

BALLARAT ELECTRIC TRAMS.

In 1885, the first power station was located in Dana Street where MacRobertson's warehouse now stands. It was only a tiny plant of only 25 H.P. In 1894 a syndicate was formed consisting of H.A. Thompson, F.W. Niven, W. Goldman, G. Ruffle, Wm. Bentley, F. H. Jutbell, W. H. Shaw, J. A. Dawson and A. W. Rogers, and the capacity was increased to about 100 H.P.

The plant in Dana Street was frequently added to in order to meet the growing demand for electricity principally for lighting purposes, but by 1904 the resources of this little power station were seriously overstressed. It was then that the Electric Supply Co. of Victoria, financed with English Capital, bought the franchise and on the 23rd August, 1904, the foundation stone of an up-to-date power station was laid by Cr R.

Pearse, Mayor of Ballarat, and Cr W. D. Mc Kee, Mayor of Ballarat East, on the site in Wendouree Parade previously occupied by "Fry's" flour mill; parts of the mill's massive bluestone walls continue to form part of the power station structure. Concurrently with the purchase of the electricity supply, the new company bought out the old horse trams and proceeded to install the electric overhead trolley system. It was a memorable occasion for Ballarat when on the 18th August, 1905, the electric system was opened.

The original plant put down in the new power station in 1904 consisted of direct current generators driven by reciprocating steam engines, and had a total capacity of 900 kilowatts (1200 hp). The increasing demand for electric light and the use of motors for driving machinery necessitated the plant being

enlarged in 1913 to 1200 kilowatts (1600 hp)

Development of the supply progressed steadily until in 1924 the demand for electricity had again exceeded the installed capacity of the plant, and it was decided to change over to alternating current machines driven by modern steam turbines.

These were installed in 1925, and had a capacity of 3300 k.w.s. (4400 H.P.)

During the boom period, 1925 to 1928, the demand for electricity, in common with the demand for other commodities, increased rapidly but at this time the activities of the Electric Supply Co. were somewhat curtailed, due to the fact that the date was approaching when the franchise under which it operated the undertaking, expired.

Negotiations were commenced towards the end of 1929 for the purchase of the undertaking by the State Electricity Commission of Victoria, and from the date of sale in 1931 until June 30th 1934, the company continued to operate on behalf of Commission.

In 1937, the S.E.C. installed another turbine driven alternator, bringing the total installed capacity up to 4500 k.w.s. (6000 hp)

Electric trams first ran in Ballarat on 18th August, 1905. Twelve cars were available and were gradually increased to 20 in 1906 and to 23 in 1912.

Routes were: GRENVILLE ST (CITY) TO GARDENS VIA CONVENT
" " TO GARDENS VIA RIPON ST.
" TO GREGORY ST IN LYDIARD ST Nth
" " STAWELL ST IN VICTORIA ST
" " GLADSTONE ST MOUNT PLEASANT
" " MACARTHUR ST VIA DRUMMOND ST Nth

38

Horse trams still ran in Skipton Street and in Drummond Street South.

The horse line in Macarthur Street from Lydiard Street to Drummond Street was lifted.

The electric trams had a secret trial run in the late evening prior to the opening, next day, but the drivers clanging the gongs so much soon brought the residents out of bed and in their night attire. They formed a guard of honor around Wendouree Parade.

The new system was officially declared open on 18th August 1905, in the presence of a large and representative gathering headed by Mayors J. M. Barker (City) and J. R. Elsworth (Town Council) and accompanied by the Minister for Mines (Mr J. McLeod) Messrs H. Scott Bennett, M.L.A. and J. G. McDonald, M.L.C. and many others. The visitors were welcomed by Mr Ben Deakin at the power house Wendouree Parade, and here the Mayors, each started an engine, and the Minister the third, and there was much speech-making. Then a procession of new cars was made up. No. 1 heading the line. Mayor Barker was at the controls under the guidance of Mr Geo Laurens, who had a similar task at the opening of the Bendigo Electric Tramways two years previous. The trams were gaily decorated with flags.

As the string of cars was coming down Camp Hill (Sturt St) right opposite "The Courier" office, the brakes on the last car failed, and it crashed into the one in front. The windows of both cars were smashed and the occupants who had been sitting in

State, made the quickest exit compatible with the dignity of the occasion. However, not much harm was done and the procession went on into the Town of Ballarat East and ^{some} up Mt Pleasant ^{line (C/n. Parkley) again its only} and the others to Orphanage and then returned to the City Hall, where the customary "sumptuous repast" was waiting them, together with quite a lot more speeches. The opening ceremony was a great success.

The trams seated 32, 36 and 40 passengers. Out of the 26 horse trams, twelve were converted to electric cars, the conversion being done by Duncan & Fraser, who had built the trams in the first place. The horse trams lengthened at both ends and these became the open smoking compartments (seats facing outwards) and the driver's cabins. During conversion some side pillars were taken out and this sort of weakened the whole structure.

These cars received the road Nos 1, 4, 6, 10 to 18. They seated 32 passengers. ~~Eight~~^{SIX} of the other horse trams were retained for use as trailers to the electric trams, while several more were transferred to Bendigo to be also used as trailers. 5 d/d. sent to Bendigo, including 2 x 14' saloons.

Six small saloon electric trams were purchased from the Sydney Tramways in Feb., 1905, and these were also converted to a similar type to the ~~also~~ 12 Ballarat cars. These 6 ex Sydney cars arrived complete with trucks & motors, which were scrapped ~~later~~ ~~the cars when rebuilt~~ ^{and then} were fitted with new controllers & Brill 21E trucks. Of the six ex Sydney trams, three of them were the first

~~of them were the first~~ electric trams to run in Sydney. Their N^o were 1, 2 & 3 of the North Sydney system in 1890.

SYDNEY TRAMWAYS

FIRST ELECTRIC TRAM

N^o 1. SOLD IN FEB. 1905

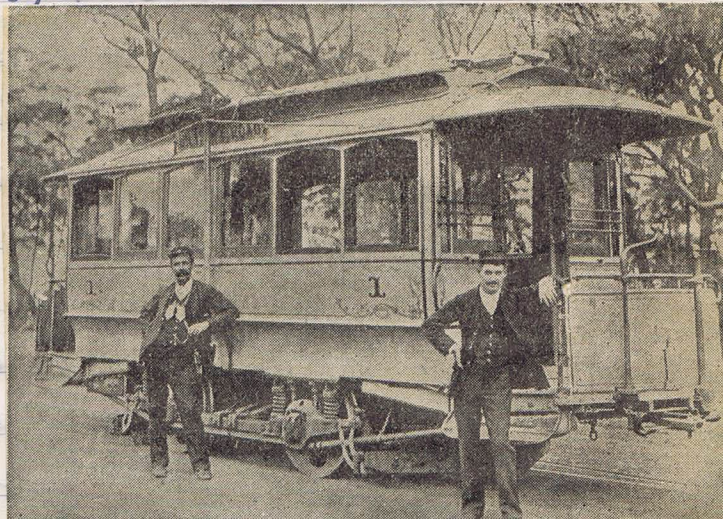
TO BALLARAT AND WHEN

CONVERTED TO COMBINATION

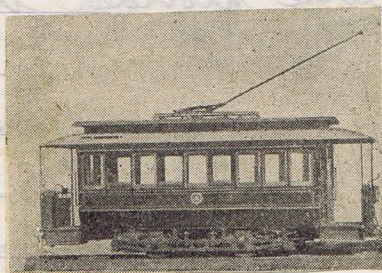
TYPE AND NUMBERED 2, 5 & 7.

NOTE: TROLLEY POLE BASE

AT SIDE OF CAR ROOF.



These three cars were built in U.S.A. by Stephenson. They were renumbered 2, 5 and 7 on the Ballarat list. ~~It is interesting to note that these 3 cars had the trolley pole base fixed to one side of the car's roof when they arrived, but after rebuilding the trolley pole was fixed in the usual place.~~



SYDNEY TRAMWAYS "C" CLASS ELECTRIC TRAM N^{os} 14, 15 & 16

3 OF THEM SOLD TO BALLARAT TRAMWAYS

FEB. 1905. CONVERTED TO COMBINATION TYPE.

BECAME BALLARAT'S 3, 8 & 9.

The other 3 Sydney trams were the N.S.W.T. "C" class 4 wheelers, N^{os} 14, 15, 16, built by Hudson of Sydney, and after conversion was numbered N^{os} 3, 8 & 9.

All the 18 cars (N^{os} 1-18) were equipped with new Brill 21E trucks and driven by 2x30 h.p. motors, Westinghouse 90 M controllers except N^o 7, which had W.H. T.F. Tare weight of car, 10 tons. approx

Ballarat N^o 15 (ex house tram) Width 6' 9" driver's cabins 2' 3" wide, smoking compart. 6' 6" long, height 7' 1", length of saloon 11' 7", length of car over bumpers 30' 9" doors 2' 3" wide

MY OWN MEASUREMENTS

The ex Sydney cars had longer saloons than the ex horse trams and seated 36.

In 1906, two open summer cars were built new by Duncan & Fraser and were numbered 19 and 20. They were open cross seaters and carried 40 passengers. The trucks were said to have been reconditioned "PECKHAM" from the ex Sydney "C" class cars. Two x 35 h.p. motors were fitted and Westinghouse 90 M. controllers. Weight empty, $9\frac{1}{2}$ tons.

The trams were painted Red & white with blue scroll work. Road No at first appeared inside the driving compartment. After 1912/13, the numbers ~~then~~ were painted on the ends and sides of each car, and at the same time BALLARAT TRAMWAYS, painted in blue & gold appeared on the rocker panel. Trailers were painted ~~choked~~ chocolate and yellow.

The lighting of the trams were provided by a circuit of five 16 c.p. 100 volt carbon filament lamps. These carbon lamps became brittle through vibration, and required many replacements. Two circuits were introduced later, and was used for destination sign illumination. Each tram was provided with a hurricane lamp for emergency and a tool kit was part of a tram's equipment.

The trams were equipped with a magnetic track brake for emergency purposes. It was a powerful braking agency, and the passengers well knew when its application was necessary. The car suffered usually by its severity, whilst the responsible party escaped.

No more than 6. ~~The eight~~ horse trams that had been retained and made suitable for peak hour trailers were used on every special

TRAILER No. 4,

occasion to great advantage, and were popular with the public. The marvel of the whole business was that the electric tram motors drew the additional burden without any difficulty, in fact, they often functioned better when laden.

However, at odd occasions, the writer remembers seeing a single tramcar pushing behind a trailer hitched to a tram between Grenville St and Lydiard St, during the very heavy loading on Boxing Day. (26th Dec)

For a short time after the commencement of the electric tram service a waggonette, drawn by horses, completed the Lake circuit where the reconstruction was not finished, and on Mount Pleasant a horse drawn tram ran for a few weeks, but the line at that time terminated at Gladstone Street. Considerable local weight was brought to bear, and this caused the tramway authority - the Electric Supply Co of Victoria Ltd. to continue the track to Cobden St, the present terminus.

Stores were supplied from the power station stores dept, and conveyed to the depot by means of a truck drawn behind a tram on the Ripon St. route. The last time I saw this conveyance was about the middle of 1935. A line for the above purpose was built from Ripon St line into the power station yards (Wendouree Parade frontage) was pulled up when the Ripon St - View Point line was resleepered about 1937. It was on this spur line that the last tram from the Gardens was stabled for the night and it was the first car out next morning. It was known as the Power House tram. It is not known when the "service" came to an end.

The single deck horse tram continued to

run in Drummond St South to Darling St until 1907. After 1907, two electric trams ran to Darling St from the city giving a 15 minutes service.

During 1911 the electric system advanced to Rubicon St. supplying a 20 minute service. The horse trams in Skipton St was eliminated in 1909, but for several years afterwards a single horse tram ran between Sebastopol & Rubicon Street, where passengers changed trams. During the change over period & whilst the lines were being relaid beyond Darling Street, in Skipton St South, the passengers were conveyed over the area by means of horse drawn drags & waggonettes. A wrangle over fares held up a decision on the electrification of the Sebastopol line beyond Rubicon Street. It is interesting that during this period the man who guided the conversion of the tram service, Mr Benjamin Deakin, suggested that trackless trolley trams could be used on the Sebastopol run. He felt they might be a possible solution to the fares' dispute which hinged on the higher installation & overhead cost of the line in comparison to the other shorter runs. Finally, all difficulties were resolved, and in 1913 horse trams said good bye to Ballarat at least as far as the tramways were concerned. ^{S/deck horse tram last car used on Sebastopol line}

In 1912, three large convertible trams were built by Duncan & Fraser. They had "BRUSH" trucks, equipped with 2x38 h.p. motors, Thompson and Huston B49CC controllers. These 3 trams were numbered (N^o 21, 22 & 23) and were known as the Sebastopol type. They had cross seats with a centre aisle and seated 40 passengers. Tare weight, 10½ tons. At one time, centre seat pieces were fitted across the aisle to the cross seats, but they were only used in the fine warm weather. Later, these seat pieces were done away with altogether.

It was on the 14th April 1913, when the Sebastopol line was opened for electric trams, but the old horse tram rails (GOLBS) were not renewed. Much of the old track (rails) are still in use today. A four tram programme was introduced, and this table ran and served from April 1913 to August 1937 - 24 years. A 20 min service to Sebastopol from 7AM until midday and from 12 noon to 8pm, a 12 minute service was given between the city and Rubicon St and 24 minutes between each tram beyond; reverting to the morning schedule again from 8pm to 11pm. Writer remembers the 1st city bound car from Sebastopol (always a Sebastopol type N^o 21, 22 or 23) ran through to East St in Victoria St, carrying workers for the St Sunshine Biscuit Factory. Monday to Friday, from 1930 to 1935.

As the years advanced and different managers took control experiments of through running - east, west were tried. In 1910, on the Sundays only in the winter months the first through effort was made, but it lapsed. In Oct., 1911, another through service between the Gardens and the two East lines was given a good try out. That ran for 6 weeks and had to be abandoned, whilst the trams on the East routes ran to the Gardens via Drummond St Nth, the Lydiard St Nth trams ran round into Stuart St without coming into Grenville St on to Macarthur St. via Relfon St. In 1924, another effort was Drummond St Nth. to Victoria Street. None of these were workable, the position of loops, Bridge St single track and the fact that Grenville St was the city terminus for non through routed sections being the main contributing causes. It was a usual sight to see school lads swing the trolley poles around at the terminus at the west end of

Bridge Street, but this practice came to an end when the S.E.C took over.

A points boy was employed by the old company. He had the job to set the points for the Lydiard St North trams and then reset them after the car passed. He would then jump aboard the next city bound car for Grenville St and would assist in reversing the trolley poles until the next Lydiard St North tram was due to leave. This lasted until 1934.

Up to 1923, there used to be a large waiting shelter in Sturt St near Grenville St. but it was removed to make way for road traffic. Nearby was a series of clock faces on a large board, each face would show the departure time of the next out going tram. Each clock had the color of the route painted above each face.

In the course of time and after much outcry the hitherto unsheltered motorman was provided with weather shields. N° 10 was the first tram to be so fitted, but on one end only for experiment in 1913, with hand brake alterations. This car became known as the armoured tram. It was some time before the rest of the cars were so equipped. The brake handles were the old goose neck type.

However, the two summer cars N° 19 & 20 were never fitted with wind shields, although the brake handles were altered in position.

When the fare box system was introduced in June 1913, making the cars a one man system. (Conductors were only used on Cars 19, 20, 21, 22 & 23, except on special busy days in summer)

The required alterations to the trams were gates hung at each entrance, "ENTER FRONT END"

notices were printed on them. The open ends (smoking compartments) had the seats arranged for interior riding only and the long steps replaced by a short hinged style. Drop signs showed either PAY AS YOU ENTER or PAY AS YOU LEAVE procedure. The plate was reversible.

From 1905 until about 1911, the destination signs were only a crude iron plate hung over the aprons in front of the driver. Then came square 4 sided revolving boxes placed on the canopy and with bulls eye glass night colors, later (1921) revolving linen signs in square upright frames and glass slides over the top, changeable by sliding across to an aperture. Coloured enamel square route plates were introduced in 1913. They were carried on the front upper end of the cars as well as the sides above the centre window frames. These route plates were done away with in 1934.

The following colours were issued.

COLOUR	LINE
Green	Gardens via Convent
Red	Gardens via Rifon St
Blue	Rubicon St only
* Blue with white centre	Sebastopol
White	Drummond St Nth.
Yellow	Lydeard St Nth.
Green	Victoria St (called Orphanage)
Red	Mount Pleasant

* Sebastopol trams had a "S" sign in addition.

The green plates had a red back because of utility and when the Gardens tram ran via Rifon St one trip and via Convent in turn. Hand staffs (no tickets used) were issued and these were used up to about 1938, on all lines, except for the View Point (Rifon St)

and are used on this line only when special traffic occurs.

A sample of a hand staff is fixed to the next page. They are made of brass.

On the run around the Lake from Sturt & Pleasant Streets to Hospital corner via Drummond St Nth (or vice-versa) the following staffs would be used.

Series 1. (30 minute service = 3 trams) Pleasant St to Hamilton Ave; Hamilton Ave to Show Grounds; Show Grounds to Hospital.

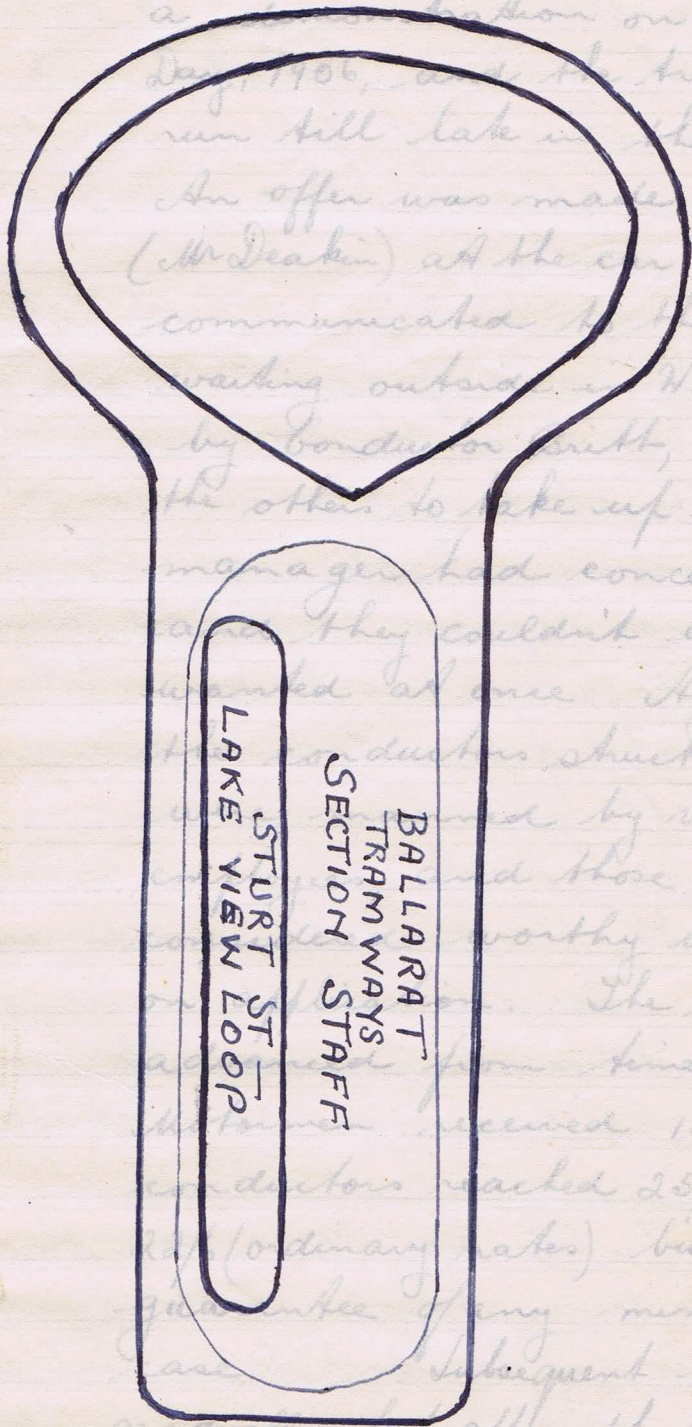
Series 2 (20 minute service = 5 trams) Pleasant St to Gardens; Gardens to Car Sheds; Car Sheds to Hospital.

About 1924, the tramways purchased their first and the only motor bus since. It was an "International" with a rear end loading and purchased 2nd hand from Mr. Cruikshank, who ^{had} used it on the Mount Pleasant run via Hamffray St south. The tramways used it on the same route to Mount Pleasant, but I'm not sure if they ran it via Barkly St and cut the tram out or not. Later, the bus was run on Victoria St for a while in place of tram. However, it was not used after 1926.

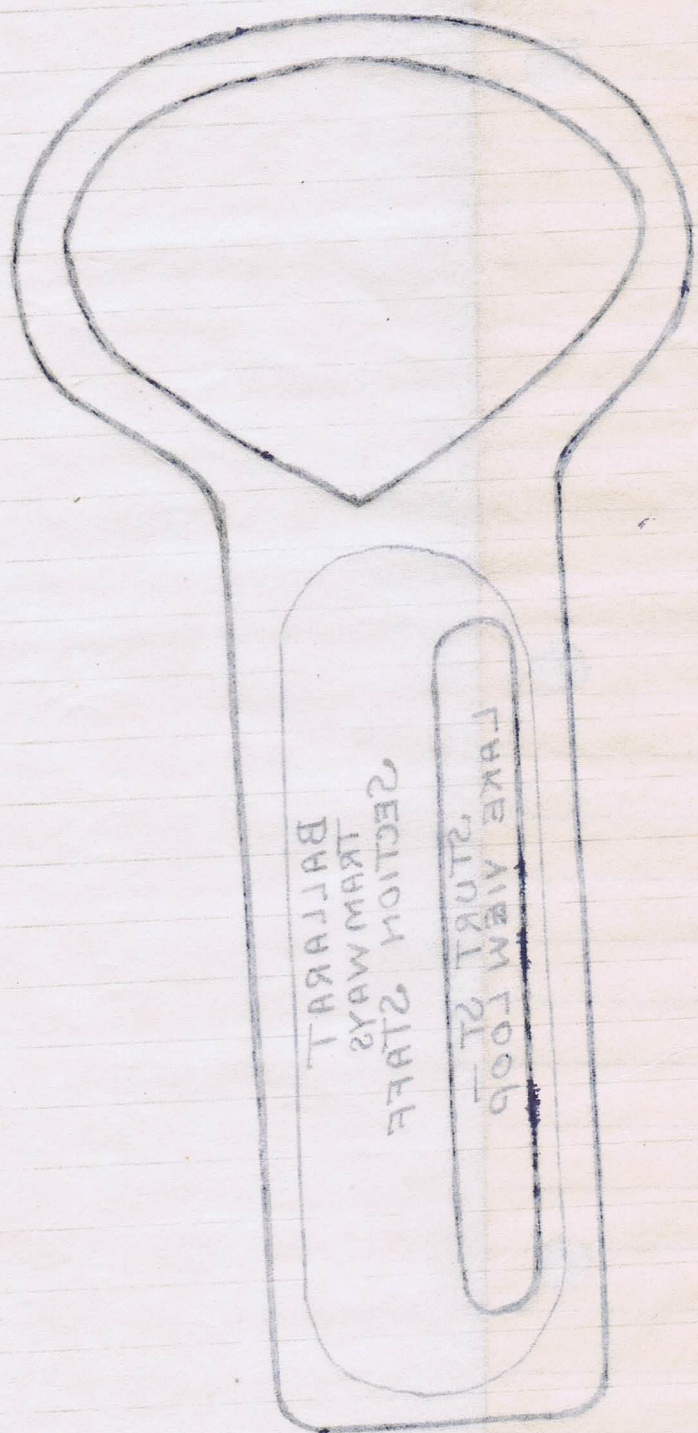
Back in 1907, The Electric Supply Co. purchased an English type of water tram, which was built by Brush of England. It was used up to 1918, and then stored at the back of the depot until about 1925 when it was scrapped.

The wages paid at the commencement of the service were: Motormen 8^d per hour, then on 18th Feb. 1906, 8½^d, and on 23-2-06 9^d per hour. The conductors received 18/6 per week; then from 18-11-1905

- FULL SCALE -



£1 per week. The conductors made a contribution on Railway Picnic Day, 1906, and the trams did not run till late in the morning. An offer was made by the manager (Mr Deakin) at the car depot. This was communicated to the conductors working outside in Wendouree Parade by Gordon Smith, and he persuaded the others to take up duty saying the manager had conceded something they couldn't except all they wanted at once. Again in 1908, the conductors struck, but the trams were run by various other men and those who were not engaged were re-engaged. The wages were advanced from time to time, the conductors received 10^s per hour and reached 25^s (senior) and 20^s (ordinary rates) but there was no guarantee of any minimum in any case. Subsequent advances occurred gradually but after the Federal Arbitration Court, presided over by Mr Justice Higgins, had heard evidence, on 1st Dec 1912, the award was announced as: Motormen 1/1¹/₂ per hour for a 52 hour week (13 days per fortnight), casuals, two thirds of the regular wage guaranteed and senior conductors 1/- per hour, and juniors, 32/6 weekly for 6 months, and then 36/10 thereafter; casuals two thirds of senior rates guaranteed. In addition time and a quarter rates was granted for certain public holidays. These figures had materially improved, and



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very harmonious relations prevailed for not did the tram men enjoy a 48 hour six day week, but annual holidays, sick leave and reasonable meal relief periods are paid for and they were allowed time and half for Sundays and holidays.

One very disturbing event rather marred the long restful and peaceful years of good relationship between the company & the trammen.

That was the strike of 1922 (Thursday 20th April to 5th May inclusive) mostly over the fare box system. It was referred to the Arbitration Court and Mr Justice Charles Powers, later Sir Charles, after making a personal inspection of the work, decided that the fare box system might continue in a provincial city such as Ballarat.

In the 1920's The yearly average of passengers carried was 3,000,000; since then it has decreased considerably; but the discomfort of old trams on rough tracks helped.

On Easter Tuesday 1917, when the Eureka pageant was being staged at the Eureka Stockade on the occasion of the Back to Ballarat celebrations 22 trams were sent East to cope with the traffic. Only one tram was in the city at the time.

The trams ran $\frac{1}{2}$ million miles per year.

In August 1906, the trams were unable to run until 12 noon, because of a phenomenal snow storm.

In the early years the trams ran on until after 2 A.M. for the benefit of the mayoral