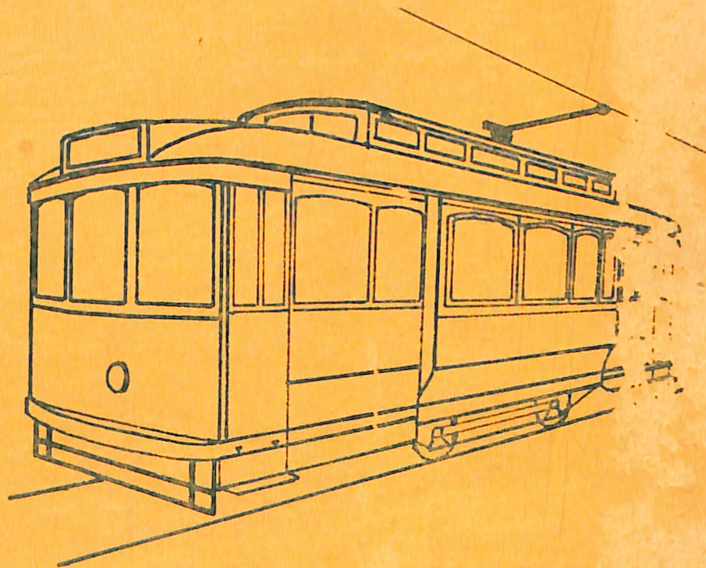
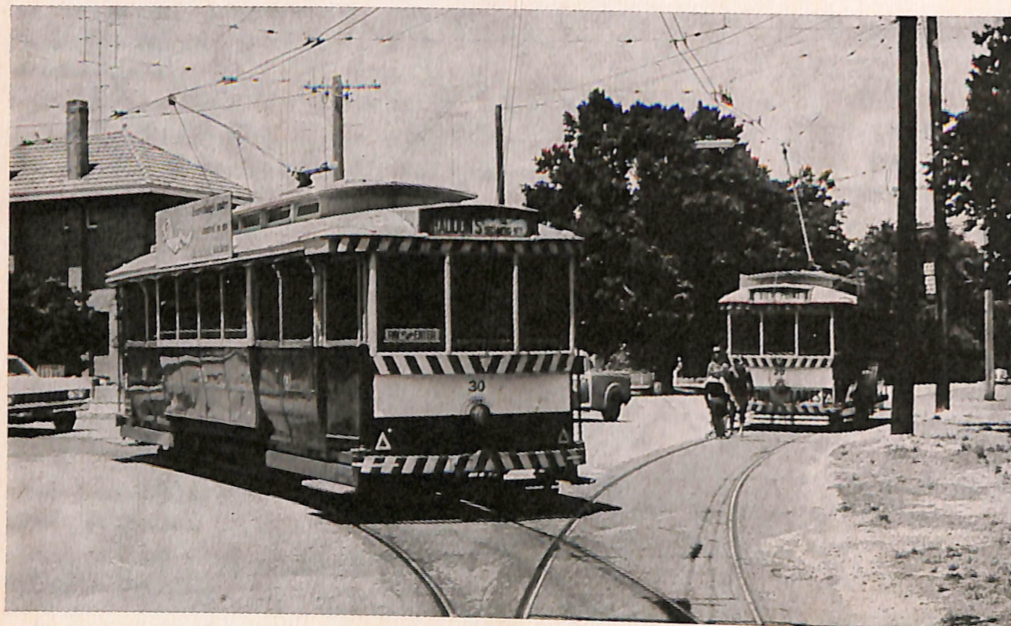


THE BALLARAT TRAMWAYS

An Illustrated History

K. S. KINGS





Car No. 20 waits at the View Point terminus while No. 30 enters Wendouree Parade on the lunch-hour short working to Haddon St.

THE BALLARAT TRAMWAYS

AN ILLUSTRATED HISTORY

by
K. S. Kings

AUSTRALIAN RAILWAY HISTORICAL SOCIETY
VICTORIAN DIVISION, MELBOURNE

In conjunction with Australian Electric Traction Association
and The Tramway Museum Society of Victoria

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Foreword

THIS BOOK

. grew from quite a humble beginning. It was originally envisaged as a small four or possibly eight page brochure to be handed out on a tour to Ballarat on 21st August, 1971, by specially chartered steam train. The trip was organised by the Australian Railway Historical Society Victorian Division and The Tramway Museum Society of Victoria Limited to enable members and friends to travel for the last time over the complete Ballarat tramway system, before its closure.

During preliminary discussions it became clear that something better was desirable for such an occasion, and the shape, size and quantity of pages changed rapidly. The result was a mammoth increase in the text, and this problem was partly solved by the Editor of the Australian Electric Traction Association's monthly magazine "Electric Traction" readily giving his permission to reproduce any portion of "A Brief History of the Tramways of Ballarat". This article had been written by K. S. Kings and (the late) W. H. Jack and appeared in the December,

1962, and January, 1963, issues, which are now out of stock.

This book is thus the combined efforts of several people from three Societies and is an excellent example of concentrated co-operation and co-ordination, having been supplied to the printer two weeks after work commenced. A similar tour is planned to Bendigo before its tramways close, and a companion volume is proposed.

The text does not purport to be the ultimate detailed history of Ballarat's trams. It is but a precis of information gleaned and research carried out to date. The writer is aware of the old adage: the more one knows, the more one knows one does not know. To compress nearly ninety years into a few pages creates a two-fold problem: what to include and what to exclude. This book is therefore presented as an interim source of information and a mark of commemoration to BALLARAT TRAMWAYS.

August, 1971.

KEITH S. KINGS

CHAPTER I

The Horse Trams

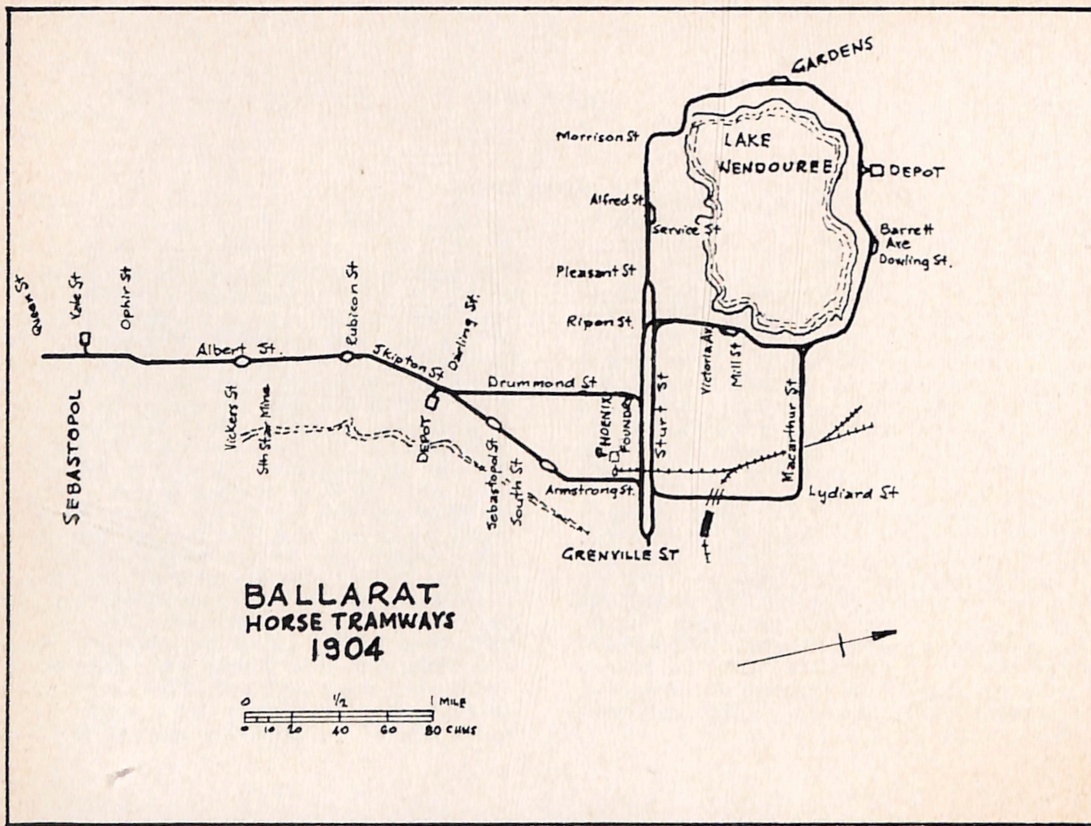
Genesis

Ballarat is the third city of Victoria, being situated approximately 74 miles from Melbourne on the main west-bound railway line to Adelaide, South Australia. The population of the greater urban area at present is approximately 60,000 people. Ballarat is the service centre of the surrounding agricultural areas and also contains many secondary and tertiary industries. The city and suburbs have steadily expanded during the last two or three decades and there are indications that this growth will continue.

Ballaarat (the old spelling of the name) originally comprised East Ballarat and West Ballarat, which were created Municipalities in 1857 and 1855 respectively. The former received the status of a Town in 1872, while the latter became the City of Ballarat in 1870. This situation prevailed until they amalgamated in 1921 to form greater Ballarat. A third local government district is also involved in the history of the tramways, namely the Borough of Sebastopol, which is situated a short distance to the south-west of the city.

It appears that the first moves to provide Ballarat with a tramway service came during the last half of 1884, and are indicative of the flourishing conditions of this gold boom town at this period. The City Council's Tramway Committee was not in agreement with early proposals and carried out their own investigations into the aspects of the various types of tramways available. They were impressed with the tramways then in use in Adelaide, South Australia, and recommended a gauge of 4'8½" with rails level with the road surface, a fare of two pence per mile and that the motive power be horses. It was pointed out that the Council had large Loan commitments and it was therefore recommended that the Council delegate authority to construct the tramways to private enterprise rather than undertake the project itself. In February, 1885, the Tramway Committee recommended the following routes:—

1. From Grenville Street, west along Sturt Street (with a line along each side of the central plantation) to Ripon Street. Thence by a single line on the south side of the central plantation and along the



south side of the street to the Convent, into Wendouree Parade and to the Botanic Gardens.

2. From Sturt Street, north along Lydiard Street, west along Macarthur Street and around Wendouree Parade to the Botanic Gardens.

3. From Sturt Street, north along Ripon and Fraser Streets and Wendouree Parade to Macarthur Street.

4. From Sturt Street, south along Lyons Street and Skipton Street to the city boundary.

Except for Sturt Street (as mentioned), all the lines were to be laid in the middle of the roadway.

The Council decided to accept the first three recommendations, but amended the fourth and added a fifth:—

4. From Sturt Street, south along Armstrong Street South and Skipton Street to the city boundary.

5. From Sturt Street, south along Drummond Street South to Skipton Street.

The Council also decided "that the traction power to be employed be either horse or other motor, at the discretion of the Council".

Although the State Government had recently laid the guidelines for tramways with an Act of Parliament, there was no precedent upon which to base the conditions and regulations for the construction and operation of the Ballarat tramways. During the next few months there were conferences and inspections in both Ballarat and Melbourne between the Town Clerk and officers of the Public Works Department on these matters. Numerous problems were encountered and solved, and by November, 1885, the documents were finalised and ready for the Council to send to the Governor-in-Council for

formal approval of the application for tramways to be constructed and operated in Ballarat.

In January, 1886, a prominent Ballarat City Councillor returned from a trip to England and commented that tramways in that country were mostly 4'8½" gauge and operated by horses. He brought with him copies of the Board of Trade Regulations and By-Laws. An inspection was made on 12th February of the Gas Motor then running on the Clifton Hill to Alphington railway, but the Councillors did not appear to have been favourably impressed. They recommended "horse power or any other power not being steam", and instructed that the necessary documents be compiled as quickly as possible so that tenders could be called for the construction and operation of the tramways.

The tenders were duly advertised with the routes as mentioned previously, except that the city terminus could be either at Grenville Street or Lydiard Street. The term of the concession was to be a minimum of 21 years and a maximum of 30 years from the signing of the Contract, with work to commence within three months and to be continuous until all routes were complete. The trams were to run between 8.00 a.m. and 11.00 p.m., or at other hours as agreed with Council, with fares to be one penny per mile and a maximum of three pence for three miles. The gauge was to be 4'8½", and steam motors were not permitted.

It was announced in mid-May that three tenders had been received and would be considered by Council.

Tender No. 1 offered completion of the Lake

routes within nine months and the remainder within one year, with horse drawn trams.

Tender No. 2 offered to use horse traction, to build the Lake routes first and the remainder as and when the Council might feel that traffic warranted, and requested a thirty year term.

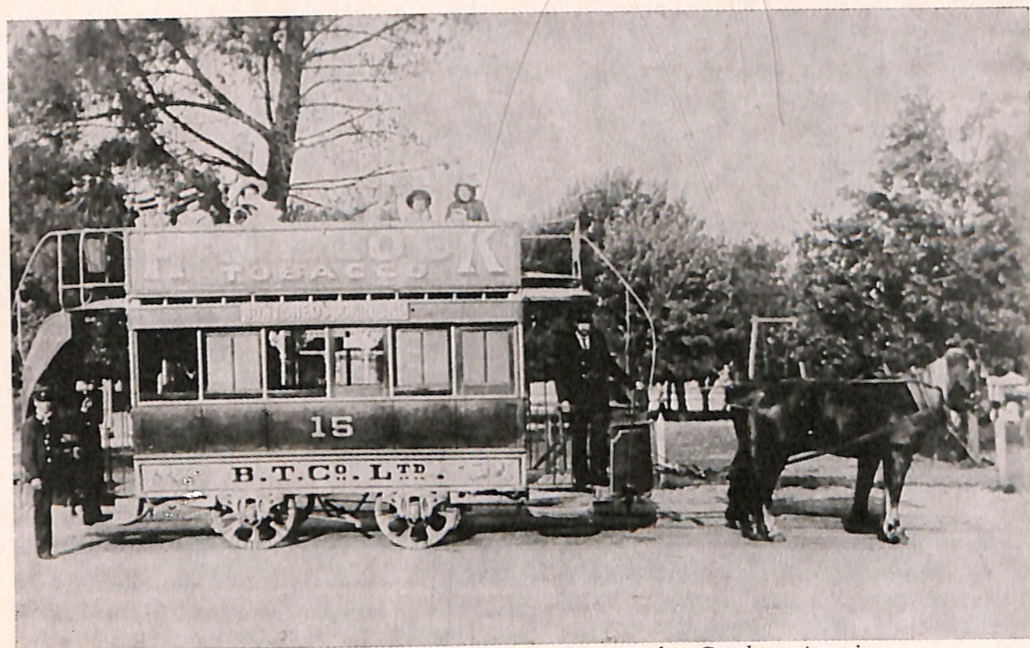
Tender No. 3 varied the Council's conditions considerably. It offered to construct and operate cable trams from Grenville Street to the Gardens, with a double line to Pleasant Street, and use horse trams on the other routes, except that Drummond Street South and the north portion of the Lake were omitted but a request was made for the right to build them within three years. It requested a thirty year term, with construction to be completed within twelve months.

The Council favoured the tender by Mr. Edward Thompson, of Adelaide, to build a system of horse drawn trams, but problems arose on a number of legal points. Having had the Council accept his tender, Mr. Thompson needed to form a company and delegate to it the powers to construct the tramway as accepted by the Council. The delay became quite lengthy and was still not resolved in August, 1887, when it was reported that the Promoter had already started erecting the stables and would soon commence construction of the cars. Other materials were on order and due to arrive during September. The legal problems were finally solved by State Parliament passing an Act to allow such delegation of powers, in September, 1887, and by the middle of the same month it was reported that "The pattern car is now set up and can be viewed".

Construction

The first rail was laid on 18th October, 1887, and work proceeded quite rapidly, six miles of track being laid in six weeks. The cars were being constructed by the experienced Adelaide firm of Duncan and Fraser. Some of the timber sections were roughly formed at the firm's Adelaide works as special machinery was available there. The contractor had intended bringing "his full plant to Ballarat", but was unable to do so because of the demands of Customs at the State border.

The Company purchased five acres of land on the north side of Lake Wendouree and built a Depot and Stables, approximately 230' x 56', of timber frame with corrugated sheet iron sides and roof, together with twenty cottages of four rooms each for the drivers and stablemen. The tramcars were built to the Stephenson (American) pattern, and assembled locally. They were four wheel, double deck, double ended vehicles, with six windows per side in the lower deck saloon, which was fitted with inward-facing longitudinal seats. Access to the top deck was by curved staircases from each end platform, where the longitudinal knife-board seat brought the total seated capacity to 44 passengers. Later, two trams were built with seven windows per side in the lower deck saloon, which had a length of 14' as against 12' in the earlier cars. The cars weighed about 3½ tons each. The colour scheme was chocolate with yellow rocker (lower body side) panels, elaborate scroll-work in places, edge lining, and "B. T. Co. Ltd." in large letters on the rocker panels. The interior of the lower deck saloon was varnished.



Standard, two-horse, double-deck tramcar at the Gardens terminus.



A standard horse car leaves the Grenville Street terminus to make its way up the north side of Sturt Street towards Lydiard Street.

The saloon doors were made by J. M. Jones & Sons, West Troy, N.Y., U.S.A., and carried a builder's plate to this effect; it is possible that the window sashes came from the same manufacturer. There was also one single deck tram which was drawn by one horse, whereas the double deck trams required two horses.

Operation — and Problems

The official opening ceremony took place on 21st December, 1887, when six tramcars conveyed some 300 guests from the City to the Gardens for the usual banquet and speeches typical of such occasions in that era. Public service commenced on Monday, 26th December, 1887, when three trams were in service and were well patronised. The service gradually became established and soon settled down into a daily routine. It is interesting to note that each carriageway in Sturt Street carried road traffic in either direction, unlike the present day when west-bound traffic uses the southern carriageway and east-bound vehicles use the northern carriageway. Consequently, west-bound horse trams ran alongside the central plantation at the southern edge of the northern roadway, and loaded and unloaded directly onto the footpath, while east-bound trams did likewise at the northern edge of the southern roadway. The frequency of service varied from 15 to 30 minutes, as required.

Relations between the Council and the Company were not always amicable, even from the early construction days. There were many complaints at Council Meetings about the indifferent attitude of the Contractors and Company to the state of the

roads, adjustment of levels and lack of replies to correspondence. A few days after service commenced the Council was told that it had not approved the tramway for service and that the Company was therefore running its trams and collecting the fares entirely at its own risk. In July, 1888, the Council complained about the bad state of the tramway in Skipton Street, while shortly after it is reported that the major part of the first line had to be lifted and re-laid at the insistence of the Council. At the end of April, 1888, the Council requested the Company to draw up a set of By-Laws to regulate the operation of the tramways, but these were not received for some months, and were then considered inadequate. They were re-submitted the following January, but the next month the Council made its own By-Law which was accepted by the Company in March, 1889. Early in December, 1888, the Council enquired from the Victorian Railways Commissioners when the level crossing in Lydiard Street North and Macarthur Street would be finished. They were told that the castings were nearly completed and would be installed when received in a few days. They were promised a telegram from Castlemaine which would give details of the state of the work — this suggests that these two items of special track work were manufactured by the Castlemaine engineering firm of Thompson's. In January, 1889, the Council advised the Company that it required all tramcars, drivers and conductors to be licensed with it under the By-Law.

It would appear that the venture was not as financially successful as the promoters had hoped.

The Ballarat City Council complained in December, 1888, that the Drummond Street South line had been completed for some months but that the service had not commenced. In April, 1889, the Company asked the Council to forego £97.7.5d. unpaid rent on this line as it had not worked for some time after its completion. This matter was not resolved for some time, as it was interwoven with a number of other matters revolving around road condition complaints and work ordered by the Council and not done by the Company. The Mayor's Annual Report noted that the tramway was a success but that the Council was still not satisfied with the state of the works. It also recorded that the Council was being very lenient and patient, and had not yet used its power to do such work as it deemed necessary itself and charge the cost to the Company. May we possibly interpret this lack of action by the Council as meaning that it felt that it would not get paid by the apparently financially insecure Company?

In October, 1889, the Company submitted its balance sheet as at 31st August to the Council together with several propositions to ease its commitments and operating expenses. These were largely rejected, including a proposed fare increase, but modification to timetables were approved in some instances. One interesting aspect of human behaviour was accentuated when the Company asked to be allowed to alter the City terminus from Grenville Street to Lydiard Street, so as to take a lot of strain off the horses coming up the hill, because most passengers walked down the hill to get a seat in the tram before it left the terminus! In March, 1890, permission was

given to install a crossing loop in Sturt Street West, near the Convent, to facilitate traffic operations. Two months later the Company again wrote to the Council seeking revision of its conditions of contract, including a drastic reduction in its rent and an offer that all profits over five per cent per annum on called up capital should be divided equally between the Company and the Council. The Company also wanted to build more one-horse trams to meet traffic requirements as it felt that trams should run more frequently at certain times of the day. The existing double deck trams required two horses, and a third was attached from the Grenville Street terminus up the hill to Lydiard Street at times of heavy loading. The Council realised that these matters would involve questions of law relating to partnership and liability, and declined the offers.

When this issue again arose in October of the same year, the Council considered giving some relief to the contract for a period of five years, but the Company declined the offer the following February. The following month the Council adopted a multi-point set of conditions, some of which were concessions and others were fresh conditions. One interesting item is that it proposed that the Company should, if required by the Council after 1st January, 1898, substitute any motor, electric or otherwise, for horse traction on the trams. It was hoped that the Company would accept the Council's conditions shortly. The outcome is not clear, as the matter fades from further mention. Possibly it may be assumed in the affirmative, otherwise, presumably, further negotiations would have continued.

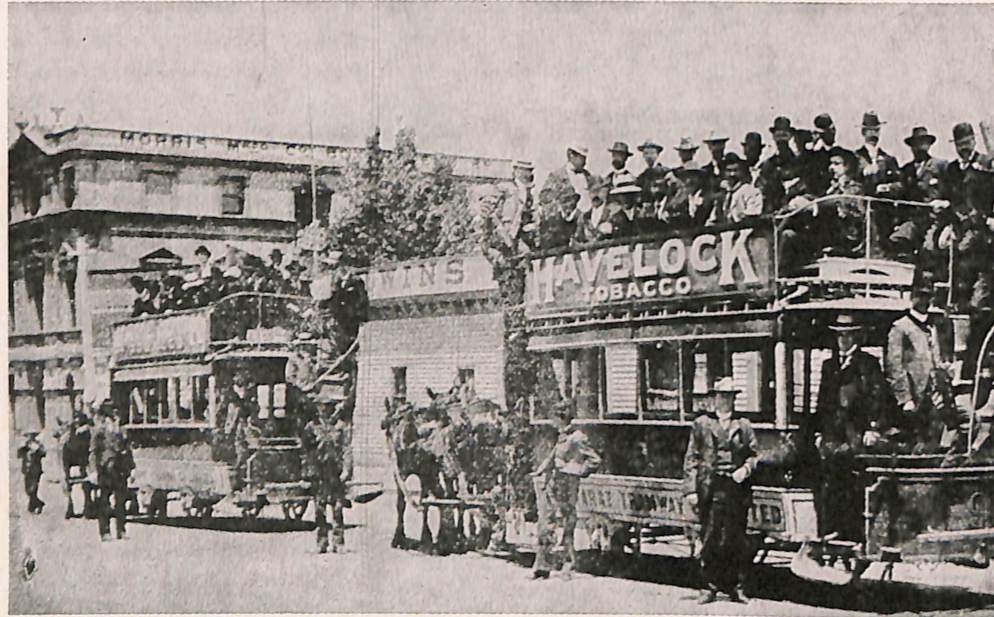
The tramway Depot at Wendouree usually presented a busy scene of tramway life. A workshop had been built at the rear of the Depot, and the trams were maintained in good condition by a number of employees covering the various trades needed to work on the cars. The horses were cared for by Grooms, four of whom were stationed at Wendouree Depot. Each Groom had charge of twelve horses, and each pair of horses had not more than two runs per day, except at busy periods. An additional horse would assist the pair on the tram at busy times on hills, and sometimes a second extra horse was found to be necessary. All horses were spelled in turn and reserves were constantly on hand. The purchase cost of a good horse was considerable, as was the cost of training him to haul a tramcar. Good feed was also expensive, and in return the horse gave relatively little work out on the tracks. Nevertheless, without these sturdy animals, the trams could not run, so they had to be well cared for.

Conductors wore uniforms but drivers did not always strictly adhere, particularly in winter weather when warm and waterproof outer garments were donned. Crews usually worked throughout the day with 1½ hours off for lunch, one hour for dinner and one day off per month. Fares were initially collected by hand and tickets issued, but later bell registering receivers were used, there being a slot for passengers to insert their coins into the small machines. The ticket system was subsequently reintroduced. The Saturday (shopping) night loading on the Skipton Street (later Sebastopol) route was very heavy, and "top" conductors were used on the upper decks and

staircases, while an extra car was also used. This route commenced from the Town Hall, in Armstrong Street South at Sturt Street. A Sunday morning church tram was run, initially via Drummond Street South to the Cathedral and later via Armstrong Street. This was later joined by a similar service from the Gardens. The early Depot for South Ballarat was on the corner of Skipton Street and Darling Street, but was later moved to Sebastopol. (The former building was demolished in May, 1962, while the latter was destroyed by fire early on Sunday morning, 10th October, 1909, with the loss of five tramcars and thirteen horses. Only two horses were saved.) Destination signs, with large white letters on a black background, were iron panels hung on the stairs and long boards on the saloon sides above the windows. The only coloured destination light in use for running was green — Gardens via Convent.

The Company successfully negotiated with the Borough of Sebastopol to extend the South Ballarat line from the municipal boundary into Sebastopol, and the service commenced in April, 1893. This track was laid on the eastern side of the road to about Ophir Street at which point it swung out across to the western side and continued to the terminus at Queen Street. In February, 1892, the Company sought permission from the Ballarat City Council to lay a turnout at the intersection of Drummond Street South and Skipton Street, South Ballarat.

In July, 1895, the Company advised the Ballarat City Council that it intended to complete its system by an extension of the southern track in Sturt Street from Ripon Street to Pleasant Street. There were



Two cars pose with an all-male passenger contingent before moving off for their destination.

still occasional complaints about the condition of the tramway tracks, and the subject of further financial concessions to the Company again arose in September, 1896, when it was pointed out that the financial statements at 31st August showed a loss. A fare increase was also requested on holidays. The Company also wanted to construct a ticket office in the plantation in Sturt Street at the intersection of Lydiard Street and this was approved two months later. The matter of altered conditions was considered once more in December, 1897, and the Council agreed to a ten year extension of the lease if the Company placed an acceptable scheme before them, but deferred other matters or placed indemnity conditions on them.

Miscellanea

The Town of East Ballarat was also interested in having a tramway system, and on 25th June, 1888, their Council conferred with Mr. Ellson, of the electrical-engineering firm of Booth, Ellson and Company, who were then arranging to install battery operated tramcars at Sandhurst (Bendigo). They inspected the routes, and Mr. Ellson said that he was most impressed with the prospects and was sure that the gradients would not prove difficult for battery electric cars. The Council was very pleased, but history was to record that Ballarat East would have to wait another 17 years for its tramways. Although an agreement was signed by the Council and Booth, Ellson and Company, the Council was advised in June, 1891, that it was not legally binding, and decided to abandon it.

A trial run was made with a Julien system accu-

mulator car on the Drummond Street South line on Friday, 12th October, 1888, having been arranged by Mr. R. T. Moore, who had purchased the rights for using it in Ballarat. The car appears to have been a standard double deck horse tram modified to carry the electrical equipment. It had been assembled in Melbourne, where a demonstration run had been held about a fortnight previously. The bottom panels of the body sides were removable to enable the battery trays to be installed and serviced underneath the saloon seats. There were eight trays, each of four boxes, on the car, there being three cells per box, thus making a total of 96 cells on the tram. Each cell was about 6" x 6" x 10", and the total energy carried was sufficient to travel between 50 and 80 miles. The motor was centrally placed underneath the body, and drove the axles through spur and chain gearing. It is possible that the wheel base was lengthened to accommodate the motor and gearing, as the car repeatedly had trouble negotiating curves. Another reason advanced for the derailments was that the curves were not super-elevated, and, whereas the horses drew their tramcars through the curves, this car propelled itself. That is, the horses tended to pull the car's wheels within the grooves by keeping a short radius to their path, while the self propelled car tended to keep to a tangent rather than willingly take the curve. It is also possible that the original (or worn) shape of the rails may have had an effect on the situation. The car was run into the city on Monday, 15th October, and was tested on steeper hills than exist on the Drummond Street South line. It appears to have been successful,

but nothing eventuated from its tests on the Ballarat tramways. It was tested on one of the Adelaide horse tram lines the following January, and seems to have quietly faded away after these runs.

In June, 1894, the Ballarat City Council considered the draft of a Deed of Concession relating to an electricity supply undertaking for the city. Apparently the arrangements were speedily and efficiently negotiated as the Ballarat Electric Supply Co. advised the Council early in November of the same year that it hoped to commence operations on 5th of that month. The first power station was in Dana Street, and it was soon enlarged. An English company, the Electric Supply Company of Victoria Limited, purchased the local undertaking with the intention of expanding it. The Ballarat Tramway Co. Ltd. was also acquired, with the obvious intention of converting the motive power from horse to electricity. The new company laid the foundation stone of the Wendouree power station on 23rd August, 1904, and a fine red brick structure was soon built near the south east "corner" of the Lake, on Wendouree Parade at the corner of Ripon Street. These buildings also contained a sub-station to produce the necessary power for the new trams, administration and amenities sections and electrical workshops.

Before leaving the horse tram era, mention must be made of the quantity of tramcars owned by the Company. It appears that there were 18 double deck tramcars, including the two seven window saloon cars. A contemporary newspaper report quotes this figure in August, 1902. Also, it is known that eight cars were retained in Ballarat as trailers

to the electric trams, five sent to Bendigo for the same purpose, and five destroyed in the Depot fire at Sebastopol, a total of eighteen cars. There was also one single deck car of similar style originally used on the Drummond Street South line, which was run as a shuttle service between Sturt Street and Skipton Street. It was later used from Sebastopol to South Ballarat electric terminus, but more of this aspect later. Some earlier reports believed that another twelve horse trams existed, as it was stated that twelve of the original fleet of Ballarat electric trams were converted from horse trams, but this now seems unlikely. It is also rather unlikely that a total of 31 horse trams would have been needed to service a city the size of Ballarat, and it is doubtful if sufficient Depot accommodation would have been available to house this fleet.

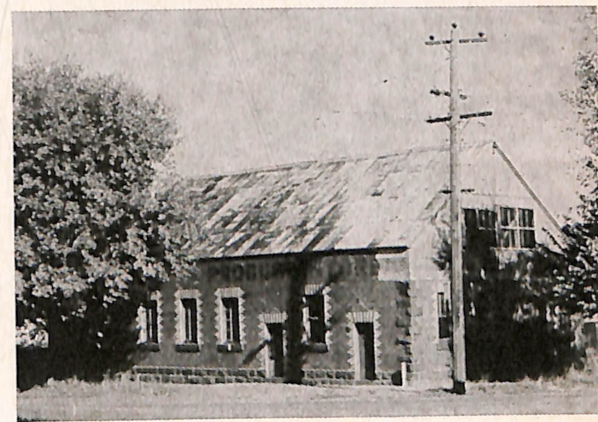
During the horse tram days one of Ballarat's major industries was the Phoenix Foundry, which was situated in Armstrong Street, south of Sturt Street, on the west side of that thoroughfare. The Ballarat Historical Society has placed a commemorative plaque on the wall of the existing building noting the fact that this firm constructed 357 steam locomotives for the Victorian Railways between 1871 and 1906. It also built a number of locomotives for other purchasers, including three steam tram motors for the Bendigo Tramway Co. Ltd. The horse tram track outside its premises was used to test the first of these machines on 29th September, 1892, when two "large tramcars" were attached and, with passengers, were hauled back and forth for some two hours. The trials were successful and the motor

was duly transported to Bendigo. It will be seen from the map that a 5'3" gauge siding branched off the Victorian Railways main line and ran south down Armstrong Street to the works. The rectangular crossing with the present electric tram track on the north side of Sturt Street is still in place, having been specially left as an item of historical importance.

In November, 1892, draft regulations were agreed upon between the City of Ballarat, Town of Ballarat

East and Borough of Sebastopol, forbidding traction engines to travel along a tramway line or within 18 inches of the rails, but permitting them to cross the tracks at right angles where necessary. These regulations were confirmed in April, 1893, but could not be legally gazetted. Each Council found it necessary to make an identical By-Law, and this became enforceable three months later.

The Darling Street horse tram Depot as it appeared a month prior to demolition.





An early electric tram grinds along an unusually deserted Sturt Street.

CHAPTER 2

THE ELECTRIC SUPPLY COMPANY YEARS

Purchase and Conversion

Having purchased the Ballarat Tramway Company Ltd. and the Ballarat Electric Supply Co., the Electric Supply Company of Victoria Ltd. successfully completed negotiations with the City of Ballarat and the Town of Ballarat East to install electric tramways in their areas. The work of laying new tracks and erecting the overhead poles and wires was put in hand, sub-station equipment installed in connection with the main generating machinery, and rolling stock ordered. The Company had acted similarly at Bendigo some two to three years previously, when the local electricity supply company and the steam tram company had been purchased, and electric trams installed. It would appear that the new Company had lavished too much money on the Bendigo conversion, which involved the construction of large red brick buildings for the power house, car shed and offices, and the purchase of new electric trams. Ballarat received impressive red-brick power house and office buildings, but the old horse tram depot was retained and the first electric trams were

rebuilt from second-hand cars purchased from Sydney.

The official opening took place on 18th August, 1905, with a ceremony at the new Wendouree power house. The procession of trams conveyed official guests through the city and on to the Mount Pleasant and Victoria Street routes — and so, finally, the Town of Ballarat East received its long sought tramways. Upon return to the city, the usual "sumptuous repast" was partaken at the City Hall.

The extent of the electric tram routes at this period was: (1) Victoria Street to the Stawell St. terminus. (2) Mount Pleasant to the corner of Barkly and Main Streets only, with a horse tram shuttle to the terminus at Gladstone Street for several weeks, pending completion of the overhead wiring. Considerable local pressure soon succeeded in having this line extended to Cobden Street. (3) Sturt Street and the circuit around the Lake, via Ripon Street. A horse-drawn wagonette was used on the Sturt Street West section for a while pending completion of this work. (4) Drummond Street North and MacArthur Street.