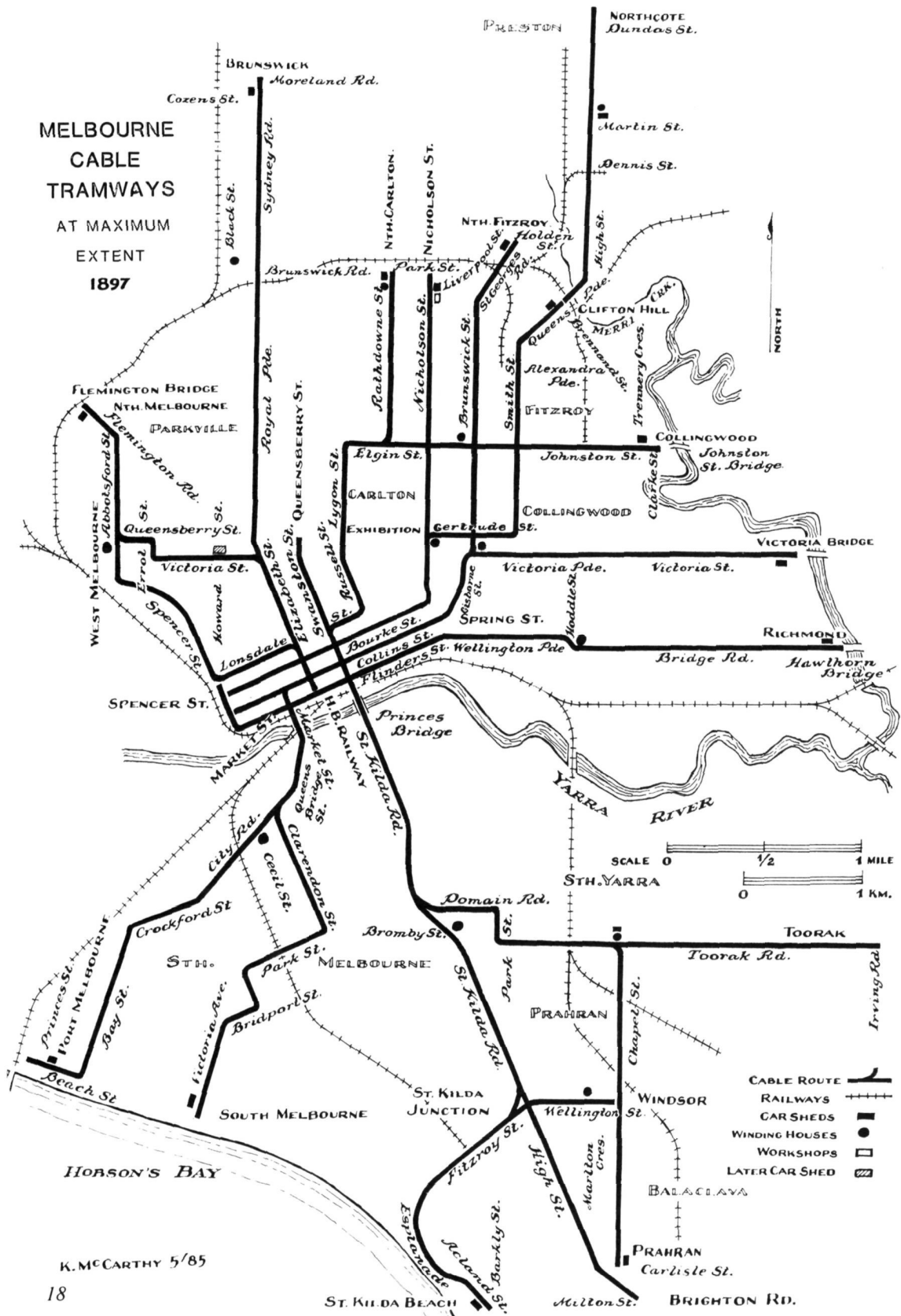
V. SOLOMONS COLLECTION



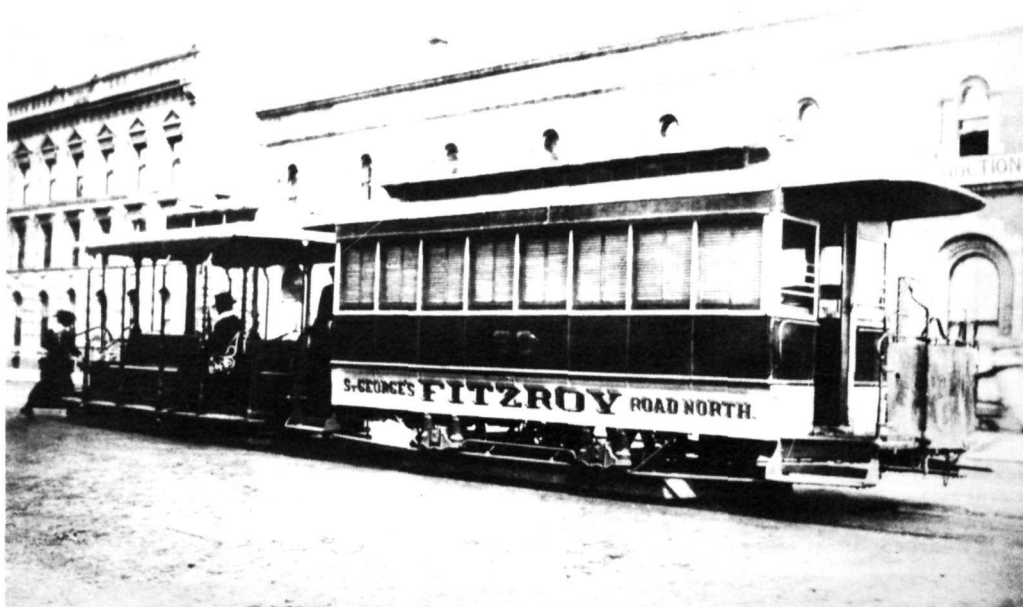
City bound passengers change from the Kew horse tram into the Spencer Street cable cars at Victoria Bridge terminus c.1904.

"THE AUSTRALASIAN" PHOTO (1-10-1904)
C. B. THOMAS COLLECTION

MELBOURNE
CABLE
TRAMWAYS
AT MAXIMUM
EXTENT
1897



K. MCCARTHY 5/85



A North Fitzroy cable set with Trailer No.60 stands in Collins Street at the Spencer Street terminus awaiting departure time. c.1905.

ARHS NSW Division Archives

by the Company in the Fitzroy workshops for the new services.²⁰

The Gertrude Street winding house powered four cables:

1. 12,780ft, on the city section along Bourke Street to Spencer Street.
2. 23,880ft, through Collingwood to Clifton Hill.

Melbourne Cable Tramways — at maximum extent 1897. *This map shows the cable routes in 1897 after the Market Street line was connected to Collins Street and the St. Kilda Junction curves were constructed. This situation remained until February 1924 when the Swanston Street cable line beyond Lonsdale Street to Queensberry Street was closed and a connecting link between Swanston and Elizabeth Street along Lonsdale Street commissioned.*

Prior to April 1892 it seems that a single track connection curve existed around the SW corner of Market and Collins Streets. Another connecting curve, which saw little if any use, was one around the SW corner of Chapel Street and Wellington Street, Windsor. This was constructed to enable trams to work from the Prahran terminus at Carlisle Street to St. Kilda Beach via Windsor and St. Kilda Junction.

3. 19,080ft, northwards along Nicholson Street.
4. A short auxiliary cable powered the curve for the Clifton Hill trams from Nicholson Street into Gertrude Street.

Elizabeth Street Tramway

By early August Messrs. Mitchell and Watson, the contractors for the Brunswick Tramway were completing the last portion of track construction outside Brunswick Town Hall in Sydney Road.²¹

Initially only one cable service was planned along Elizabeth Street; a 4.5 mile tramway from Flinders Street to Moreland Road in Sydney Road. On 11 October, 1887 however, details were released concerning the decision to build the proposed horse tramways to Hotham Town (North Melbourne) and West Melbourne for cable traction. The change in route for the West Melbourne tramway was also decided upon at this stage. That tramway was to branch from the Elizabeth Street tracks to Lonsdale Street and not at Latrobe Street as originally planned.

Following the handing of the Brunswick line to the M. T. & O. Coy. on Friday, 30 September, 1887 eight tramcars operated on driver training trips along the entire route. Regular services commenced on the following day, Saturday, 1 October, 1887. An accident caused interruptions

to traffic on that occasion. While shunting at Flinders Street a gripman failed to release the grip in time causing a strand from the damaged cable to foul a pulley. The cable was stopped so that temporary repairs could be made at the site of the fault and the rope was stopped again later at the engine house so that permanent repairs could be made,

The Brunswick engine house was located in Brunswick Road West at Black Street, behind the Sarah Sands Hotel, a little distance from the actual tramway route. Two cables were powered from that location:

1. 16,698ft, to Brunswick terminus at Morelands Road.
2. 31,620ft, to Flinders Street along Elizabeth Street.

This latter cable was the longest in the Melbourne system but was later shortened to 22,700 ft when the North Melbourne rope was positioned along Elizabeth Street south of Victoria Street.

The car depot was located on the western side of Sydney Road at Cozens Street just south of the terminus.

The North Melbourne cable to Flemington Bridge was laid by contractors Warr & Coy. on 19 February, 1890 under the supervision of tramway engineer Duncan while the city end cable from the winding house to the corner of Victoria Street and Elizabeth Street was threaded through the vaults on the following day.²²

The running trials on the North Melbourne branch line took place on Friday, 28 February, 1890. The construction of both the North and West Melbourne branches from Elizabeth Street took longer than expected due to the need for excavations to be made under the Elizabeth Street tramway at the junctions for large cable sheave vaults. This work had to be carried out while the Brunswick trams continued to operate along that thoroughfare.

Junction arrangements had been constructed on other routes during the initial building period but



Stephenson trailer car No.4 is ready to depart from the Swanston Street intersection along Flinders Street to the Spencer Street Station terminus. The sign on the telephone pole reads "Take tramcars here for Spencer St. Fare 1d. South and Port Melbourne cars by Transfer — Market St. Fare 3d." Construction work has commenced on the new Flinders Street Station which dates this photo as c.1906.

C. B. THOMAS COLLECTION



Trailer 103 on an inwards bound Nicholson Street tram passes a Clifton Hill cable train in Bourke Street outside the Eastern Market in this c.1908 view.

K. MCCARTHY COLLECTION

this had not been carried out in Elizabeth Street as both branches had been planned for horse traction.

On Friday evening 28 March, 1890 an unusual accident occurred, partially brought about by the need to have large street excavations while the Brunswick tramway continued to operate. At 8pm a horse with its cab disappeared down the large excavation on the corner of Elizabeth and Lonsdale Streets made for the West Melbourne terminal pulley. The horse was badly injured and bled to death while the driver had fallen off the vehicle. The two passengers could not be found! The report stated that cab driver Hannah claimed that there were no lights around the excavation while the tramway authorities argued otherwise!²³

The North Melbourne winding house stood at the corner of Abbotsford and Queensberry Streets and powered three cables:

1. 17,422ft, from the corner of Elizabeth and Lonsdale Streets to the West Melbourne junction.
2. 12,919ft, from the winding house to Flemington Bridge terminus.
3. 10,889ft, to the junction at Elizabeth and Victoria Streets. This was later extended to

20,000ft to the city terminus at Flinders Street.

The North Melbourne tramway opened for traffic on Monday, 3 March, 1890 but the double track turnout at the corner of Victoria and Elizabeth Streets gave some initial trouble causing delays to all Elizabeth Street services.

The West Melbourne route opened on Friday, 18 April, 1890. This was a lightly patronised route and for the first decade of service the small six-windowed trailers, originally planned for horse drawn traffic, were mainly used on this line. For three years the West Melbourne cable cars travelled along Abbotsford Street and Flemington Road to Flemington Bridge, thus sharing an identical outer end route as the the North Melbourne cars. In the interests of economy the West Melbourne trams were truncated to a terminus at the corner of Abbotsford and Queensberry Streets from 16 August, 1893 leaving the North Melbourne cars to serve the outer service alone during the depressed 1890's.

The West Melbourne tracks traversed Lonsdale, Spencer and Abbotsford Streets to the physical connection with the North Melbourne line. The North Melbourne tramway left Elizabeth Street at Victoria Street and then used Errol,

Queensberry, Abbottsford Streets and Flemington Road to a terminus at Flemington Bridge near Boundary Road. The car shed stood on the southern side of Flemington Road at the terminus, both West and North Melbourne dummies and trailers were housed in this depot.

. . . . TO BE CONTINUED

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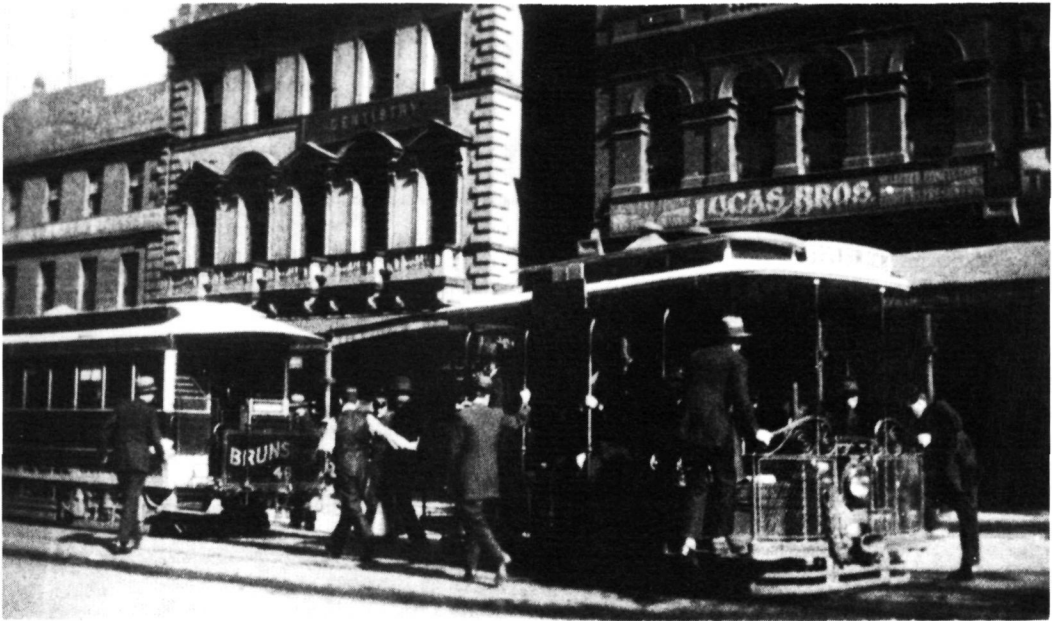
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 14. "Argus" 14-11-1885, p.6.
 15. "Argus" 13-1-1885, p.9. The reporters seemed to confuse the route of the northern end of the North Fitzroy line with the proposed route of the Clifton Hill tramway. The former terminated in St. Georges Road and the latter in Queens Parade (Heidelberg Road).
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 20. "Argus" 31-8-1887, p.7.
 21. "Argus" 10-8-1887, p.5; 11-8-1887, p.5; 31-8-1887, p.5; 1-10-1887, p.5; 3-10-1887, p.5.
 22. "Age" 21-2-1890, p.4; 25-1-1890, p.4. "Argus" 21-2-1890, p.5; 4-3-1890, p.5; 27-2-1890, p.7.
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The conductor of a Collingwood and Clifton Hill tram poses at the Bourke Street terminus c.1910. The trip slips punched by the "bell punch" machine to record fares received are clearly seen pinned to the conductor's jacket.

ARHS NSW DIVISION ARCHIVES





The Brunswick grip car is shunted by hand onto bogie trailer No.46 at the Flinders Street terminus of the Elizabeth Street line c.1920. This large trailer was constructed by splicing two six-windowed cars together.

ARHS NSW Division Archives



A Brunswick tram consisting of bogie trailer No.184 is about to cross Collins Street as it moves southwards along Elizabeth Street to the City terminus at 12.55 p.m. on a c.1915 day. Motor car traffic is just making itself prominent at this time.

V. SOLOMONS COLLECTION

HERE AND THERE

NEWS ITEMS OF INTEREST FROM ALL OVER

Glenelg Tramway News

Redevelopment of Moseley Square has almost been completed. A new tram shelter and seat has been erected on the island platform between the tram tracks. New span poles have been erected alongside each track and will replace the present poles which require wire to be strung across the Square.

Bracket arms have been completed on the new centre poles at Morphetville, and the overhead wiring repositioned. The new bracket arms and poles are somewhat more simple in appearance compared to the ornate centre poles which graced King William Street for fifty years.

The tie lines linking the substations along the tramway have recently been altered to DC current instead of AC current.

More new station name boards have been placed at stops along the line. Recent additions include Morphet Road, Miller Street and 4th Avenue.

Car 351 has been repainted to conform with other cars in the fleet. This car was refurbished in 1979 to an almost identical appearance to that used when it inaugurated services in the line in 1929. End window frames were entirely tuscan red while side windows had deep cream frames. The yellow car numbers stood out boldly in the centre

of the end dashes. Car 351 now sports standard cream window sashes and the car numbers appear on the dashes below the right-hand headlights.

Victor Harbor Horsetram to Re-open

There is good news for holidaymakers to South Australia this summer. After a gap of thirty years the Victor Harbor to Granite Island horse tramway is to re-open from 1 January 1986. A CEP grant has been received to relay the 5 ft 3 in gauge track and construct four cars based on the original 1879 design. It is planned to run the trams every day of the year. Further details will appear in these pages as they become available.

Errata and Corrigenda — June 1985 issue

Page 5

First line should read "cars (nos 171-190) . . ."

Under Mack Motorbuses: line 5 should read "40 Mack vehicles" while line 8 should show "39 were constructed".

Page 14

Third paragraph should read "an order for 90 buses was placed . . ."

Table on Page 15

The numbers of the Mack buses should be 51-90. Finally, the photo captions on pages 26 and 27 have been reversed.



One of the new span poles with brackets at Morphetville. The car is 358 bound for Glenelg.

P. SHILLABEER



The terminus at Moseley Square, Glenelg before the tramway area was paved. The up and down tracks merge in the foreground to form the stub terminus where car 375 waits. The emergency siding swings off to the right.

P. SHILLABEER



The Mosely Square terminus after paving around the tracks had been completed.

P. SHILLABEER

C.O.T.M.A.



Council of Tramway Museums of Australasia

1986 C.O.T.M.A. CONFERENCE

The Australian Electric Transport Museum is the host Museum for the 1986 Conference of the Council of Tramway Museums of Australasia to be held in Adelaide from 26 to 29 September inclusive, 1986.

The venue for the conference is the Hilton Adelaide Motor Inn, 175 Greenhill Road, Parkside, where the conference facilities and accommodation are to be commended.

As 1986 is South Australia's 150th Jubilee year, accommodation is at a premium. The AETM have secured a limited number of rooms (share basis) and an initial deposit of \$20 per person is required immediately.

Total cost of the conference, including accommodation, all meals (including Official Dinner), stationery and transport to attractions is expected to be \$280 per person.

Provision has been made for families to be taken on tours of some of Adelaide's attractions while the conference is in session, so this conference will be a chance for families to share a holiday together.

Proposed Programme

In an effort to break away from the formal mundane topics of discussion a new and varied approach is planned. The AETM hope their

enthusiasm will herald a reciprocal response from COTMA members.

"Museums through the eyes of the Public"

Section A:

Presenting ourselves before the Public.

- *Displays *Rolling Stock *Promotions
- *Grounds *Special Features *Publications

This is planned as a "Share and Workshop" segment.

Section B:

Tramway Museums as Museums

- *Membership *Operations – General Public
- *Charters – Schools and Social Studies Course
- Senior Citizens Clubs – Nostalgia
- Miscellaneous Clubs – Social Outing

Guest speakers will provide specific information relating to the needs of each respective group.

Section C:

At a risk of repeating Ourselves

- *Don't be a "Ding-a-ling", work safely
- *Can you drive, of Connie?
- *Trackwork *Overhead *Legal Matters
- *Insurance *Restoration

Any enquiries can be directed to the Secretary of the AETM, Mrs Bev Smith, GPO Box 2012, Adelaide 5001.

LOFTUS . . .

South Pacific Electric Railway

New Site

A start was recently made on extending the wire boundary fence toward Loftus Junction and this work has now been virtually completed, thanks to Derek Butler and his occasional assistants.

The construction of the diamond crossing, where the triangle curve onto Cross Street crosses the connection to Road 4, is progressing well and

the check rails are now being fitted. The crossing is being constructed in situ by Mike Giddey and Wayne Armitage, under the supervision of Bill Denham and is an impressive piece of trackwork.

The boring task of drilling holes in the running rails of the curve by hand is progressing slowly, with work on this project being carried out as time



permits. On completion of this work the check rail will be fitted to the inside rail.

More excavating has been carried out in preparation for the laying of the remainder of the drainage system to rid the site of the large pools of water which always seem to be around. Subject to Council approval, the work could be completed by mid October.

The concreting of Roads 2 and 3 of the depot fan was carried out on 3 August and will make it much easier to move the buses in and out of the shed once filling of the tracks to the top of the rails is completed.

Three old rail motor bogies were recently purchased from the State Rail Authority of NSW for use as shop bogies in our future workshop. A scrap charging buggy has also been obtained from Australian Iron & Steel, also for eventual use in the workshop.

Old Site

Restoration of L/P 154 is progressing well, with new kick boards having recently been fitted. Invaluable advice on the correct colours and their location on the car has been received from Bill Lacrosse and the repainting of the exterior of the car will soon be completed.

Some lopping of dead tree branches has been carried out by Rover Scouts under the guidance of David Critchley, and supervised by Ben Parle.

A concentrated effort is being made to clean up the old site and the wheel wheel and axle sets, and the other miscellaneous item which previously filled the substation yard, were moved to the new site on 3 August, along with parts of the wheel lathe.

Hand brake staffs, coupling bars and NSWGT transfers were also located and despatched to Ken McCarthy for use in the restoration of cable trailer 23, which is now at an advanced stage.

Annual General Meeting

The 1985 Annual General Meeting was held on Friday, 29 June at the Transport Institute. No election was necessary as the only nominations received were from the four retiring Directors who were declared as being appointed for another two years.

A report on past, present and future development at the new site was presented by David Rawlings.

The Board of Directors is as follows:

Robert Cowing	Chairman
Howard Clark	Financial Director
Trevor Glenn	
Richard Jones	Honorary Secretary
Peter Kahn	
William Parkinson	
David Rawlings	General Manager & Deputy Chairman
Bennet Parle	Hon. Life Director
Norman Chinn	Hon. Life Director
Kenneth McCarthy	Hon. Life Director

Waverley Bus Depot 25th Anniversary

On 29 June, 1959 the Ocean Street tram route was converted to bus operation and Waverley Tram Depot was closed for conversion to a bus depot, with Bronte Beach and North Bondi lines being transferred to operate from Dowling Street Depot for their final eight months.

Waverley Depot re-opened in 1960 as a bus depot and on 13 July, 1985 the Society participated in the celebrations organised by the Urban Transit Authority of NSW to mark the 25th anniversary of the re-opening.

The event was most successful and there is little doubt that our P class car 1497, which was loaned to the UTA and transported to Waverley for the occasion, was the star attraction. Our thanks are extended to Vic Solomons for making the most of the arrangements associated with the Society's involvement, and to Doug Greenwald, who was on hand to supervise the loading, departure, return and unloading of the car at the old site. We also thank Doug for being on hand at Waverley to keep an eye on the car and to control the many people who wanted to jog their memories of the tramway era.

Thanks are also extended to the members who manned our sales stand at the depot, which grossed almost \$1060. It was unfortunate that stocks of some item ran out otherwise this amount would have been greater.

1497 was returned to the old site due to a shortage of trafficable cars, and was placed back on our tracks on 15 July. After being given a routine check by Bill Parkinson and Richard Youl on Saturday, 20 July the car was handed back to the traffic staff and now performs much better than before it went away. Perhaps the trip back to its old home was as good as a holiday for the sprightly 63 year old car.

King Street Cable Car No. 23

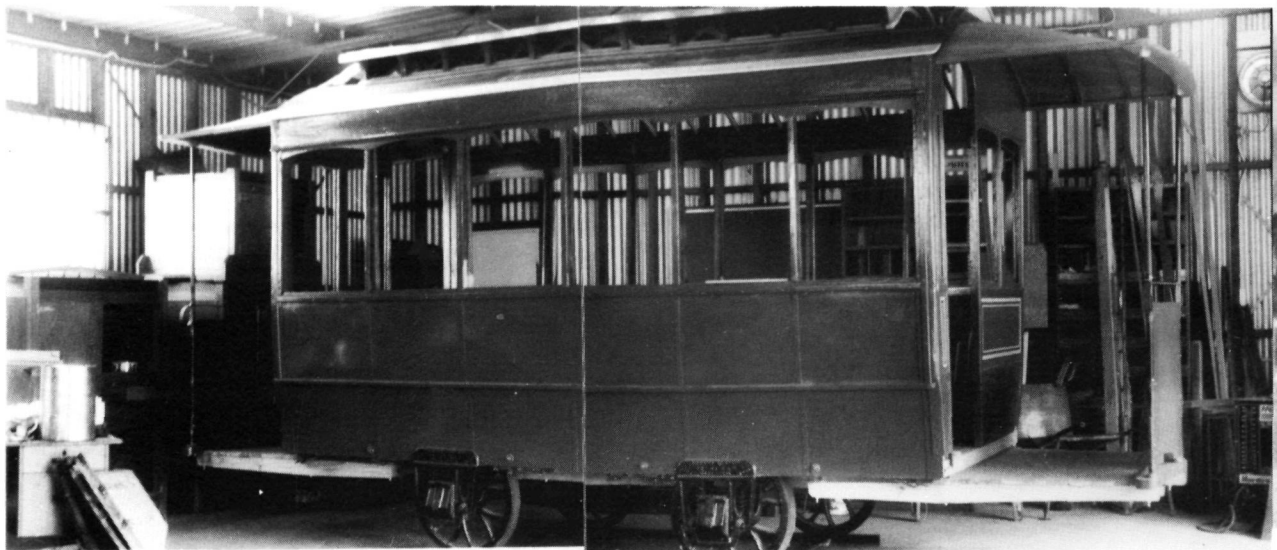
As "Trolley Wire" readers are aware, the restoration of former King Street cable trailer No. 23 at Warrawong High School has been part of an elective subject "Historic Restoration" within the alternative trial senior course for Year 11 and 12 students who wish to remain at school beyond the minimum leaving age. These students elect to undertake courses which assist employment opportunities rather than the more academic HSC courses.

The group consisted of 24 students at the start of 1984 of whom 12 elected to participate in the "Historic Restoration" course of 2 hours each week. Of the original group of 24 students only 9 remain after 18 months. All except three of the fifteen students who have left the course have obtained employment or entry to TAFE courses which were not available to them at the end of Year 10 in 1983. These results are an encouraging success rate for the course, but of the original 12 involved in the restoration of the tramcar only 4 students remain! These four, however, have maintained their dedication and enthusiasm and the rapid restoration pace has been maintained due to their increase in confidence and experience.

During June and July the complicated and detailed work around the clerestory roof was completed and by mid July the ceiling slats on one side of the roof and the new "turtle back" ends above the end saloon bulkheads reached completion. The ceiling-roof work has proved more complicated than first expected, but the entire roof section, which includes the construction of some new rebated and beaded ceiling strips, should be completed by the end of the winter term in mid August.

By early July the new end apron components were fitted into position and the hand brake goose neck staffs were placed in position by the middle of the month. The tramcar was originally fitted with two brake staffs at each end, one pair for wheel brakes and the other for track brake shoes. Only wheel brakes will be fitted to the reconstructed vehicle.

At the same time new platform step and bracket plates were prepared from plate steel and these components and the step plates were expected to be in position by mid August.



This view shows King Street cable car 23 at Warrawong High School on 15 July, 1985 just prior to the fitting of the hand brake staffs.

KEN MCCARTHY

PARRAMATTA PARK . . .



Steam Tram and Railway Preservation Society



Cph rail motor No 5 during a trial run along the Parramatta Park steam tramway.

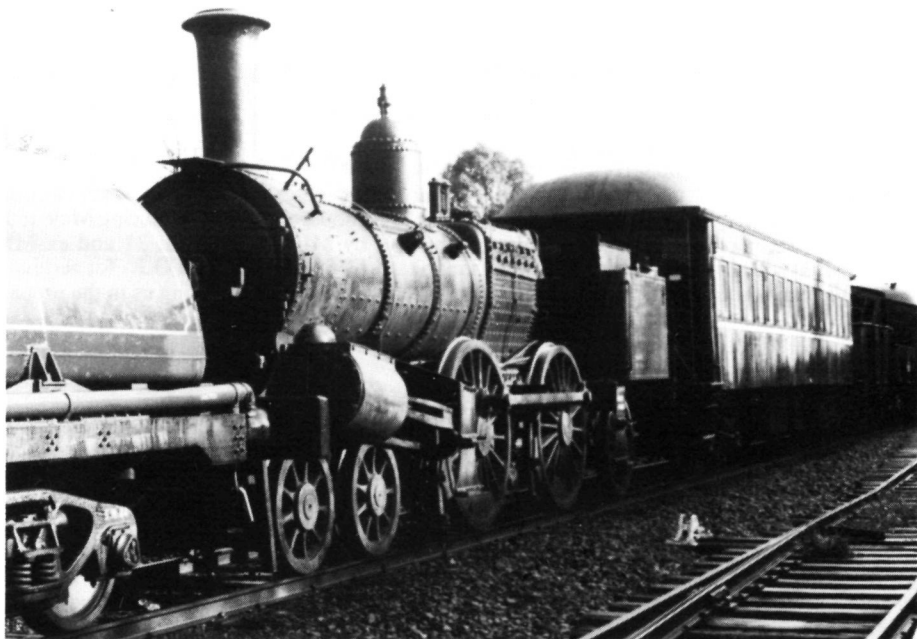
PETER STOCK,

Rolling Stock Transfer

Locomotive No 1308 and passenger car FA 1864 (see June 1985 *TW*) are now on site at Parramatta Park. The transfer of these vehicles commenced from the Rail Transport Museum at Thirlmere, by rail, on 28 April, 1985. The RTM's freshly overhauled locomotive 5910 hauled both vehicles, together with two freight wagons carrying the cab and side tanks of the partially stripped 1308 and a covering brake van, on its trial steaming to Sydney. Loco 1308 and the FA class car were subsequently transferred to Parramatta Park by road transport on 31 May, 1985.

Locomotive 1022

Much to the delight of the public, this locomotive returned to active service on the operating day, 18 August. This followed several months absence during which twelve boiler tubes were replaced. 1022 was trial steamed on 4 August. A "no leak" situation attested to the excellent job carried out by fitter Ray Weston, who was most ably assisted by member Wayne Flicker.



Locomotive 1308 and carriage FA 1864 en route to Clyde from Thirlmere.

FRANK MILLER

WHITEMAN PARK . . .

Perth Electric Tramway Society



Now Winter is upon us, inside work has become the order of the day with much being achieved within the "Carbarn". As reported below, some of the work achieved has put a smile on the face of President, Lindsay Richardson. Barry King has, in between the tower wagon being used, managed to nearly complete undercoating all the woodwork of the tower, as well as Vic Sweetlove completing the work he has been working on with the carburettor. The last couple of months has seen so much happen at Whiteman Park that at long last the dreams and aspirations of the dedicated few are about to be fulfilled with the movement of a tram under its own power. With the Society's membership standing at 18, a great deal has been achieved in a short space of time considering all the time spent since 1969 in looking for a permanent "home". Now 27 years after trams stopped running in Perth they are again about to provide pleasure and relaxation to the people of W.A.

Track

During late June, trackwork reached Central Station utilizing the CEP workers employed at the Park on the various development schemes. Central being the terminus of both the narrow gauge railway alreading operation within the Park and the tramway. The completion of the track to Central still requires a lot of work to be done by the Society as the track has been laid, but not aligned or ballasted. Approximately 200 metres from Central, the tramway passes through the central street of the craft village being built by the Park Authority (Metropolitan Region Planning Authority). This village will house, in substantial buildings, various groups' wares, as well as a large printing shop and blacksmith's shop. It was planned to have double track through this village, but due to cost restrictions at this stage it was not possible. Completion of the track to Central gives PETS 3.6km of track, although on the commencement of services trams will only run between Mussell Pool and the "Carbarn" — a distance of some 1.0km.

Sunday, 26 May saw the completion of depot fan work with the cutting and joining in of the last piece of tramway rail, ex Kalgoorlie, thus completing the depot fan. Roads 1 and 2 have been partly ballasted, but roads 3 and 4 still have to be done and the complete fan will then be concreted to rail head height.

Overhead

Society Secretary, Ric Francis was employed at the Park on the first CEP scheme and has been employed in erecting the poles and arm brackets. Poles have been erected all the way to the trade village, but arm brackets only as far as Mussell Pool. To do this piece of the development, the Park hires from the Society the overhead line truck, bringing in a few extra valuable dollars.

On the "sleepover weekend" of June 15/16, trouthing generously donated to PETS by the AETM Adelaide and ex 14 road City Depot was erected along the full length of one road, with the completed job looking well — hence the smile on the face of Lindsay Richardson. On Monday, 10 June, Duncan McVicar, Ric Francis and Robert Pearce removed (by arrangement) approximately 1,100 feet of overhead from the old Westrail Midland coal pit, the only casualty of the day was the wire springing back and hitting Robert on the bridge of the nose, giving him a nasty gash and an unsightly nose for a couple of weeks. This grooved copper wire purchased for the Society by the MRPA will come in very handy later as the wire extends towards Central from Mussell Pool.

Saturday, 6 July saw wire hung from the trouthing on Road 1 and has further enhanced the work achieved weeks earlier.

Cars

Craig Tooke, from Haddon Tramway Workshops, visited W.A. during May and kindly tested, by MEGA, Ballarat 31 and ex MMTB 368 and 674 and all proved O.K. for service. Many thanks to Craig for assisting us in the preparation of these cars for service.

All have been repainted but require a good clean-through of the interiors and it is hoped to be able to have the saloon seating of Ballarat 31 reupholstered before operations commence. Robert Pearce, in his travels around the countryside, has located the body of Perth G class 37 ex Kalgoorlie 17, the only known celestory roofed bogie car left. It is in poor condition, but not past restoration and is in a country town. At the earliest convenience the Society will move this car to Whiteman Park and get it under cover. Also located is the body of Perth E class 67 in remarkable condition, having been under cover most of its life since withdrawal from Perth when operations ceased. This car has



Old and reliable — the Society's tower wagon on hire to the MRPA during erection of pole brackets. June 1985.

been donated to the Society and, seeing it is under cover and the owner is not in a hurry to have it moved, will remain where it is until funds are available to bring it "home". Robert located the bodies of single truckers 2nd B class 16, 17, 19 and 24 with three of them past the point of restoration, but a good source of spares for the two cars already owned by the Society.

Sub-station

During the week 30 June-6 July, the MRPA has constructed a brick two-section building for the Society's transformer which is being built by W.A. Transformers. Electricity is already on site to this point and has been for some 4-5 months.

Wanted

PETS would appreciate if any members of kindred Societies on the eastern side of Australia have photos or slides that could be copied of Ballarat 31 and MMTB 368 and 674 that they would be prepared to donate or, failing that, sell to PETS. Would they please contact John Shaw at: P.O. Box 826, Fremantle, Western Australia 6160. At this stage we have nothing at all on these cars that we will commence running with and, as they will be our revenue earners for a while, something of their operational life would greatly help members to appreciate their previous "life" on the rails of Ballarat and Melbourne.



President Lindsay Richardson (centre) instructs track workers Duncan McVicar (left), Vic Sweetlove and Melbourne visitor Craig Tooke (rear) during the straightening of the track through the swamp, May 1985

BALLARAT . . .

Ballarat Tramway Preservation Society



CEP Scheme

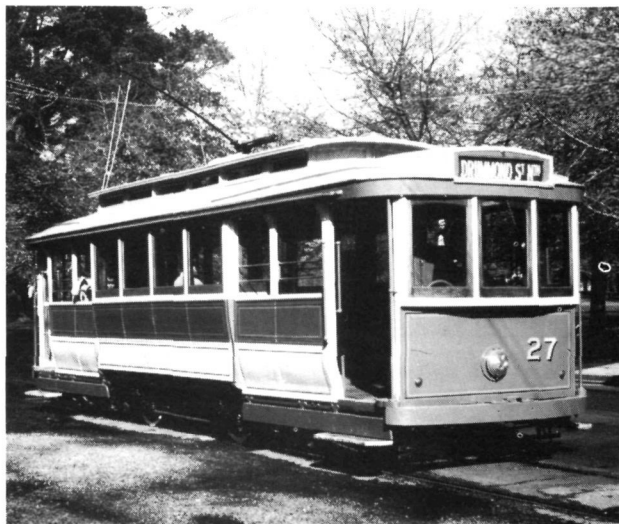
The Society's Community Employment Program, which was due to finish at the end of July, was extended for another month, and finished at the end of August. During the operation of the project, work was carried out on cars 13, 14, 26, 27 and 40, thus considerably speeding up the Society's restoration program. Importantly, of course, it also provided temporary full-time jobs for several people.

No. 26

Wooden slatting has been fitted to the dropend floors. Currently the dropend seats are being installed; the seat castings have been fitted on the sides and the seat bottoms fitted for the tipover seats.

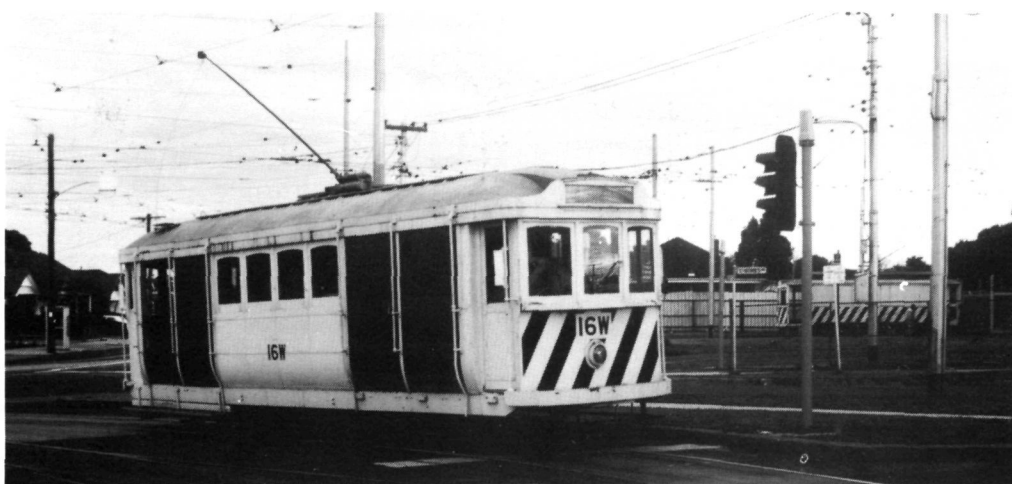
No. 13

No. 13's truck, which at one point was completely dismantled, is being reassembled minus the wheels. These have been sent to Preston Workshops for re-profiling, but the work has been delayed, owing to a backlog of tramways maintenance work.



No 27 pictured at Depot Junction repainted in its 1935 SEC colour scheme.

A. BRADLEY



The BTPS uses the MTA's wheel transport car 16W for driver training and examinations. Stephen Butler is pictured at the controls during a driver's examination, turning from St. Georges Road into Miller Street, Preston. Freight car 19W can be seen in the background stabled in the old Preston Depot yard.

A. BRADLEY

HADDON . . .

Melbourne Tramcar Preservation Association

Museum News

All the switches and meters required for the AC and DC panels have been thoroughly overhauled. The framework on which to mount these panels has been fabricated and is currently being painted prior to installation.

Two suitable zelamite panels have been selected from our large stock, and the layout design and wiring plan completed.

The running of ducting and conduit, along with the heavy current cables has been completed, and cable terminating has commenced with those to the DC circuit breakers already completed.

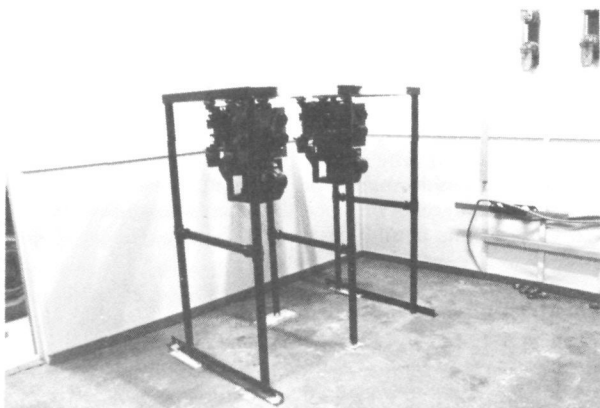
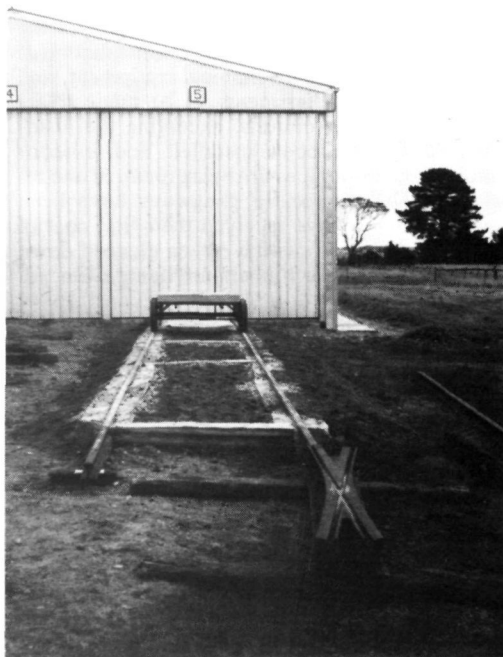
A protective insulated box cover with access doors has been constructed over the road selector switch in the running shed, and awaits painting.

Four arc shutes off "Tait" line breakers have been thoroughly overhauled and will be used on the substation circuit breakers.

Thanks to the dedication and teamwork of the electrical group, under the direction of Electrical Superintendent, Noel Gipps, and Electrical Fitter Foreman, Craig Tooke, we are rapidly approaching the day when tramcar operation will become a reality.

Completed trackwork outside No. 5 Road. The laying out of the depot fan will commence from this point.

C. WITHINGTON



Interior of the substation building showing the mounted circuit breakers.

C. WITHINGTON

Trackwork

Concurrently with electrical work, other members are busy extending the railhead.

The point components for No. 4 and No. 5 roads have had their tongues removed to facilitate cleaning, and the point box mechanisms are being overhauled.

Further surveying has been done for the main line lead and curve from the No. 5 road points, and steel for the step plates to mate 60lb. rail to 94lb. point castings and crossings has been acquired.

General Works

A new sign post has been erected at the Museum gate, along with further filling work in the driveway.

Two brick culverts have been constructed over the outlets of the storm-water drains.

ST. KILDA . . .



Australian Electric Transport Museum

Dropcentre 264

Car 264 has been moved onto Road 2 of the workshop proper. This will assist the installation of further electrical and mechanical equipment, and will enable final adjustments to be made to its trucks. All lighting circuits, excepting the headlights, have now been installed and exterior handrails and drainpipes are being repaired and re-installed. The dropcentre gangways have been undercoated and have received their first coat of paint. The saloon floors have been cleaned down and some rotten floor timbers are being replaced.

Depot Yard Improvements

A start has been made on giving the former Hanson Street Signal Cabin, situated near the main depot, a much needed coat of paint.

An old copper bodied mercury vapour street lamp which was recently retrieved from Hackney Depot has been erected on one of the tramway poles in the depot yard. We now have two authentic tramway street lights (in working order) installed in the depot yard.

More white rubble paths have been established to direct patrons to the new tram display shed. Additional shrubs have also been planted in this area.

Spare Parts

The impending demolition of sheds at the rear of Hackney Depot has resulted in a number of tramway items being donated to the museum. The sheds being demolished include the former body and electrical shops and foundry. Surplus items donated include components from Glenelg car 356, spare air compressors of the type used in car 381, and numerous other small items. The body of car 356, which had been stored at Hackney for the past few years, has been donated by the STA to the Canberra Tradesmens Union Club.

Underground Feeder Cable

A workman received quite a shock recently when his axe managed to penetrate a feeder cable running from City Depot substation in Angus Street, near Victoria Square. The resulting explosion destroyed part of the axe and brought tram services to a sudden halt.

The cable is of the type used extensively throughout the former tramway system. It consists of a one inch square cross-section of copper cable encased in wax, lead, tar, steel ribbon and tar again — making it 2½ inches in diameter. A section of this cable has been donated to the AETM for use in a future technical display.

Fantasy Come True

Recently the AETM was able to make an Adelaide radio listener's "fantasy" come true. Local radio station 5KA ran a competition in which it invited listeners to nominate a friend with a particular desire to achieve something unlikely. One listener contacted the station about a woman who would have liked to have been a tram conductor. Various restrictions prevented the "prize winner" from conducting on the Glenelg tramway and the radio station contacted the AETM for help. Publicity Officer Bev Smith spoke on radio and arranged for the woman to spend an afternoon at St. Kilda.

Sunday, 14 July saw the woman donned in Bev's uniform rearing to go. The woman spent several hours at St. Kilda and conducted on four trips. With Bev at the controls, this made our first all female crew! (The rostered conductor was also on board to assist when needed.) The woman later said that being a conductor was quite hard work and declared she was quite worn out.

Family Affair

With Bev Smith's husband Neville now a fully fledged conductor at St. Kilda, we now have our first husband and wife crew. Bev's father, Jim Burke, is also a motorman at St. Kilda, and a keen teenaged son suggests that one day there may be even more to this family affair at St. Kilda.

COTMA Fundraising

Tea and coffee have been made available to patrons on several Sundays and a number a charter days lately. This fundraising activity has already made quite a tidy sum toward cost of running the 1986 COTMA Conference to be held in Adelaide.



Part of the photographic display which has recently been transferred to the new tram depot.

P. SHILLABEER



Wide track spacing has been provided to facilitate movement of visitors around the exhibits in the new display shed. Spotlights are used to highlight the photo display in the background.

P. SHILLABEER

NEWCASTLE . . .



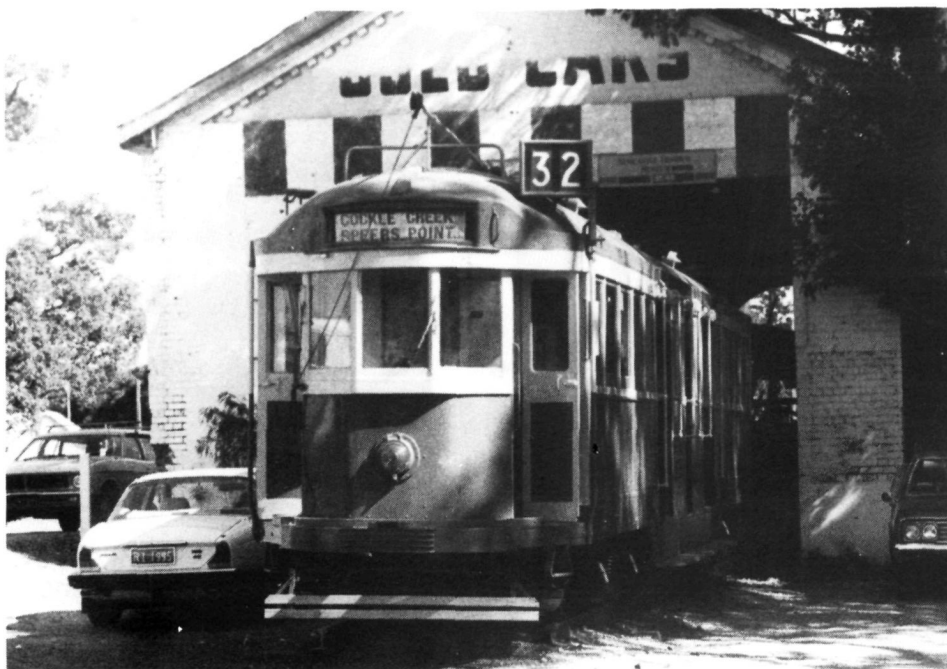
Newcastle Tramway Museum

The restoration-overhaul of former Melbourne W2 car 247 in the Wallsend goods shed was completed by early August except for the re-mounting of the number transfers which are on hand. On the occasion of the Annual General Meeting of the Museum on 20 August, W2 247 was driven in and out of the Wallsend shed under its own power. During this restoration program the end apron marker and tail light together with their wing mountings were removed, returning the tramcar to its appearance of the late 1950's.

Excellent progress is being made on the restoration of Newcastle tramcar LP 284 at Wallsend. By early August the internal and external body restoration was nearing completion. Most of the seats had been rebuilt and refitted at this stage while the main components needed to be refitted externally were the roof fascia, weather rail and pull strap components.

In the near future W3 668 will take the place of W2 247 in the Wallsend shed and this Melbourne tram will then be restored. Although this tram has been in open store for the last nine years, the bodywork has weathered well and the restoration project is not expected to be as extensive as first feared.

Development stages for the proposed Cockle Creek to Speers Point Museum Tramway are progressing favourably. The Museum and the Lake Macquarie Council are moving steadily along the path of establishing the museum concept along this route but a considerable amount of negotiations have yet to be co-ordinated before the whole project receives approval. The way is clear for the establishment of the actual museum structure and complex but track right of way and the associated fixed plant negotiations have still to reach a successful conclusion.



W2 247 outside the Wallsend Goods Shed adjacent to the former NSWGT Wallsend terminus on 10 August, 1985. It is hoped that the destination sign "Cockle Creek-Speers Point" which is displayed on the car is an indicator of future events.

K. McCARTHY



LP 247 at Wallsend on 10 August, 1985. The side facia and weather rails are the only major external items now remaining to be fitted to this tramcar.

K. McCARTHY

ALBION PARK . . .

Illawarra Light Railway Museum Society



Community Employment Programme

In the short period of nine weeks the new 18m x 12m loco-carriage shed was completed and available for partial occupation. During early May two of the yard approach roads to the shed were realigned and roads 2 and 3 laid in the shed using 45lb rail. This new shed track is fastened to Titan steel sleepers to which the rail is secured by clips. This firm has donated slightly misshapened sleepers to the museum for a considerable period, and although chaired for 3'6" gauge track, the museum has welded additional chairs for 2ft gauge permanent way. These sleepers will be used for the general upgrading of the loco yard track, as well as for the shed roads. The ease in which the rail can be clipped to the sleepers clearly reveals why the trend in main line railway construction has moved away from timber sleepers and bored fittings.

During late afternoon on 4 May, former Melbourne cable car No. 430 entered the new shed on road 3 being the first vehicle to enter covered housing. This is the first time in exactly 50 years that this car has been under cover! Queensland Rail Motor trailer P119 following on 6 May while c.1918 saloon car No. 2 entered road 2 on 13 May.

Towards the end of April the 16 main steel columns for the 18m x 6m machine shop were erected onto the prepared footings. A total of 70 pieces of 6" x 2" timber were obtained from the PDS building in Wollongong on 11 May and these will be used for the main girts on this new building. It is expected that the CEP workers will complete the framework of this machine shop in June.

In the meantime road 1 in the loco-carriage shed has been left clear of track to provide an all weather

work area for the CEP employees. When not engaged in building construction these people have been involved in the manufacture of heavy duty store bins and shelves using heavy angle iron uprights and metal brick trays obtained from a recently closed local brick works.

Towards the end of May, CEP attention transferred to the restoration of cabin and tank components for the two steam locos presently being restored: 0-6-2T Perry 7967/49/1 (ex Tully Mill No. 6) and 0-4-OST Hawthorn Leslie 3574 of 1923 (ex Corrimall Colliery "Burra").

During the construction of the main rolling stock shed, provision has been made for a side extension to cover an area of 6m x 18m over two further tracks. Material is at present being stock-piled for this expansion.

Rolling Stock

At the end of April the battery electric Mancha loco returned to traffic after a major overhaul which resulted in replacement of resistance grids, renewal of controller parts and general rewiring. At the same time the new DC sub station unit was brought into commission to keep the batteries of the Mancha recharged.

During April member Paul Simpson obtained a circa. World War 1 vintage Leyland Lorry petrol engine which currently powers the Leyland-Krauss locomotive at Albion Park.

In May, internal electric lights were fitted to former Melbourne cable tram trailer No. 430. Two bell shaped plastic crinkled shades have been refitted in the saloon ceiling in an identical location to similar glass units which were provided to the Melbourne cable trailers in 1920. The car is illuminated by two 32v x 40w lamps which receive current from a 32v transformer when standing in the carriage shed or through jumper cables from the steam turbine when coupled to the steam locomotive.

During late May the bogies were removed from c.1918 saloon car No. 2 for painting and fitting of thicker profile flanges. The former Condong Mill bogies, on which this vehicle and semi-open car No. 1 are mounted, were received with very thin profile flanges. During 1980 steel rings were welded to the wheels on car No. 1 to standardise the wheel profiles with other ILRMS vehicles. This successful solution has been carried out on car No. 2.

The specialised non-passenger vehicles in the ILRMS collection have been receiving attention throughout 1985. Such items as brick kiln waggons, flat trucks, side and end tippers, etc. have been undergoing a programme of general restoration and repainting.

Electric Operations

Electric operation on steaming days has been temporarily withdrawn since February. To enable the CEP programme of building erections to take place the eastern compound fences had to be relocated across the electrified tracks. It is planned to reintroduce electric traction around September by which stage building progress will enable the eastern fence to be dismantled. The new sub station has adequate capacity to supply this service.

Open Days

Recent steaming days held during Easter, Heritage Week, and in May resulted in average patronage of between 500 and 600 rides per day.

CEP Supervision

The ILRMS Museum Committee thanks those retired and shift worker members who have assisted with supervision of the employees involved in the CEP work. Due to the efforts of these members, supervision and work management has been provided on every day of the employment programme.

NEW ZEALAND . . .

News from across the Tasman

Ferrymead

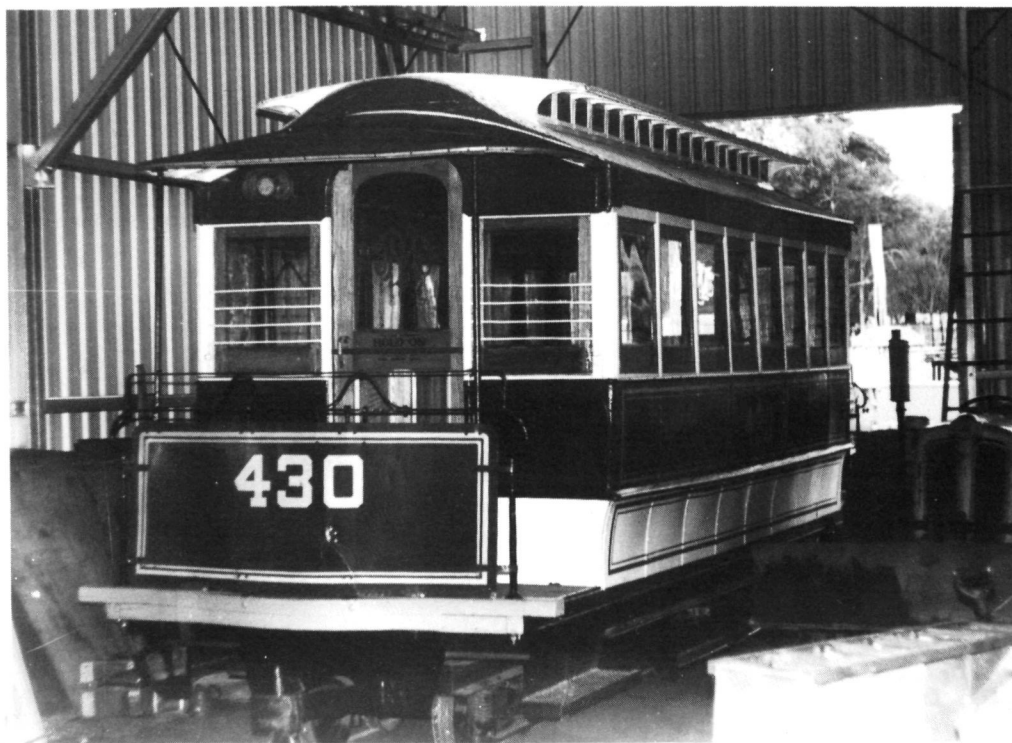
Brisbane dropcentre car 236 enters service on the Tramway Historical Society's Ferrymead tramway on Saturday, 26 October, 1985. The

inauguration will be carried out by the High Commissioner for Australia at a ceremony commencing at 2 pm, to be followed by afternoon tea at 3 pm.



The Mancha battery electric loco shunts former Melbourne cable trailer 430 into the new carriage shed at Albion Park on Saturday evening, 4 May, 1985. This was the first vehicle at the Museum to enter the new shed facilities.

KEN MCCARTHY



Car 430 inside the new shed at Albion Park on 4 May, 1985. This was the first time in fifty years that this tramcar had been housed under cover.

KEN MCCARTHY

