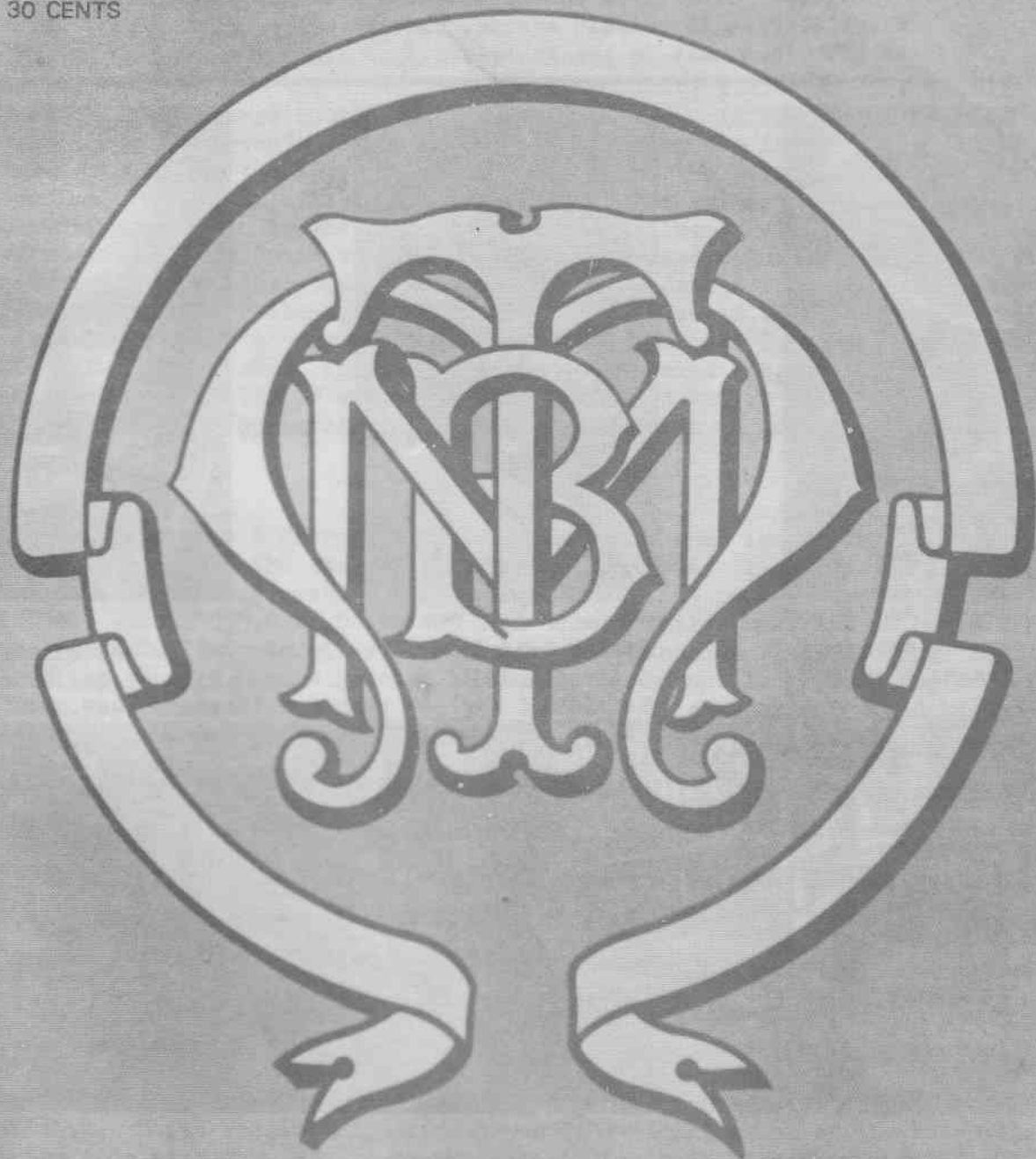


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50 YEARS

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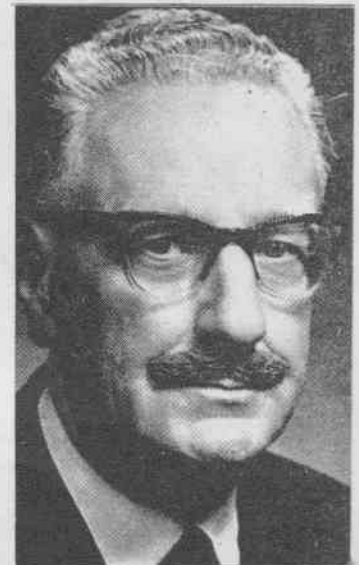
TMSV Archives

Alexander Cameron.
Chairman, 1919 to
1935.



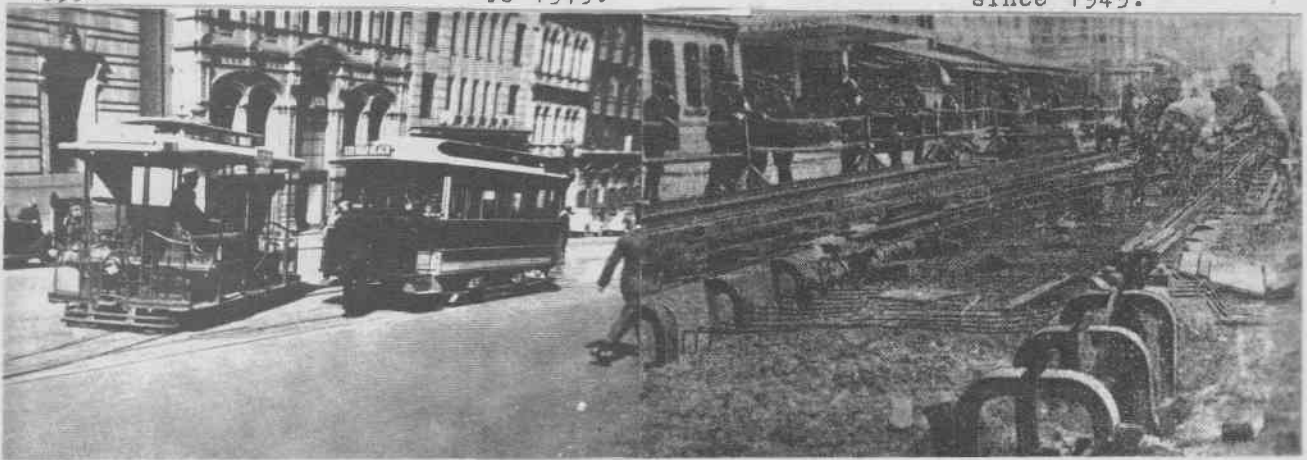
Melb Herald

Hector Bell Snr.
Chairman, 1936
to 1949.



MMTB Official

Major General R.J.H.
Risson, Chairman
since 1949.



TMSV Archives

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Left : Cable grip car and standard trailer shunting in Market Street at the corner of Collins Street, City. Right : Clearly shown in this old photograph of conversion from cable to electric tramway track are the metal yokes that supported the slot beams of the cable tunnel.

50 YEARS OF THE M. & M.T.B

BY K.S.KINGS

The following article will cover several pages of text, during which it will endeavour to recount the history of the first fifty years of the Melbourne and Metropolitan Tramways Board. It will not succeed. It will merely touch upon a cross-section of events which have happened during the last fifty years and which have involved the transport services operated by the M. & M. T. B. Undoubtedly, some important items will be excluded while other matters of lesser magnitude will be mentioned. Such is the problem of space. A reasonably detailed and comprehensive history of the Board would require a fair-sized volume; to include the Board's predecessors and other operators would probably double the project. This task was known to contain problems, the main one of which could best be described as the "compression ratio"! How to fit 50 years into one "R. J."? While a deal of material was available, further research was carried out, but this only high-lighted the enormous quantity of work yet to be done in detail. Even the ratio of an iceberg seemed to optimistic! The matter was taken in hand

THE FIRST DAY

The Melbourne & Metropolitan Tramways Board came into being on 1st November, 1919, under Act of the State Parliament of Victoria. It inherited what was known as the cable tramway system, which comprised 43.663 route miles of cable tramway (double) track, 539 Grip Cars, 485 four wheel Trailer Cars and 58 bogie Trailer Cars, plus 0.625 route miles of horse tramway (double) track and four cars. There was also 13 Engine Houses, 16 Car Sheds and one large Workshop to serve the former and one small car shed for the latter. This undertaking had been constructed by the Melbourne Tramways Trust from 1885 and leased to and operated by the Melbourne Tramway and Omnibus Company Ltd., until 30th June, 1916, after which date State Parliament vested the ownership and operation of the system in the Melbourne Tramway Board, until it decided what to do about Melbourne's overall transport situation. After a deal of argument and a number of proposals, the position was resolved by creating the M. & M.T.B., and charging it with a number of duties (which included operating the foregoing, plus the electric tramways of the metropolis except those operated by the Victorian Railways), and the preparation of a plan which became known as "The Greater Melbourne Tramways Scheme". Mr. A. Cameron, the energetic Chairman of the Prahran and Malvern Tramways Trust, was appointed Chairman of the Board.

The other major transport operator on that day was the Victorian Railways, who ran an extensive system of steam-hauled suburban trains throughout most of the urban area, these lines generally being the "inner" sections of their country net-work. State Parliament had authorised electrification of the metropolitan lines, and, although delayed by the 1914-1918 war, work had progressed sufficiently to allow a trial run on 6th October, 1918, with the official opening of the first route (Essendon to Sandringham) on 28th May, 1919. Other routes followed during early 1920's, and sundry extensions have been made since. The V.R. also operated two electric street tramways, both of which ran to suburban railway terminals, one

at St. Kilda, and the other to Sandringham. The former had been built to their railway gauge (5'3"), and was opened on 5th May, 1906, while the latter was 4'8½" gauge, opened on 10th March, 1919. These lines remained with the railways until eventual closure on 28th February, 1959, and 5th November, 1956, respectively.

THE NEXT BIG DAY

The next important date in the Board's history was 2nd February, 1920, upon which day the electric tramway Trusts and the Northcote cable tramway were inherited. The latter had had quite a chequered career during the 1890's and early 1900's while privately owned, and was eventually taken over by the Northcote Council. It consisted of 2.320 route miles of (double) track, one Car Shed and Engine House, 12 Grip Cars and 15 or 16 Trailer Cars. Various local Councils had co-operated to set up five electric tramway Trusts to construct and operate trams in their areas:-

(1) The Prahran and Malvern Tramways Trust. From a modest beginning on 30th May, 1910, with 13 cars and two routes, the "P. & M." had grown at a remarkable rate (especially considering the 1914-1918 war), and handed over to the M. & M.T.B. 35.466 route miles of tramways, two Depots, one workshop, 96 trams and 10 trams building or authorised. It had become the most dynamic of the electric trusts under the Chairmanship of Mr. Alex. Cameron, who aptly became the first Chairman of the M. & M.T.B. The routes operated soon spread beyond the boundaries of Prahran and Malvern, and included St. Kilda, Caulfield, Hawthorn, Kew and Camberwell, and covered the eastern suburbs from Mont Albert, East Kew and Victoria Bridge in the north to St. Kilda Beach, Point Ormond, South Caulfield and Glenhuntly in the south.

(2) Hawthorn Tramways Trust. The official opening on 6th April, 1916, saw the routes and rolling stock incomplete, but this was accomplished by the end of the year. Two routes were built from the City to Burwood and to Wattle Park, through the eastern suburbs. Beyond the latter terminus, 137 acres of land was purchased as a tramway park, and over 7,000 trees were planted during the 1920's to develop the area. It is now a delightful reserve with Chalet, ovals, golf course, tennis courts and picnic areas. It is pleasing to record that the Tramways Band still gives several recitals here on Sunday afternoons in summer months. The H. T. T. handed over 11.105 route miles, 32 trams and one Depot with Workshop to the M. & M. T. B., as well as "Wattle Park" (although the latter, at that date, still awaited development).

(3) Melbourne, Brunswick and Coburg Tramways Trust. The opening took place on 27th April, 1916, on the northern section of the planned routes from North Coburg and East Coburg to the City, with but three cars ready for service. This system proved to be the most technically advanced installed in Melbourne to this juncture, and a number of features soon became "standard" on the other lines. It transferred to the M. & M. T. B. 7.055 route miles of tramway, 18 trams (including the only six "Radiax" trams to operate in Melbourne) with six building or authorised, and one Depot and Workshop.

(4) The Fitzroy, Northcote and Preston Tramways Trust was building routes from the North Fitzroy cable tram terminus to East and West Preston, but had not yet opened to traffic. Services were commenced by the Board on 1st April, 1920 on 5.850 miles of route with eight trams, from one Depot.

(5) The Footscray Tramways Trust constructed three of its authorised routes and one Depot, but was plagued with difficulties in obtaining a power supply. The system was eventually opened by the Board on 6th September, 1921, with seven trams on 4.467 miles of route.

The remaining system was operated by The North Melbourne and Essendon Electric Tramway and Lighting Co. Ltd., from Flemington Bridge to Essendon and Maribyrnong. The Board eventually purchased the tramway section of the Company on 1st August, 1922, and inherited 6.833 miles of route, one Depot and Workshop, 15 trams and 10 trailers. The service had commenced on 11th October, 1906, apparently with the same track and rolling stock that was transferred to the Board.

EARLY PROBLEMS.

As at 2nd February, 1920, the Board owned and operated 53.626 miles of electric tramway route and 146 electric trams, acquired from three operators, as well as the cable tramway systems. It had to unify the different operating arrangements into a standard procedure as smoothly as possible, while attending to the daily running of the services. Whereas the cable tramway rolling stock was extremely standardised, the electric cars were a mixture of designs, shapes and sizes fitted with a variety of electrical equipment. The 146 electric trams consisted of 103 single truck cars of ten types and five maximum traction bogie cars of five types. Upon completion of trams under construction and authorised and with the purchase of the Essendon Company, the situation was even more serious. The 216 trams comprised 24 types; there were 167 single truck cars of 16 types and 49 bogie cars of six types; added to this were ten trailers. There were only six large trams, with 43 medium and 177 small cars. These figures include 24 small trams built by the Board to an existing design as an emergency measure to try and cope with the rapidly expanding traffic; some of these did not enter service until 1923.

The electric tramway rolling stock position thus posed quite a problem. So did the cable tramways as a whole. They had been operating for some 30 or more years, during which time the rails had been wearing away and other modes of street transport had been developing. The electric tramway had become well established and quite efficient, the motor bus had developed beyond its infancy, and the trolley bus was being tried out in a number of cities. These problems and their innumerable ramifications were considered by the Board in its report on the General Scheme for the future development of Tramways in the metropolitan area. Many alternative ideas and plans were investigated, and included total or sectional replacement of the cable system, and its conversion to trolley, conduit or surface contact electric tramways, battery, petrol or petrol electric trams, and motor buses or trolleybuses. The decision was in favour of an early start to convert to electric (trolley) trams, commencing with the heaviest trafficked thoroughfare - Swanston Street. It is interesting to note that the Report refers to the 1910 Royal Commission, which recommended that the cable tramways be converted to an electric system using overhead wires.

Although the long-term problem of what was to be done with the cable tramways was thus decided, the short-term problems also had to be overcome: how to cope with increasing traffic and how to keep the service operating. The former

was tackled by constructing 43 Grip cars and 50 Trailers, while the ladder was aided by placing large electric motors in some engine houses to supplement the existing steam plants, additional and modified shunts and rail planing and grinding to lengthen the life of some sections of track. Meanwhile, the financial and engineering planning necessary for the conversion work was undertaken, materials ordered and tenders called.

OF TRACKS

Concurrently, a number of other projects were put in hand. The Coburg tram routes terminated to the north of the city proper at Queensberry Street, where passengers transferred to the cable tram for the rest of their journey. The cable track south to Lonsdale Street was therefore converted to electric track so that the Coburg cars could touch the edge of the central city area, from 13th April, 1924. To facilitate this, a short length of cable tramway (built to electric tram requirements) was opened in Lonsdale Street, between Swanston and Elizabeth Streets, on 11th February, 1924, and enabled the through-routing of some Swanston and Elizabeth Street cars.

The Preston and Essendon routes were also brought into the city as soon as possible. The Preston cars terminated at the cable tram terminus at North Fitzroy, and they were routed over a new double track line via Barkly, Pilkington and Holden Streets and Brunswick Road East to join the Coburg cars at Lygon Street, and traverse their tracks to Lonsdale Street, from 24th March, 1925. The Essendon cars reached the city through the conversion of the North Melbourne cable tramway in Flemington Road, between the terminus and Abbotsford Street, to electric track, and the construction of new tracks eastwards along Flemington Road, and south along Peel and William Streets to Collins Street. This arrangement commenced on 19th July, 1925. The North (and West) Melbourne cable trams now terminated in Abbotsford Street south of Flemington Road, but were cut off from their Depot which had been located at the old terminus. Consequently, a new Shed was commissioned in Howard Street, North Melbourne, and served both routes.

The 19th July, 1925, also brought the first section of the new West Coburg route into operation. It branched off Flemington Road opposite Abbotsford Street, ran in a generally northerly direction through Royal Park on open ballast private right of way track, and emerged to continue in the streets until it reached Dawson Street, at Daly Street, Brunswick West. An extension north to Albion Street, via Melville Road, opened on 10th October, 1925. Its city terminus was also William Street, at Collins Street. The next new electric tramway route constructed by the Board was from the southern edge of the city proper (Sturt Street at City Road) to South Melbourne and St. Kilda Beach, which was opened for service on 31st October, 1925. While these works were in hand, a number of duplications, extensions and reconstructions to existing tracks took place at various parts of the system. Unfortunately, during the Police Strike, the Depot and four cars on the Royal Park horse tramway were destroyed by fire, on 5th November, 1923, resulting in the formal abandonment of the line shortly afterwards.

..... AND TRAMS.

As mentioned previously, the Board inherited a large and almost standardised fleet of cable trams, and a somewhat smaller and heterogeneous collection of electric trams. Several small non-standard grip and trailer cars from the

Northcote line were withdrawn as soon as replacements could be built, while new electric trams already building or ordered were completed as quickly as possible. The Board also built 24 single truck cars to an existing design pending finalisation of the design of a large bogie car. This car proved to be basically similar to last six trams ordered by the Prahran & Malvern Trust: a saloon over each bogie and a semi-open compartment in between, on a dropped frame. The first one, No. 219, was built during 1923 (entering service on 21st December), and thus commenced the long lineage of "W" class tramcars and their derivatives in Melbourne. The centre (or "Smoking") compartment had three doorways and two panels on each side, of approximately equal widths, with two transverse seats, each for two passengers, at each panel, facing the middle of the car. It had an arch roof with scuttle ventilators over the saloons, wooden seats throughout (longitudinal in the saloons) a varnished interior and the Board's standard brown and cream external colour scheme. The main frame was steel channel, while the trucks were an adaption of the American M.C.B. type, fitted with 4 - 40 h.p. motors. The control equipment was late arriving, and the car was commissioned with GE K35HH units borrowed from the Victorian Railways Elwood Depot, and trolley poles and bases from "Birney" car No. 218. As the second car (No. 220) entered service three days later, it would appear that No. 219 was commissioned (with the borrowed equipment) for tests quite a few weeks before officially entering service. Nearly three months elapsed before further new bogie cars appeared, and then deliveries became quite regular. Tenders were let to James Moore & Sons Pty. Ltd. and Holdens Motor Body Builders for 30 and 60 car bodies respectively, followed by another 30 from Moore's and, later, another 30 from them, with the Board's own Workshops producing 260 of these cars.

Although the foregoing car-building programme reached into the first part of 1931, it is best to consider it as a whole at this juncture. The "W" type cars were found to be quite successful on the suburban routes, but not satisfactory when they ran in Swanston Street after the cable tramway conversion. This was due to the widths of the entrances. It transpired that the heavy concentration of unloading and loading at the stopping places at city inter-sections proved the doorways to be of an inconvenient width; they were a little narrow for two lines of passengers and somewhat wide for one line. Also, other passengers found the bulkheads and seat-backs convenient to lean against - and thus partly blocked the gang-ways. This problem was overcome by altering the design of the drop-centre section, and thus the "W2" class car came into being. The end doors were widened and the middle one made narrower, while the seats were placed back-to-back. This proved satisfactory, and 180 cars were built thus, the 200 constructed as "W" class converted, another 26 converted (in 1936-37) from "W1" class, making a total of 406 "W2's".

The "W1" class just mentioned came into being in November, 1925, when No. 364 entered service. The drop-centre section was open, with two longitudinal seats near the edges of the car. The backs of these seats could be tipped-over so that passengers faced outwards in fine weather or inwards at times when it was necessary to pull down the canvas weather blinds. No. 364 was renumbered 422 in March, 1927, and the body which would have become 422 was completed as a "W" class and numbered 364. Subsequently, 29 other cars were built as "W1" class.

A decision was taken to purchase two light-weight trams from U.S.A. for trials on lightly trafficked routes or feeder services, resulting in orders being placed for two "Birney" cars - one by Brill and one by St. Louis Car Co.

It would appear that the former arrived early in 1923 and had been assembled by the middle of the year, but the latter appears to have arrived somewhat later in 1923. Both were placed in service from Hawthorn Depot in June, 1924, on the shuttle service from there to Hawthorn Bridge, being experimentally fitted with bow collectors three months later. About four years later, Nos. 217 and 218 were sent to Glenhuntly Depot to work the Elsternwick to Point Ormond shuttle.

After taking over the Essendon tramways on 1st August, 1922, the Board had continued to run their services largely unaltered. Unfortunately, a heavily loaded saloon motor car and trailer got out of control on the Mount Alexander Road hill on 15th September, 1923, and a serious accident took place. It appears that, at this time, a start had been made to equip the fifteen motor cars with air brakes, but the job had not been completed. The ten trailer cars were withdrawn from passenger use, and replaced by the seven fairly large single truck cars, which had opened the Footscray system. About a year later, at least seventeen of the new "W" class cars were sent to service these two routes, and the ex-Essendon Company motors relegated to lesser duties.

A STRANGER

The 3rd January, 1925 saw the Board become a motor bus operator, and it has operated these vehicles continuously since then.

The Board's early powers to enter this field of transport were limited by its Act of Parliament which permitted buses to be run for "stimulating of developing the traffic of any tramways". This was amended in December, 1923, to "aiding or relieving traffic on tramways", and, although still rather restrictive, was an improvement. Mr. Cameron, the Board's Chairman, returned from an overseas study tour early in February, 1924, with much useful information, including a quantity on motor buses. These two events, plus the upsurge in unrestricted running of privately owned motor buses along tram routes during 1923-24, and the pending cable tramway conversions, caused the Board to call tenders for 45 motor bus chassis and bodies. The tenders had been let by the middle of the year and it was hoped that the buses would be running about November - English chassis with locally built bodies. However, it was 3rd January, 1925, before the first service commenced - from the City, at Latrobe Street, via Swanston Street, St. Kilda Road, High Street, Brighton Road and Glenhuntly Road, to Elsternwick station. Until the middle of the year, the effectiveness of the vehicles was somewhat restricted due to the Minister of Public Works requesting that passengers be limited to the seating capacity of the buses!

The Board also applied to operate buses on three other routes: (1) Camberwell Junction to Hawthorn Bridge, via Camberwell and Burwood Roads. (2) Corner of Burke Road and Barkers Road to Victoria Bridge, via Barkers Road, (3) Essendon to Heidelberg. The Minister felt that these routes should be operated by private buses, and did not grant them to the Board. The Motor Omnibus Act came into force on 1st February, 1925, and contained provisions to control and regulate bus traffic. It consisted of a Chairman and representatives of Municipalities, railways, private owners and the M. & M.T.B. During a tramway strike in May, 1924, many private buses had been hastily placed in service over

most of the tram routes, and had remained. This unrestricted operation, and, in some instances, worrying degrees of rivalry between owners and drivers and tram crews, brought about the Motor Bus Acts of 1924 and 1925, which were able to give a degree of order to the industry. By the middle of 1926, there were 56 buses in the Board's fleet, using chassis made by Tilling-Stevens, Thornycroft and Garford, with the former being petrol-electric powered. They were engaged on the route mentioned and on cable tramway conversions. They were garaged at the Brighton Road cable car shed, and the Acland Street, St. Kilda, cable car shed had been used likewise during the conversion of the Windsor cable line. A workshop was provided at the former, and, by June, 1926, eleven buses had received major repairs to frames and bodies, bringing criticism in the Board's Annual Report of the state of the road surfaces. A small shed was built next to the Victoria Street, North Richmond, cable car depot to house the four buses needed for the Barkers Road route, while the Williamstown Council erected a small garage for the local service in that area. The opening dates for these services is not yet known, but was by 30th June, 1926. Traffic was apparently not good during the time operated, and they were abandoned on 30th April, 1931 and 31st December, 1930.

CHANGING MODES.

The Northcote cable tram route had to be run as a separate length of line as the tunnel in which the cable ran was shallower than the main cable system, and this precluded standard grip mechanisms running therein. The problem was solved by substituting a smaller diameter pulley in the tunnel, so that the cable was carried further below the road surface, thus permitting the longer, standard, grip mechanisms to use the tunnels. Through operation from the City to Northcote commenced on 8th March, 1925. Meanwhile, part of an elaborate interchange system of tracks had been constructed at Clifton Hill to facilitate shunting the heavy traffic between the two terminating routes, and to allow the City cars access to their Depot. This arrangement was not completed when the tunnel problem was solved, and the unconnected and unusable pieces of track remained in the roadway as an enigma until 1954. The through-routing allowed the Northcote car shed to be closed and all cars housed at Clifton Hill, although the engine house at Northcote remained in use.

The 29th August, 1925, saw the first major cable tramway abandonment in Melbourne, when the Windsor to St. Kilda Beach rope was stopped. The Board's buses carried the passengers as the Contractor began to dig out the cable tram tracks and instal the electric tram track. The Dandenong Road electric trams were sent through to the 'Beach on 27th December. Temporary double tracks had been constructed along St. Kilda Road from St. Kilda Junction to Park Street, on the centre carriageway alongside the western plantation and the St. Kilda Beach cars were immediately sent along these rails, thence via the new tracks in Park Street, Hanna Street (now Kingsway) and Sturt Street to City Road corner, just south of Princes Bridge. These services also commenced on 27th December, as the ropes for Swanston Street/St. Kilda Road and St. Kilda Road/Brighton Road were stopped the previous day. The next day, the Carlton (Collingwood) and North Carlton cable tram services, which had previously turned south from Lonsdale Street into Swanston Street, City, were re-directed west across Swanston Street to terminate one block further on at Elizabeth Street. (The North Melbourne cable cars, previously diverted from Elizabeth Street via the Lonsdale Street line, reverted to terminating at the Elizabeth Street shung). Undoubtedly, this must have been an

extremely busy time for all concerned! The track work required to link up the electric lines in the few hours available would have been considerable.

The Board's track gangs tackled the tasks of building the new tracks over Princes Bridge and installing the crossings with the cable tracks at the intersections of Flinders, Collins, Bourke and Lonsdale Streets, as these places required special skill and attention, while a Contractor removed the cable track and constructed the electric track elsewhere in Swanston Street. The work was finished and electric trams from the southern and northern suburbs ran in Swanston Street on 24th January, 1926. St. Kilda Road, from City Road to Park Street, was ready on 28th March, and thus eliminated the detour via Park, Hanna and Sturt Streets. The 9th May saw the rest of the new track in St. Kilda Road available and the temporary tracks were abandoned, while 16th May saw the connection of High Street, Prahran and Commercial Road to the new tracks, and the through-routing of their services into Swanston Street. The conversion of High Street and Brighton Road, St. Kilda, continued, and, together with the extension in Brighton Road to Glenhuntly Road, Elsternwick, was opened on 29th August. The whole task was completed well ahead of schedule, and all concerned received high praise in the Board's annual report. All the overhead wiring required was erected by the Board's own crews.

Meanwhile the Toorak and Prahran cable routes had been isolated, and were running as independent lines, exchanging their passengers at Domain and St. Kilda Roads. It was now their turn, firstly the Prahran route, in Chapel Street, from Toorak Road to Carlisle Street, which ceased on 28th August, 1926. Buses carried passengers to the City until electric trams commenced running from Windsor station on 31st October, via Chapel, Church and Swan Streets, and also to North Richmond. The remainder of Chapel Street, to Carlisle Street, plus the extension to Brighton Road, was opened on 19th December. The Toorak Road cable cars halted on 1st October, and buses substituted from Lonsdale Street, City, to an extended terminus in Toorak Road at Glenferrie Road. Electric trams ran to Orrong Road on 17th April, 1927 and to Glenferrie Road on 8th May.

The Richmond line (Melbourne's first cable tram route, opened 11th November, 1885) was the next to be taken in hand. The tracks in Spencer and Flinders Streets from Bourke Street to Swanston Street was closed on 15th May, 1927, and transfer tickets issued to passengers to allow them to use the Collins Street cable line to continue their journey; apparently no substitute bus service was provided. The Contractor worked three shifts on this job, and electric trams ran on 14th July, including the extension north in Spencer Street to Lonsdale Street. The cable trams between Swanston Street and Hawthorn Bridge were withdrawn on 29th June, and buses substituted. The work progressed well and electric trams commenced running on 4th December, 1927.

The Board was anxious to proceed to the conversion of the Victoria Street, North Richmond, line, but this automatically meant dealing with the other three routes which traversed Collins Street. This work would have involved the expenditure of about £1,000,000 and an annual charge of some £70,000 in interest and sinking fund. The financial depression was making itself felt, and the Board therefore decided, early in 1928, not to undertake this work until at least the new year. The review duly took place, and the Board decided to proceed with the work. Tenders were let, and the work commenced on 17th June, 1929, on the section from the terminus, at Victoria Bridge, to Eastern Hill, in Victoria Parade at

Brunswick Street corner. Whereas the double track cable tramway was laid in the middle of the northern carriageway in Victoria Parade, from Brunswick Street to Hoddle Street, arrangements were made to place the electric tramway in the wide, central reservation, on open ballast type construction. The section from Brunswick Street to Victoria Bridge was opened on 14th September, and the electric trams from Kew reached the outskirts of the city. The cable from the engine house at the corner of Brunswick Street and Victoria Parade to Spencer and Collins Streets, City, was then stopped, track work took place, and the electric trams entered the city on 8th December, 1929. The North Fitzroy cable trams ran as a shuttle while this work took place, and the South and Port Melbourne routes were made to terminate in Market Street just south of Collins Street. The Board's buses were used to carry passengers during these works, and also for the North Fitzroy conversion, which commenced on 14th July, 1930. This route received electric trams on 26th October, at which time the East Preston and West Preston cars were re-routed along Brunswick and Collins Streets, instead of via Holden, Lygon and Swanston Streets.

The financial depression was worsening, and there ensued a pause in capital works expenditure. Nearly 22 route miles of double track cable tramway had been converted to electric trams out of a total of approximately 46 miles acquired. This had taken place in a little over five years in a city of less than 1,000,000 inhabitants, and with a fairly low population density, while many other works were concurrently in hand.

VARIETY ON WHEELS

The middle 'twenties to middle 'thirties was to see the greatest array of tramcar types and styles designed and built by the Board. But the first essential to such a programme was a suitable place with the necessary equipment for such to be constructed. The early 'twenties saw steel chassis and truck frames manufactured at the Cable Repair Workshops at North Fitzroy, wooden bodywork being done in temporary sheds behind the Fitzroy cable car shed, painting and varnishing carried out at Preston and Glenhuntly Depots, and tenders let to private firms for completed bodies, while on the running maintenance and overhaul side, workshops at Malvern, Hawthorn, Coburg and Essendon Depots played their part for cars in their area. Without doubt, one good workshop was desperately needed.

The site selected covered 17 acres at Preston, a northern suburb, and was opposite the Preston Depot. Tenders were let progressively for each building in the overall plan, and the Paint and Car Erecting Shops were completed early in 1925, together with their traverser. The main Store and Sub-station were finished during 1925-26, with the large building to house the Truck, Wheel, Machine, Fitting and Electrical Shops, together with Traverser to the Car Shop, following during the third quarter of 1926. The timber storage racks, Office block, Blacksmiths and Plate Shops, Foundry and Pattern Shop, were finished in the next few months, and finally the Mess Hall and its amenities. The buildings were furnished with the best machines and equipment available at the time for the multitude of jobs to be done, including many new or serviceable items from the small superseded Workshops. Preston thus became the most modern tramway workshop in Australia, and was the subject of a number of inspections in subsequent years by "V.I.P's".

Preston Workshops absorbed the maintenance, overhaul and new construction tasks for the whole system, the latter immediately consisting of "W" class cars for the cable conversions, and subsequently "W1" and "W2" types. The master plan envisaged full development of the site to be able to handle a fleet of 1200 tramcars. The buildings constructed allowed for easy extension northwards as required, and initially catered for expansion during the next one or two decades. New Depots and extensions to some existing Sheds were built to house the expanding electric car fleet."

The first of the different types of cars were commenced before Preston Workshops was completed, when the Nicholson Street Repair Shops constructed the steel frames for ten class "X1" single truck cars. Their design was based on the Birney cars, but they were given four doors. They entered service from late 1926 to mid-1928, and appear to have been used on lightly trafficked services from Glenhuntly Depot. Nos. 462, 463 and 466 were at Hawthorn Depot for a while, the former being used on Tourist Car services and the latter on the Power Street shuttle, being fitted with Bow Collectors. Six of these cars were sent to the isolated Footscray system in June, 1928, to permit the Ballarat Road route to be one-man operated from 1st July. The other four cars were received the next June, and the Williamstown Road route became one-man from 9th, and was worked in conjunction with the Ballarat Road line. During 1930, six cars designated class "X2" were built, being a little larger than the "X1" type, but with only two doors. Five arrived at Footscray during August and September, 1930, to permit the remaining route (Russell Street) to become one-man, on September 13th., while the sixth car, No. 575, remained on the main system. The Board was experimenting with many ideas at this period to develop a better and quieter tramcar, and the method of transmitting the power from the motors to the wheels was one matter being investigated. Consequently, two cars of each class had special gears instead of the usual spur gears. All were removed over the following years. The Russell Street conversion date also saw the introduction of fare boxes on those three routes, which system lasted until June 9th, 1936 when block tickets were re-introduced. During July and August, 1930, all Footscray system trams had their trolley wheels replaced by a sliding shoe, graphite lubricated, which arrangement ceased about July, 1940. A much improved design of trolley wheel had been obtained by this time, so it was decided that the messy graphite be no longer used.

Tramcar No. 469 made its debut in June, 1927. It was a complete change of design for Australia, having front and centre folding doors, a straight floor level, tip-over seats mostly with limited longitudinal seats at doorways and no bulkheads. It was designed primarily to act as a Tourist tram, which service it commenced on 16th September, 1927. This 24 mile circular route proved very popular, and one of the "X1" class cars was also needed at times. Subsequently, the Nicholson Street Repair Shops constructed a special motor bus during 1928-29, which ran a series of six special sight-seeing tours every week. The Y1 class of tramcar differed from No. 469 in a number of items, but was largely the same style. They were built with the object of experimenting with one-man operation on lightly trafficked routes, but evidence of their being used as such on day services is not to hand. These four classes of cars all had "Safety" equipment which was later removed over a number of years. During the late 1920's and early 1930's a number of cars were converted from old passenger cars or built new, for various types of work, mainly connected with track construction and maintenance.

One aspect of the previously mentioned experiments was the evolution of the "W3" type tramcar. It was basically a "W2" layout, but with a steel frame, improved trucks, and wood used for floor, roof and interior linings only. It was quieter, gave a smoother ride, but its 33 inch diameter wheels resulted in high steps. Consequently, the "W4" was designed to use these smooth riding trucks by building the body "down and around" the bogies. The tops of the wheels were above floor height, but ran under four sets of two and two back to back seats in each saloon. The results were good, but the wide saloons caused the drop-centre frame to be set inwards to accommodate the steps. This increased construction problems and costs, and the then prevailing financial depression helped seal the fate of more than five cars being built. During January and February, 1935, five "new" tramcars entered service. They consisted of new bodies (similar to the "W4" body) on reclaimed trucks and equipment. The Board had decided to scrap the 39 bodies it had inherited from two of the Trusts and use the maximum traction bogies and electrical equipment in new bodies. It was soon found that the result was not fully successful, and the other 34 cars were cancelled. These five cars were designated the "CW5" class.

THE END OF THE CABLES

By the middle of 1934 the Board had decided that the Brunswick and North Melbourne cable tram routes should be converted to electric tramways as soon as possible, and planning was commenced. The Board wanted to construct the section along Royal Parade in open ballast track, but this was opposed by the Melbourne City Council, whose appeal to the Governor-in-Council was upheld. The cable running the North Melbourne route was stopped on 20th July, 1935, and work commenced two days later. Motor buses were used to carry passengers while the work was in progress. It would have been uneconomical to either continue to run the North Melbourne Engine House for the West Melbourne route or to convert it to electric trams, so buses were permanently substituted.

The North Melbourne route was opened to electric trams on 29th September, 1935, as far as Victoria and Elizabeth Streets corner, and to Elizabeth and Flinders Streets on 17th November, 1935. The northern end of Elizabeth Street (Victoria Street to Flemington Road) was opened on 29th December, 1935, and enabled the Essendon cars to run down Elizabeth Street while the Maribyrnong cars came in via North Melbourne. The Brunswick route was opened in three sections: to Leonard Street on 12th January, 1936, to Park Street on 22nd February, and the remainder to Moreland Road on 26th April. This connection allowed the North Coburg route to proceed south along Sydney Road, Royal Parade and Elizabeth Street to Flinders Street, while Moreland Road was catered for by a service worked in conjunction with the East Coburg line.

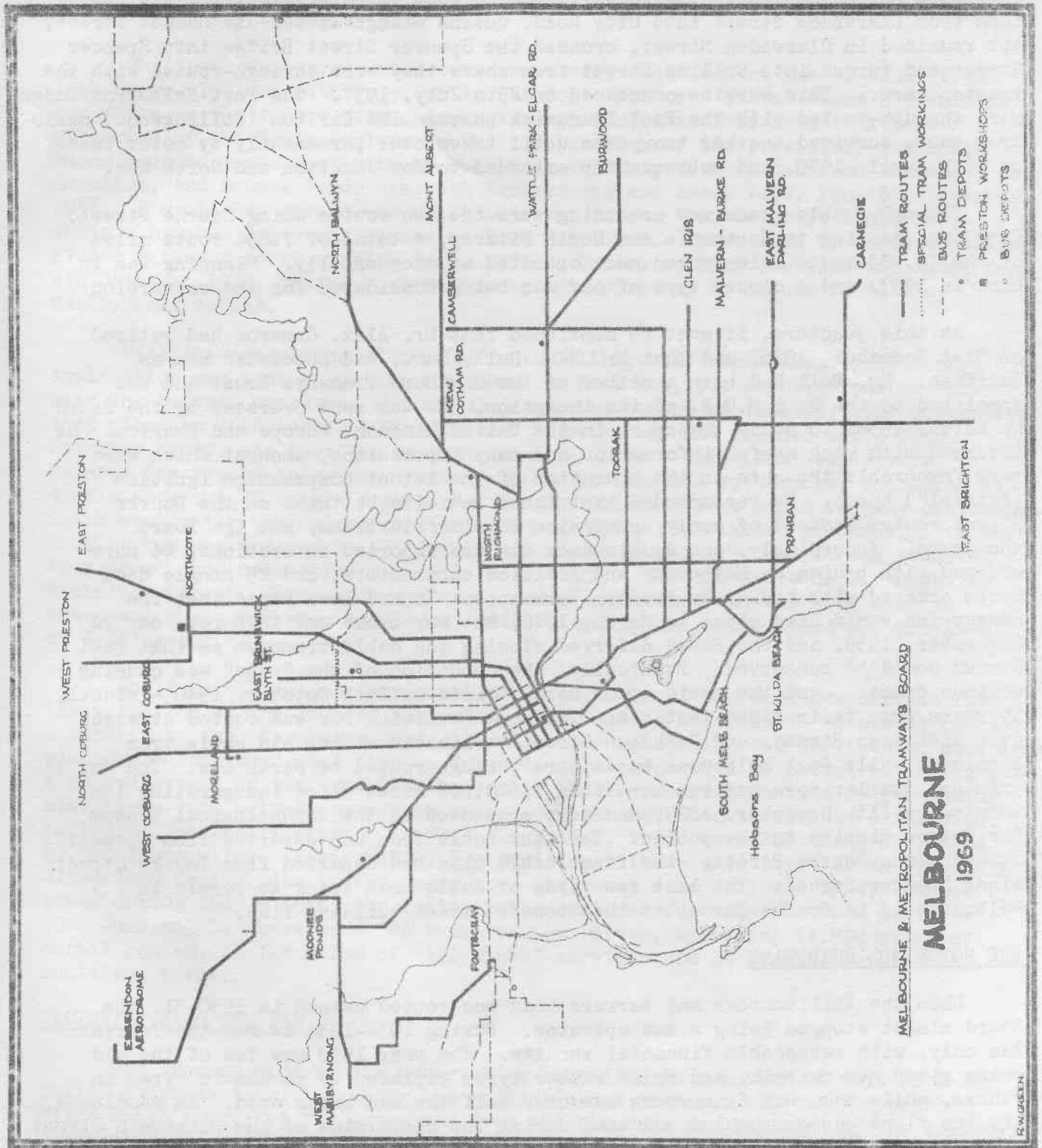
A new electric tram shed was constructed adjacent to the old Brunswick cable shed, while a fleet of "W5" class trams was allocated to this Depot and Essendon to run the service. The "W5" cars had evolved from the "W4" and "CW5" types, and featured a moderation of body and truck items. A total of 120 were placed in service from late 1935 until early 1939. The North Carlton (Rathdown Street) cable tram route was abandoned and converted to buses on 2nd August, 1936, extended northwards to Nicholson and Blyth Streets, East Brunswick, and brought into the city via Russell and Flinders Streets to terminate at Elizabeth Street.



WELDOURS

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"RUNNING JOURNAL"



The South Melbourne engine house was the next to cease operating, being closed on 13th March, 1937. The Port Melbourne cable tram route was permanently converted to motor buses and work started to construct electric tram tracks on the South Melbourne line. The route varied in that the electric trams did not turn from Clarendon Street into City Road, Queens Bridge Street and Market Street, but remained in Clarendon Street, crossed the Spencer Street Bridge into Spencer Street and turned into Collins Street from where they were through-routed with the Preston cars. This service commenced on 25th July, 1937. The Port Melbourne buses were through-routed with the East Brunswick buses. The Carlton (Collingwood) cable tram route survived another two years until taken over permanently by motor buses on 16th April, 1939, and subsequently extended to Kew Junction and North Kew.

The only cable trams now remaining were the two routes using Bourke Street, City, and running to Northcote and North Fitzroy, a total of 7.894 route miles of the 45.983 route miles which once operated so successfully. Planning was in hand in 1937, and a closed type of car was being considered for the conversion.

At this juncture, it must be mentioned that Mr. Alex. Cameron had retired on 31st December, 1935, and that Mr. H.H. Bell, Snr., had succeeded him as Chairman. Mr. Bell had been a member of the Hawthorn Tramways Trust and was appointed to the M. & M.T.B. at its inception. He was sent overseas by the Board in March, 1938, to study transport in the United Kingdom, Europe and America. He returned with much useful information and many impressions, amongst which were very favourable thoughts on the operation of the latest compression ignition ("diesel") buses. He recommended that these vehicles be tried on the Bourke Street routes instead of early conversion to electric trams, and the Board concurred. Accordingly, one double deck bus was imported in sections, 44 more ordered with bodies by Melbourne and Adelaide contractors, and 25 single deck buses ordered with bodies by Preston Workshops. It had been hoped that the conversion would take place in March, 1940, but war broke out in Europe on 3rd September, 1939, and the Board deferred closing the cable tramways so that fuel stocks could be conserved. Eventually, the condition of the "rope" was causing serious concern and the cable trams were retired on 26th October, 1940 - exactly 55 years from their first test run. The East Brunswick bus was routed straight down Nicholson Street, and Rathdown Street terminated at the old cable tram terminus, while Port Melbourne buses were through-routed to North Kew. The No. 1 grip and trailer cars had run more than 1,600,000 miles since inaugurating the service on 11th November, 1885, and were presented to the Technological Museum for future display to the public. The last cable tram had departed from Spencer Street along Bourke Street; the first cable tram had departed from Bourke Street along Spencer Street; the last few yards of cable tram track to remain in Melbourne is in Bourke Street at the Spencer Street building line.

THE MOTOR BUS REAPPEARS

When the Williamstown and Barkers Road bus routes ceased in 1930-31, the Board almost stopped being a bus operator. During 1932-1934 it ran the Tourist Bus only, with reasonable financial results. The year 1930 saw ten of the old buses given new chassis, and solid rubber tyres replaced by pneumatic tyres on others, while the next five years saw over half the old buses sold. As mentioned, the bus fleet was overhauled and used during the conversion of the Elizabeth Street cable tram routes, from 21st July, 1935 to 25th April, 1936, the West Melbourne

route became permanently operated by buses from the former date, and was followed by the North Carlton route on 2nd August of the same year. Permits were granted to operate buses from Footscray to Sunshine, Footscray to Moonee Ponds, City to Williamstown via the Ferry and City to Fishermen's Bend (Coode Canal), by early 1936. Consequently, 54 buses were ordered, including one Daimler with fluid flywheel and self-changing gear box.

The South Melbourne cable tram conversion required the use of buses from 14th March, 1937 to 24th July, while the Port Melbourne route became a permanent bus route on the former date and was through-routed to East Brunswick (the extension of the North Carlton route). Deliveries of the previously mentioned buses enabled these routes to be operated, together with routes from Footscray to Sunshine, and Moonee Ponds via both Maribyrnong and Ascot Vale, from 6th December, 1936. A small bus garage was built adjacent to the tram Depot at Footscray, while a new bus depot was opened at Port Melbourne. There were 71 buses operating 27.485 miles of route at 30th June, 1937. Sunday morning services commenced from 4th October, 1936, on the Port Melbourne and Footscray to Moonee Ponds via Maribyrnong routes.

With the conversion of the Carlton (Collingwood) cable tramway pending, application was made to extend the buses to East Kew, but negotiations to take over the private operators who ran this section became protracted. The conversion took place on 16th April, 1939, but Kew Junction was not reached until 29th December, 1940, and East Kew on 19th January, 1941. Additional buses were ordered for expanding services and route variations and extensions, including 45 double deck and 25 single deck buses for the Bourke Street cable tramway conversion, which eventually took place on 26th October, 1940, as detailed previously. A new tourist bus was ordered to supplement the existing vehicle, and it was received from Canada and commissioned on 7th March, 1939. The old Cable Repair Shops in Nicholson Street, North Fitzroy, were partly demolished and the site used to construct a Bus Workshop and Depot, while a small bus parking yard was provided at Collingwood.

World War II caused many problems to accrue, and was soon responsible for the cessation of the Tourist Bus outings, as well as experiments with coal gas as a substitute fuel for petrol and oil. A number of special bus services to munitions plant were commenced, and this traffic plus that generated by petrol rationing put a severe strain on the vehicles available, which were supplemented by purchasing many buses from private operators whose services had been reduced or eliminated, including tourist licences. At 30th June, 1941, there were 205 buses operating 63.883 route miles. During 1942, 59 "Munitions" buses were built to an extremely elementary design, due to the emergency, and these were followed by 47 "Austerity" buses during 1943 - 1946, the latter being designed for some post-war use. At 30th June, 1945, there were 326 buses on the roster, operating 64.992 miles of normal routes, 18.716 miles of "All Night" services and 14 special services to munitions works.

"LUXURY" TRAMS AND WAR

The tramway side of the undertaking benefited in a number of ways from Mr. Bell's overseas trip, including the rolling stock section. The canvas weather blind which protected the entrances from the elements was replaced by the driver-controlled pneumatically operated sliding door, while car-interiors took on a

"new look". Preston Workshops was already converting the last four of the open-centre "W1" class to sliding doors, and these appeared during 1938. The first "Luxury" car, No. 850, entered service on 31st March, 1939, and featured sliding doors, tip-over seats in the saloons, lined ceilings, public address system, and a number of lesser items. It was followed by the last of the "W5" cars, Nos. 840-849, which had been modified during construction to be similar to No. 850, except in the saloon seating. Another 39 trams similar to No. 850 were built, when a form of austerity seating was introduced in the saloons - the tip-over seats were replaced by fixed seats. Despite extremely difficult conditions, and much time devoted to war work, Preston Workshops continued to build new trams as they were desperately needed to handle the rapidly increasing traffic at all hours of the day and night, and No. 900 entered service a fortnight before hostilities ceased.

Several tramway extensions had been built, as well as duplications and relaying, in the late 1930's, and these were followed by others in the West Maribyrnong, Maidstone, Ascot Vale and Essendon Aerodrome areas during 1940-1943. These works necessitated the extension of Essendon Depot to enable it to accommodate the additional trams to operate these lines. The man-power shortage caused the employment of Conductresses from 4th September, 1941, but, although several hundred were soon working, long hours were still worked by the traffic staff. Sunday morning tram services had been introduced on 4th October, 1936 (on all cable and electric routes and two bus routes), while 14th February, 1937, saw the commencement of "All Night" trams on eight routes. The former proved quite popular from their inception, but the latter, even on their limited headways, were poorly patronised. The war proved a boom for them! The number of routes operated increased until most of the main system was covered, and headways were improved, as shift-workers were carried to munitions plants and other factories.

The Footscray system participated in these hectic days, and received additional trams for its increased munitions traffic, so much so that, when the last tram ran in for the night it just cleared the footpath at the Depot gate! It was on the local route to Russell Street on 14th July, 1943, that No. 459 possibly made tramway history - it collided with an army tank! It was badly damaged and was transferred to Preston Workshops for major repairs. No. 675 was sent from Glenhuntly Depot to replace it. The Footscray trams were still one-man operated, and industrial trouble brewed for quite some time due to the extremely heavy loads being carried. Additional man-power was made available early in 1945, and two-man operation commenced from 15th May.

The world-wide scope of the war soon meant that Australia faced a genuine crisis at home for the first time in its history, and "brown-out" and "black-out" precautions became a fact late in 1941. All trams and buses were fitted with equipment to dim interior lights while cowls were used on headlights to prevent the glow being seen from above. A special Emergency Van was constructed and equipped with tools and other implements, while a breakdown wagon and crane wagon were also commissioned. Members of the staff at Head Office, Depots and Workshops were trained in fire fighting and first aid. Several trams and buses were painted for successive war loan advertising, while even Wattle Park made its contribution by vegetables being produced instead of flowers in the garden beds. Traffic-wise, records were made to be broken. The maximum number of passengers carried was for the year 1944-45, with 354,803,116 (284,139,431 by tram and 70,663,685 by bus), using 1,058 vehicles (740 trams and 318 buses). The figures for 1938-39 were

194,005,841 (20,826,544 by cable tram, 161,267,858 by electric tram and 11,911,439 by bus) using 881 vehicles (98 cable trams, 670 electric trams and 113 buses). The maximum tram miles run were in 1943-44 with 23,000,054, buses in 1942-43 with 3,613,380, while the maximum for both vehicles was in 1942-43 with 31,539,028.

THE PROBLEMS OF PEACE

In August, 1943, the Board reviewed the operation of buses on the Bourke Street routes since the cable tram conversion of October, 1940, and concluded that they had not been fully successful in meeting the transport needs of the two routes concerned. The matter was referred to the local Councils concerned - Melbourne, Fitzroy, Collingwood and Northcote - and they agreed unanimously. Consequently, the Board decided to proceed with the work of converting the route to electric trams as an immediate post-war task, noting that it would assist in making the transition from war to peace somewhat easier. A number of other items of extensions, conversions, and associated Depots and Sub-Stations were also decided upon, together with continued construction of tramcars, and it was hoped to finance same from within the undertaking. An approach had been made to the Broken Hill Pty. Co. Ltd. some years ago about rolling tram rails in Australia, but the limited quantity involved had made this uneconomical. The Board made fresh enquiries, and, after enlisting the aid of tramway authorities in Adelaide, Sydney, Brisbane, Hobart, and the Victorian Railways in Melbourne, who agreed to take 6,000 tons in addition to the Board's 5,000 tons, B.H.P. agreed to submit a quotation in competition with English and American companies, when tenders were called. The B.H.P. tender was the lowest received and was therefore accepted. The 102 lb. Australian standard grooved tramway rail was soon to become a reality.

When Mr. Bell had been in U.S.A. in 1938, he had been most impressed with the P.C.C. type tramcar, and had entered into negotiations to have one car imported complete and to build others locally or adapt their features to new rolling stock. The Customs Department refused to permit duty-free entry of a sample car to Australia, and the war caused further negotiations to be suspended. Same were resumed early in 1946, and three senior officers were sent overseas to study a number of matters, including the P.C.C. car and the possibility of finalising the matter. The result was a decision to import one car-set of trucks and electrical equipment for installation in one of the Board's standard tramcar bodies, and to enter into a Licence Agreement for the manufacture or sub-licencing of complete or partial construction of tramcars or equipment in Australia. The outcome was that construction was commenced in January, 1949, of a standard "SW6" type frame at Preston Workshops, and a number of modifications were made to the body while it was being built. Ducting was placed beneath the floor to supply forced ventilation to the traction motors, the drop-centre floor was raised to be level with the saloon floor to accommodate the additional electrical control equipment, and this necessitated a modified step arrangement at the doorways, the windshields were re-designed and the route number boxes included within the end roof canopies, the centre seating was made longitudinal and upholstered, interior lighting and ventilation was modified, and the master controllers were adapted for direct operation by the motorman and placed vertically in the cabins. The car was completed in June, 1950, tested, displayed to the press and public, and commissioned the next month. It was placed at Malvern Depot to work the cross-suburban route from Kew to St. Kilda Beach, as it was feared that standard cars might become involved in rear-end

collisions with it in close city traffic if its emergency brakes were used. It was impossible for more than a minority of the drivers at the large Malvern Depot to be kept trained to drive it, due to the staff turn-over, and it therefore saw limited service. In August, 1960, No. 980 was transferred to the small North Fitzroy Depot where it has operated on a normal basis on the East Brunswick route from Bourke Street, City, with some trips to East Preston.

The first few years after the war proved to be quite a boom period with "everyone" wanting to hire labour and build things and buy items that had been in short supply or unobtainable since 1940, as well as many new products which were becoming available or forecast. In common with most Government or semi-Government bodies, the M. & M.T.B. found that there was a serious gap between its plans and the results. There was an appalling shortage of staff, particularly in the traffic section, and the arrears of maintenance on tramcars, buses and tracks could not be overtaken, let alone much new work tackled. Preston Workshops managed to build several new trams each year, overhaul as many as possible and carry out several minor modifications to improve the cars, while the Permanent Way Branch carried out some duplications and relaying works, and slowly constructed the Melbourne Street diversion line across the north end of the City. A number of schemes for extensions were prepared and submitted to the Parliamentary Public Works Committee, which body approved some and rejected others.

The early 1950's also saw the start of "operating economies". The small Coburg Depot was closed on 11th October, 1952, and its services absorbed by the neighbouring Brunswick Depot. Reductions to the basic off-peak headways of a tram at least every ten minutes commenced, and many routes were cut to a 12 minute service. Costs were rising rapidly in the post-war boom, and fare increases became a periodical event. Initially, the State Government tended to minimise same, but an increasing accumulated deficit caused this attitude to be eased. (The Board is still financially independent, and its losses are not covered from Consolidated Revenue)."

Mr. H.H. Bell retired as Chairman of the M. & M.T.B. on 30th September, 1949, but was retained as Consultant until the end of the year. Mr. Bell had been Chairman for nearly 14 years, and had served as a Member for 16 years prior to this. He was succeeded by Mr. R.J.H. Risson, who had held the position of Assistant Manager of the Brisbane City Council Tramways Department.

NEW BUSES FOR OLD.

The bus fleet emerged from the war with its heavy diesels starting to show the strain and the majority of the fleet consisting of smaller units, the latter made up of emergency "Munitions" buses, limited-life "Austerity" buses and a batch of sundry vehicles purchased from private operators as "stop-gaps". The Board had ordered 67 diesel chassis from England in 1941, and they were received in 1947. Forty of these received bodies by a Sydney firm and the remaining 27 were fitted-out by Preston Workshops. They entered service from 5th August, 1947 to 12th July, 1949, and each seated 31 passengers. A subsequent order for 30 buses received Sydney bodies, seating 41 passengers, and they were placed in use during 1950. Another 66 buses of 41 seated passengers capacity were obtained with Sydney bodies from 1951 to 1953, while two Melbourne firms built 71 bodies from 1952 to 1954. The influx of these 234 new buses in less than seven years caused a dramatic transformation to the bus fleet, and most of the old vehicles were retired and sold.

The last of the double deck buses were retired early in 1954. All the post-war diesels had been fitted with two driver-operated sliding doors and route number boxes, and the latter were brought into use early in 1954.

The late 1940's had seen the progressive termination of the special services operated to munitions plants, some variations to other services to meet changing conditions and requests for new services. September, 1950 saw the introduction of queues at loading points at the Y.M.C.A., City South, and at selected stops in Bourke Street in June, 1951. Two other experiments were conducted on Bourke Street buses. "Honesty Boxes" were fitted to the 45 double deckers on 7th April, 1952, but results were poor, and their use was not extended. Four of the first batch of 41 seat buses had signs painted at their doorways introducing "Circulation Loading" - in at the front and out at the rear. The early response was good, particularly when supervised by Inspectors, but the overall situation apparently did not warrant its continuance. This took place in May and June, 1950. The maximum number of buses was reached in June, 1945, with 345 vehicles in the fleet. June, 1951, also saw the introduction of street collection of fares by Conductors or Conductresses, equipped with ticket issuing machines, at four main stops in the city area. This proved successful, and their usage was extended.

Surveys were carried out late in 1953 on the North Kew and Sunshine/Deer Park bus routes to obtain the likely patronage for Express or Minimum Fare buses. The results showed that minimum fare buses on the North Kew route would be warranted, and they commenced on 12th October, 1953. Industrial trouble took place about this time in relation to the use of ticket machines by bus drivers and the question of one-man operation of buses with more than 31 seats. The Board wanted to introduce 41 passenger buses on existing one-man routes, but the Employees Union refused to drive them. A series of negotiations, strikes and trials ensued, during which tenders were called from private operators to permanently take over the affected services. Decisions were handed down, but the problem arose more than once down the years, emerging in the late 1960's afresh when the remaining two-man routes were rostered to be run by 31-seaters as one-man routes. The Union refused to crew these buses, and a series of Arbitration and Court decisions and reversals followed, currently resulting in the situation that the Board cannot convert a two-man tram or bus route to one-man operation without the consent of the Union.

The conversion of the Bourke Street bus routes to electric trams in 1955 and 1956 caused the withdrawal of most of the pre-war buses then remaining in service, and the storage of the first 30 post-war 41 seat vehicles. Twentyfive new buses were commissioned late in 1956, to operate a new route from the City to North Carlton, and thence to Heidelberg, initially serving the "Village" for the Olympic Games competitors. These vehicles were the Board's first under floor engined buses, but unfortunately suffer from having their rear-ends shortened to reduce them to 31 passenger units to comply with the need to one-man this route. The 30 big stored buses returned to service as part of the Board's contribution towards moving the athletes to and from their venues, after which they were again withdrawn and subsequently sold. North Fitzroy Depot was provided with a bus washing machine (and other Depots, likewise, subsequently), and a "Vacuum Cleaner" unit - a large extractor fan, room-sized receptacle and concertina connection to the bus - to assist in cleaning waste paper from the interiors of buses.

Melbourne's "All Night" trams ran their last on Saturday, 16th February, 1957, and a lesser number of buses took over on extended headways along revised routes. Even these economy measures were insufficient to cut the losses on the service caused by former passengers using their motor cars, and the service ceased completely on 17th November, 1968. The Victorian Railways decided to withdraw its electric train service on the Fawkner line from late afternoon every Sunday from 7th September, 1958, to cut losses on this service, and arranged with the M. & M.T.B. for its passengers to use the North Coburg tram route, and then to transfer to a tramway bus for the journey to Fawkner. (It is interesting to note that the Melbourne, Brunswick and Coburg Tramways Trust put "Fawkner" on its destination rolls when it opened to North Coburg in 1916!) The electric railway line was subsequently extended in stages, and this Sunday evening service followed suit, firstly reaching Gowrie, and then Upfield on 8th January, 1967.

TRAMS FOR THE 'FIFTIES

The early 1950's saw a slight improvement in the overall position of manpower and materials, and both became well co-ordinated with the appointment of Mr. D.H. Eakins as Chief Engineer from 1st January, 1952. Mr. Eakins had held the post of Testing Engineer, and was thus well informed on all aspects of the Board's undertaking, and he was largely responsible for planning and executing - on schedule - the conversion of the Bourke Street routes and many lesser works. Work commenced on the Bourke Street conversion on 2nd September, 1953, at the corner of Nicholson and Gertrude Streets, Fitzroy, to remove a section of the cable tramway, including the junction, to fill the many tunnels and sheave rooms outside the old engine house, and to instal electric track and a junction. The track gangs then transferred to Maidstone to construct the link between the isolated Footscray system and the main system while the Royal visit was in Victoria, upon the departure of which they started excavating Bourke Street, City, on 9th March, 1954. The Footscray link opened to traffic on 2nd May.

The conversion work was at the rate of one mile of single track in five and a half weeks, set in mass concrete (mostly to rail-head, but the city area received a bituminous surface). The city area track used wooden sleepers with wooden rail pads, but the remainder used nothing but rails, tie-bars, concrete, ash foundation and track drains. A 100-car shed was constructed at East Preston (and enabled the cramped old Preston Depot to be closed), and a small 18-car shed was built in portion of the North Fitzroy bus yard. Initially, 55 trams were built by Preston Workshops for the two routes, but several others were rostered to handle the traffic, which proved greater than expected. The years 1953-1956 were filled with experiment and progress for the rolling stock section. Resilient wheels were tested and then installed in all the new cars (and later several existing ones), likewise double helical gears. The two new routes opened with carbon insert sliding shoes instead of the conventional trolley wheel (the rest of the system being converted during the last quarter of 1961), and with most of the new trams insulated against noise in their ceilings, sides and under their floors. Resilient trolleybases and special gears were tested, together with dynamic braking built into the existing equipment. It was remarkably successful under test conditions, but was not extended to all cars for general traffic. The Northcote route opened to passengers on 26th June, 1955, with East Brunswick following on 8th April, 1956. The M. & M.T.B.'s maximum mileage of tramways existed during 1956-57 with 142.694 route miles and 284.726 single track miles.

One of the double track right-angle crossings installed in the city was of a resiliently mounted type, and subsequently four others have been placed in the city and suburbs together with two more similar units. The maximum number of electric trams was reached in June, 1956, when there were 810 cars on the roster (plus eight works trams).

From 1st July, 1954, the Board was reconstructed. It had originally consisted of a full-time Chairman and six part-time Members, but now became three full-time officials, namely a Chairman, Deputy Chairman and Member. Mr. Risson was re-appointed as Chairman.

THE FLEET SERVICE

From November, 1959 to November, 1961, several tram services were replaced by one-man buses on Saturday afternoons and evenings and/or Sundays, and the three local tram routes at Footscray closed on 10th March, 1962. There was a period of industrial trouble at Footscray about operating the replacing buses as 31 seat, one-man units. The Point Ormond shuttle tram, from Elsternwick station, closed on 22nd October, 1960, and was replaced by an extension of the Clifton Hill to Point Ormond bus route. In May, 1962, the Board announced preliminary plans to put its city tram routes underground in Swanston and Bourke Streets. Falling passenger traffic, due to increased use of motor cars and T.V. closing most suburban cinemas, has caused a number of timetable revisions during the 1960's, which have resulted in many trams and buses being withdrawn from service, stored, and eventually disposed of or scrapped. The fleet now consists of 698 trams and 277 buses, of which 45 trams and 33 buses are stored and surplus to requirements, but held against any future traffic needs. The last new tram built was "W" class No. 1040, in August, 1956. Following the closure by the Victorian Railways of both their tramways, the three newest trams, built in 1942, were purchased by the M. & M.T.B. Two of these were fitted with standard Melbourne trucks and received minor alterations to enable them to be placed in service. The third car was not used. The M. & M.T.B. has thus operated 998 electric (passenger) tramcars.

The Board desired to extend the East Kew bus to the new suburb of Bulleen, but the route was partly served by a section of the services licenced to a private operator, who ran in the Doncaster/Templestowe/Warrandyte area. The resulting negotiations ended with the Board purchasing the routes and 20 buses, as from 2nd July, 1961. At this period, the Board shortened 40 of its 41 seat buses to 31 seaters to enable them to be one-man operated, for use on these purchased routes and on existing services. Recently, 10 more have been so-treated, as falling traffic on the two-man routes renders them surplus. In 1963, State Parliament passed the Metropolitan Transport Committee Act, which enabled a committee to be appointed to investigate the overall transport needs of the metropolitan area and to formulate plans and recommendations for the future. The results were released in December, 1969, and, briefly, include an intricate road system, extensions to the suburban electric railway network, retention of most tramways and 910 new trams, 2540 new buses (presumably covering both M. & M.T.B. and private fleets), new trains and an underground city railway, and possibly underground trams in the city.

Hawthorn Depot was closed on 13th February, 1965, and its services operated from Kew, Camberwell and Glenhuntly Depots, while a new bus Depot was opened at Doncaster on 8th June, 1965, to replace the limited facilities purchased. An order

had been placed for 100 new under-floor engined buses to replace the 1947-49 buses and the 20 purchased, and they were placed in service during 1964 - 1966, taking over all regular work at Footscray and Doncaster Depots, with a small number allocated to North Fitzroy. These latter were transferred to Doncaster Depot to work two routes in the Box Hill area which were purchased from a private operator on 31st December, 1967. The early hours of Monday, 26th June, 1967, saw "W5" class tramcar No. 774 and South Melbourne Depot become known world-wide for a few moments, when televised in "Our World", to depict the first tram running out into service in the dawn.

During the 1950's and 1960's, a continuous programme of track relaying and renewal has been undertaken, resulting in a very impressive percentage of the system now being in mass concrete with new rails. Many junctions, crossings and crossovers have also been included in these works. Possibly the most impressive task in which the Tramways Board has been involved has been a major road-work! Namely, the St. Kilda Junction By-pass Project. This involved eliminating the six-way road junction (four carried trams and the other two M. & M.T.B. buses) a notorious intersection for traffic congestion, and replacing it with a freeway type by-pass road, overpasses, and light-controlled traffic islands, with the tramways inter-twined. The Wellington Street tramway was abandoned and placed in the median strip of the freeway, connecting at its eastern end with the private right of way existing in Dandenong Road, and with St. Kilda Road at its western end via a ramp and flyover above the freeway. Portion of another tram route was diverted and threaded through the complex traffic islands. The Board's contribution to the work began late in 1966 and concluded in December, 1968. Traffic congestion has been reduced for all concerned, and the trams gain appreciably by a decrease in running time.

October, 1965, saw tests with non-metallic brake shoes commenced. Many problems were solved in the next few months, and simulated traffic conditions produced hopeful results. In November, 1966, the 15 "W6" and "W7" cars at North Fitzroy Depot were fitted with these composition shoes, and service results proved quite good. The next step might be described as "the acid test": the 73 cars with No. 15 type trucks at East Preston Depot received these brake shoes. The results were still good, and the Board decided to remove the traditional cast iron shoes from all the other No. 15 truck trams throughout the service, and this took place early in 1968 as stocks became available. There were still problems in using composition shoes on No. 1 trucks, as a tendency to "squeal" was prevalent. (No. 1 trucks have one shoe per wheel and require twice the pressure per shoe as on a No. 15 truck, which has two shoes per wheel; it is considered that the increased pressure causes the "squeal"). Different types of composition have been created, and were originally tested in traffic on the several "W2" type cars at East Preston Depot. Early in 1969 all "W2's" at Kew and half those at Malvern were fitted, and, by a year later, the rest of Malvern, and all Brunswick and Essendon No. 1 trucks had them. The purpose in testing composition shoes was to obtain better braking. This has been achieved to a reasonable degree. The main result has been a by-product: a remarkable reduction in noise! The Board has been fitting double helical gears as fast as possible in recent years, especially to No. 15 trucks, and the combination of these gears and the new shoes, using standard wheels, is especially pleasing. The results on resilient wheels is better, but probably not sufficiently so to justify the large cost of the latter.

THE ANNIVERSARY DAY

Day No. 18,264! Fifth years is a goodly span of time, during which "much water has flowed under the bridge", or should it be remarked that "many wheels have rolled down the tracks". The Board and its trams and buses have served the people of Melbourne and suburbs well, despite periodical complaints from a few. Its officers have often wanted to do more than they could, but the main restriction has usually been finance. This has revolved about a relatively low population density and, latterly, the motorcar. Economies of the last two decades have held the undertaking together, but the present financial position does not appear healthy. It is to be hoped that future thinking and action at all levels by everyone concerned will be aimed towards benefiting the services and passengers.

ACKNOWLEDGEMENTS

The foregoing article has been based on the M. & M.T. B's annual reports, selected newspaper items, the recollections of many past and present employees, to whom due thanks are expressed, and the writer's own records.



THE TRAMWAY MUSEUM SOCIETY OF VICTORIA (LIMITED)

The T.M.S.V. was formed in 1963 to form an operating tram museum near Melbourne. The society has preserved a number of historic vehicles, conducts tours to places of tramway interest holds meetings and film nights for members and produces a bi-monthly journal.

Details of the society can be obtained by writing to:-
T.M.S.V. Membership Promotion Officer
16 Saladin Av.
Glen Waverley, 3150.

R U N N I N G J O U R N A L

Running Journal is a bi-monthly magazine produced by the T.M.S.V. in a format similar to this issue. R.J. contains many feature articles of historic interest, news of events on the tramway systems in Melbourne, Ballarat and Bendigo, society activities, reports about other tram museums and numerous photos.

Subscribers receive 6 issues per year, posted flat for \$2.10. Many back issues are still in stock also. Write to:-

T.M.S.V. Sales Dept.
143 Bamba Rd.
Caulfield.

D E S T I N A T I O N C I T Y - R E C O R D.

A 12in. 33.1/3 Long Playing recording of Melbourne's tramcars with sounds of W2, W3, X2, and other class cars. Tracks were recorded at busy intersections, City terminus (Batman Av.) (Elizabeth st.), and at a tram/train crossing (including sounds of a tait electric train), and of course on the cars themselves while running along Melb. streets.

PRICES:	VICTORIA	INTERSTATE	OVERSEAS
record	\$5.50	\$5.50	\$5.50
packing & post	45c	80c	\$1.35
	<u>\$5.95 total</u>	<u>\$6.30 total</u>	<u>\$6.85 total</u>

Please make cheques etc payable to O. S.ATER (NOT T.M.S.V.)

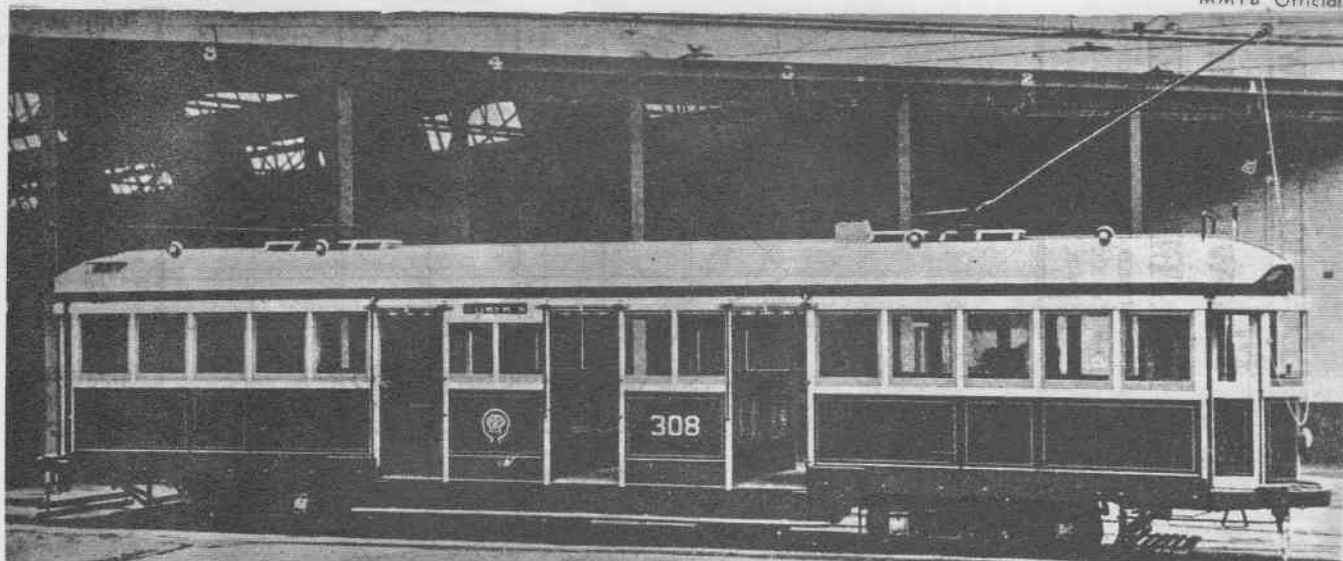
Money and postal orders are to be cashed at a MELBOURNE Post Office.

SOLE AGENTS: T.M.S.V. Record Dept.
13 High Street
PRAHRAN 3181.

Interior of the Car Body shop at the M.M.T.B. Preston Workshops showing W class cars under construction at left and other W cars in the lifting bay on the far right receiving maintenance.

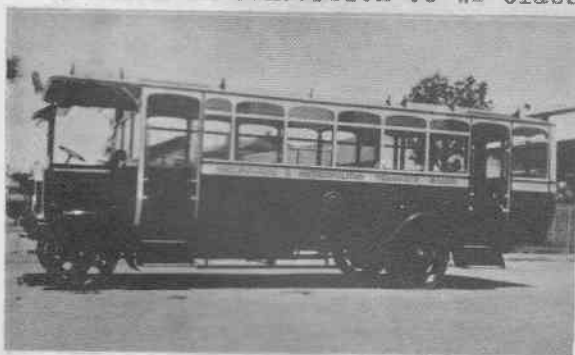


MMTB Official



MMTB Official

W class No. 308 seen here at Kew Depot was typical of the Board's first standard bogie car design. Note the drop centre seating and entrances which were later altered on conversion to W2 class.



MMTB Official

This Tilling-Stevens petrol-electric omnibus was introduced in 1925 as an adjunct to tram routes and to assist with conversion of cable to electric tramways.



MMTB Official

The Tramways Board Chalet at Wattle Park, set in picturesque bushland surrounding, has been progressively developed since the mid 'twenties.



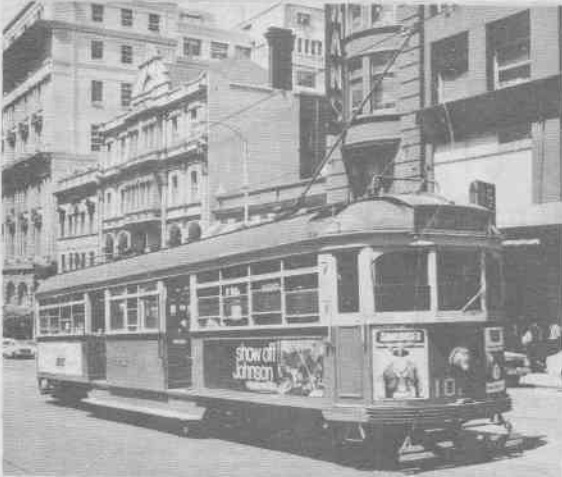
MMTB Official

Above : Depot capacity was expanded to meet the needs of a growing electric fleet and the neat interior of the new shed at Malvern Depot exemplifies the high standard of design and construction achieved in this era of progress.



MMTB Official

Right : These double decker buses, part of the fleet introduced for the Bourke Street conversion in 1940, were seen here at North Fitzroy depot prior to entering service.



R W Green

W7 class No. 1022, one of the last group of cars designed and built by the Board, descends Bourke St. bound for the Exhibition. The bulkhead at the end of the longitudinal seats in the drop centre is clearly visible.



K S Kings

Above : In the 1950's, the Board embarked on a major program of track renewal with extensive use of mass concrete. The St. Kilda Road reconstruction was one of the biggest jobs. This view shows temporary double track at right, completed "up" track in concrete and the old "down" track at left.



Right : The latest rolling stock added to the Board's fleet consisted of 100 buses on A.E.C. Mk6 chasses.

B A Tilley