

TROLLEY WIRE

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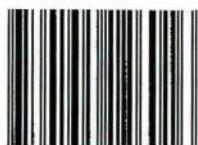


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- The AETA's 1950 Report, part 2

TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

AUGUST 2018

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EditorBob Merchant

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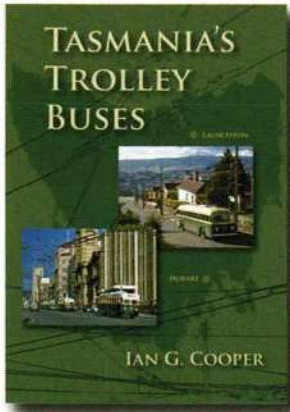
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Above right: Last day Hobart
24-11-1968 - No.235.
Right: Last day Launceston
26-07-1968 - No.321.

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Front Cover:

Perth E 66, driven by Bob Pearce, passes through the natural bushland at Bennett Brook Culvert after
departing Mussel Pool for the Village on 6 May, during the annual Celebration of Trams at Whiteman Park.

Michael Stukely

Published in *The News* (Hobart) Magazine Section, Saturday 5 September 1925, page 7.

WHAT IS IT MAKES THE TRAMWAY WHEELS GO ROUND?

A Worthy Record of Service and Progress HOBART'S CIVIC TRANSPORT SYSTEM FROM THE INSIDE Little Known Facts for John Straphanger

To the thousands who daily sit, strap-hang, and stand on feet – not their own – in our Hobart trams, the Municipal Tramway system is something to be taken for granted. "We pay our fares," say they, "and we get our ride. What more is there to it?"

There is a good deal more to it. The tendering of hard-earned twopences to conductors in exchange for certain slips of paper is only the last stage in a lengthy and complex business. The putting of trams on the streets, equipped with crews, ready to convey citizens with all possible celerity from their homes to their places of labour and back again, is only the second last. Much toil of construction, many details of organisation lie behind the successful running of this corporate service.

A new tram, in all the glory of fresh paint, takes the track. Where was it designed? Who assembled the truck? Who fitted the motors, the controllers, the brakes? Where was the body made? Where painted? Where, later on, will repairs be effected? How were its motorman and conductor trained? Under what system allocated their hours of duty? Who decides when the tram is to run and when it is to lie idle in the car-barn? Who is to see that the permanent way it will run on be in good order? These are some of the questions that might occur to one of an inquisitive turn of mind. Naturally they could not be expected to hold much interest for the ordinary man, who is apt to reflect that whatever anybody else does, he has to pay.

Hobart was the first capital city in Australia to have an electric tramway system. In 1884 an act of Parliament was passed giving power to a private company to construct tramways in the city. It was not, however, until nine years later that the service actually came into operation on September 21, 1893 the first tram ran in Hobart.

Capital to the extent of £90,000 was spent in the original construction. But it was not long before it was found necessary to tear up almost the whole of the permanent way, and lay down new tracks, and the cost of this was charged on revenue. With the growth of the city the tramway system became of increasing importance, and in 1912 the City council decided that the time had come when control of the trams should pass into the hands of the public. An enabling Act was accordingly through Parliament and a poll of citizens taken on January 16, 1913. The votes cast in favour of purchase by the corporation, 3493; against, 905. Negotiations for the transaction were completed on July 1 of the same year, and on that date the council took over control of the undertaking. The price agreed upon was £210,000, plus stock of materials in stores.

At this date there were only three routes, New Town, Sandy Bay, and cascades. The council lost no time in making extensions. In June, 1914, the track from the railway Station to west Hobart was opened for traffic, and in May, 1916, the first car ran on the railway station-North Hobart line. For some years after, nothing further

was done, with the exception of duplication on the Sandy bay and New Town routes, and a small extension of the former line to Long Beach. Then, within a short period, three new lines were opened: to Lenah Valley in September 1922; to Proctor's road in October, 1922; and to Windsor-street, Glenorchy, in February, 1923. There are at present sixteen and a half miles of route, and twenty-three and three-quarters of track.

Only An Extra Penny

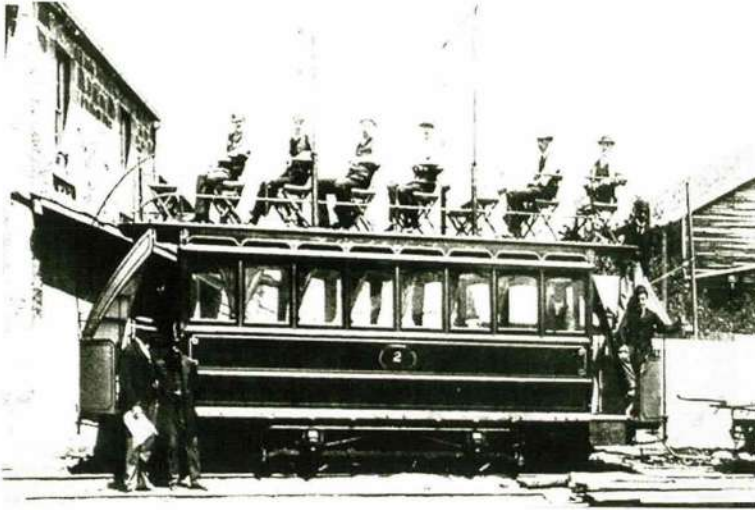
With the exception of an imposition of an extra penny on Sunday tickets, fares and length of sections have remained unchanged since 1893, although times of financial stress have not been lacking.

The following figures illustrate the growth of the service:-

| | 1891 | 1914 | 1924 |
|---------------------|-----------|-----------|------------|
| Employees | 77 | 184 | 315 |
| Receipts | £14,200 | £39,400 | £128,900 |
| Receipts per mile | 9.71d. | 18.14d. | 21.8d. |
| Passengers | 1,433,000 | 4,470,200 | 13,143,000 |
| Passengers per mile | 4.7 | 8.37 | 9.27 |

Tram Construction

At the workshops in Campbell-street the tramways



The News captioned this photo as "One of the original company's trams used in the 'ninties." It is actually car No. 2 being assembled in the workshop with the top deck seats installed but the upper deck still to be completed. The workmen occupy the seats for the photographer.

Tasmanian Archives and Heritage Office

department builds its own trams. Originally the complete parts were imported and assembled on arrival. It was like putting together a jigsaw puzzle. The parts were numbered, of course, but as often as not failed to correspond. Trams could not be loosely jointed, and soon shook to pieces under the stress of work. Now all that has to be assembled is the truck. The castings for this are made in Launceston or Melbourne and, together with the motors, the controllers, and the brake fittings, are the only parts of a tam not made here. As soon as the truck is put together, with its four or eight wheels, and its two or four motors as the case may be, it is run into the body-building shop, where in five or six weeks the shapely and familiar superstructure is raised upon it: stringy bark is used for the slender uprights, blackwood for the more solid. The seats are of stringy bark, the floor of stringy bark, and Queensland kauri. The underframe, which, being in direct contact with

the truck, undergoes severe vibration, is usually of the resilient celery-top pine. The destination sign box and various interior fittings, all made in the shop, are then affixed, and the car passes on to painting shop, where it is painted and re-painted, enamelled and re-enamelled, until, as is claimed with pride, "You can see to shave in it."

But after eighteen months or two years on the streets in all weathers, the lustre is sadly dimmed, and back goes the car to be furnished up once more.

Types of Car

The tramway company began with the old Siemens' make of tram, specimens of which were still to be seen on the track a few years ago. These have been superseded by no less than six different types, which are all in operation at the present time. The differences, however,



Car 3 carries a liberal coating of advertisements in the early days of the Hobart Electric Tramway Company. The advertising contracts were not renewed after 1907.

Tasmanian Archives and Heritage Office

are confined to body design: the same general principle of control obtains in all. There are, to begin with, the ordinary double-deckers, which far outnumbered the rest. These have recently been improved upon. Then there are the two types of single-deck cars – the two-man and the one-man, and the two types of bogie cars, that with two sets of driving wheels and that with four. The design of this last (car No. 50) is looked upon as being the last word in comfort and convenience.

The most striking point in connection with the driving gear of the cars is the number of brakes and safety devices which can be operated, it is a matter of fact that, in this respect that the various control systems differ. All are alike in that the pulling of a certain handle in a definite direction will give increase of speed, and in the reverse direction decrease. Every tram is fitted with a handbrake, and many with air-brake; by agreement with drivers, all cars built in the future must have the latter. In addition, there are electric-brakes; the Dick-Kerr controller has four of these, the Siemens and the General Electric two, of which one is quite independent of the external current. It is purely an emergency brake and very sudden. Its operation depends on the fact that the motor as it works generates a current opposite to that which impels it and tending all the time therefore to stop the motor. By a certain action of the controlling handle the impelling current is cut off and this reverse current assisted. It follows that the greater the speed at which the tram is travelling the more effective is the brake.

The air-brake is sufficient for all ordinary purposes, and is simplicity itself in operation. By an automatic device a pressure of sixty pounds is maintained independently of the motorman. Once he has closed the switch that sets the pump working, he need pay no more attention to the brake than to apply it when necessary. The pump will work until the sixty pounds pressure is reached, and will then stop. After the brake has been used and the pressure has fallen below the limit the pump will start again.

On one-man cars there is a special system, known as the "deadman's hand," which ensures that the car will come to a standstill as soon as the driver releases his hold on the controller handle. It is a system similar to that in operation on the Victorian electric railways.

Repairs

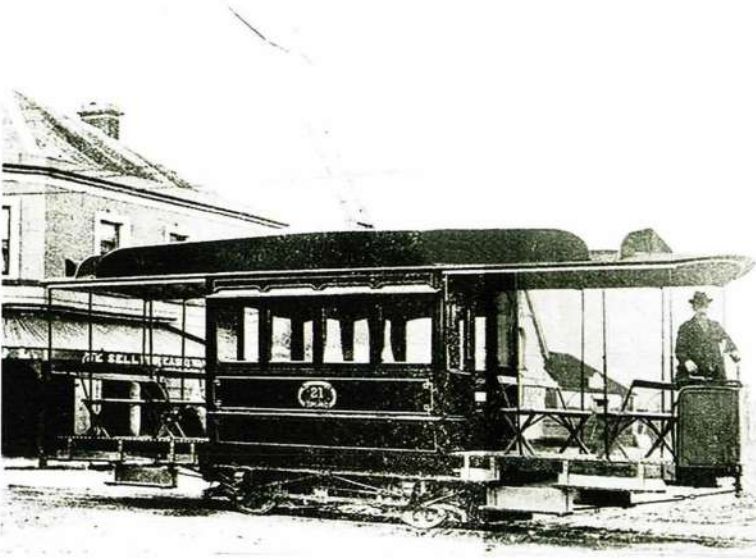
Breakdowns and small mishaps are constantly occurring and must be repaired with the minimum of delay. For this the department has both the necessary outfit and the necessary expert labour. In the repair shop all manner of work is done, from the rewinding of armatures to the retyring of wheels. A tyre after a long period of service becomes quite rough and worn. Often the lathe will bring back a smooth surface, but sometimes the wheel must be placed on the gas-ring, the old tyre expanded and hauled off and a new tyre rolled on. For forcing wheels on to axles a hydraulic press is used, capable of a pressure of seventy tons.

Besides a blacksmith's shop, there is a pit for the removal of wheels from cars. By an ingenious system a pair of wheels can be taken off, repaired and put back, all in a few hours.

Tram 11 in Melville Street, Hobart c1920.

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Car 21 was the first single deck tramcar built for service in Hobart. It is seen here in Lower Macquarie Street prior to entering service in July 1903.

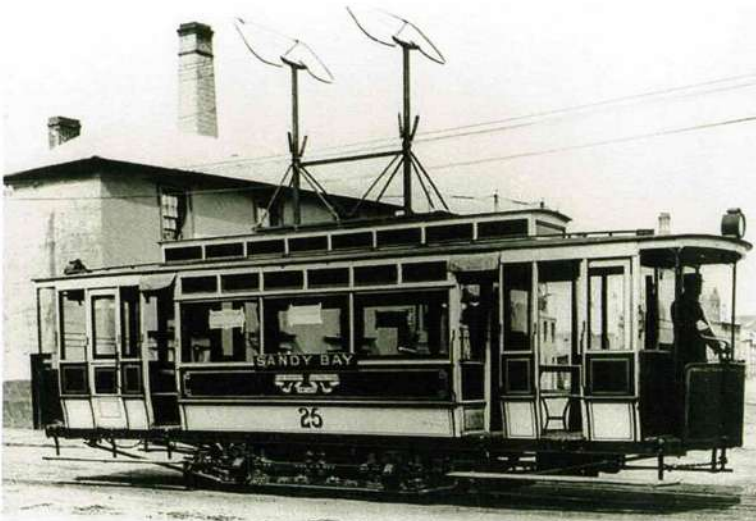
Tasmanian Mail

The Power

At the rear of the sheds, humming like a hive of giant bees, is situated the power sub-station. From here issues that unseen force that drive 64 trams through all quarters high or low of the city; the force that animates each dead mass of steel and wood and makes it a living unit, responding obediently to human control. When the tramways were taken over by the Corporation the generating plant consisted of two Bellis-Morcom engines with condensing plant, coupled direct to two Siemens Bros. larger type generators. There were three boilers of the Babcock Wilcox type fitted with chain grate feeders. In 1916, an agreement was reached with the hydro-electric department, through which the Corporation acquired a 500 kilowatt turbine set and a 250 kilowatt Bellis engine. Later the present rotary

converted was purchased from the Hydro-Electric department and the use of steam discontinued. Up till this year the steam plant has been retained for use in an emergency, but as almost complete reliance can now be placed on transmission of power from Waddamana, the need for that has disappeared. The plant is at present being dismantled, part of it having been sold already to the Tongkah Harbor Tin Mining Company in the Malay States.

Power is supplied at two voltages, 11,000 and 6600. This is stepped down to 360 and then converted to 550 direct current, at which voltage it is sent out on the track. There are four General Electric Co. converters, two of 25 kilowatts, and two of 500, and one Metropolitan Vickers of 750 kilowatts. This last deals with the 11,000



Single truck car 25 in its original condition. It was built in 1906 and was photographed in January 1910 at the corner of Macquarie and Murray Streets.

Hobart Municipal Tramways

volt current. It is expected that eventually all current will be supplied at the 11,000 voltage.

Besides preparing current for its own use, the Tramway Department supplies power to a city area extending from government House Point to Molle-street by way of Brisbane-street, and from there to Prince's Wharf. This area comprises all the chief industrial concerns of the city. But power is not supplied to any business of which the requirement is below a certain minimum or above a certain maximum.

Power is distributed from the substation into nine sections, namely Hunter-street, Macquarie-street, Elizabeth-street, Collins-street, Sandy Bay, Cascades, West Hobart, New town, east Hobart. These sections are controlled by nine switches, and any one can be isolated from all the rest. So that if there is a failure of current at, say, New Town, the other sections are not necessarily affected.

Surplus energy that accumulates during slack periods is stored in a great battery of two hundred cells connected in series. When at rush times this power is required it is released by means of a "booster."

Roster of Duties

We have now our car built, assured in respect of repairs and provided with its motive power. It is ready to run uphill with speed and run downhill with safety, to carry a heavy load, to carry a light load, and in general to do everything it is told. That is half the battle. John Citizen will, before long, be riding in comfort and tendering his money for those mysterious slips of paper, blue, white, and multi-coloured. It only remains to find our men and get them to do what is wanted.

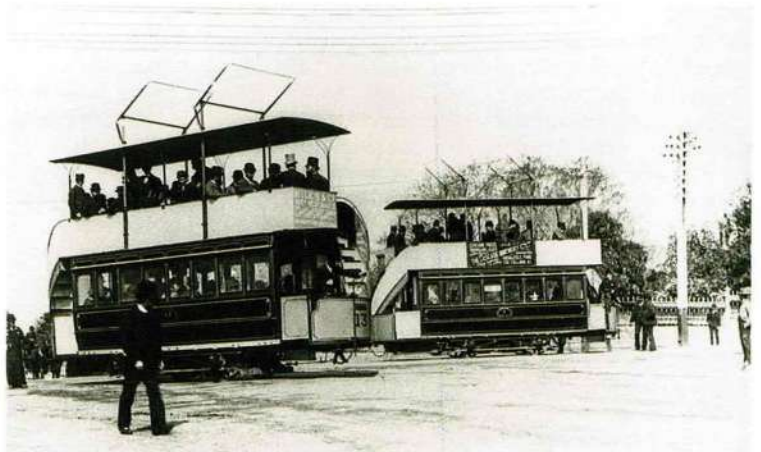
The traffic superintendent will do that. He is perhaps more directly responsible in the running of the trams than any

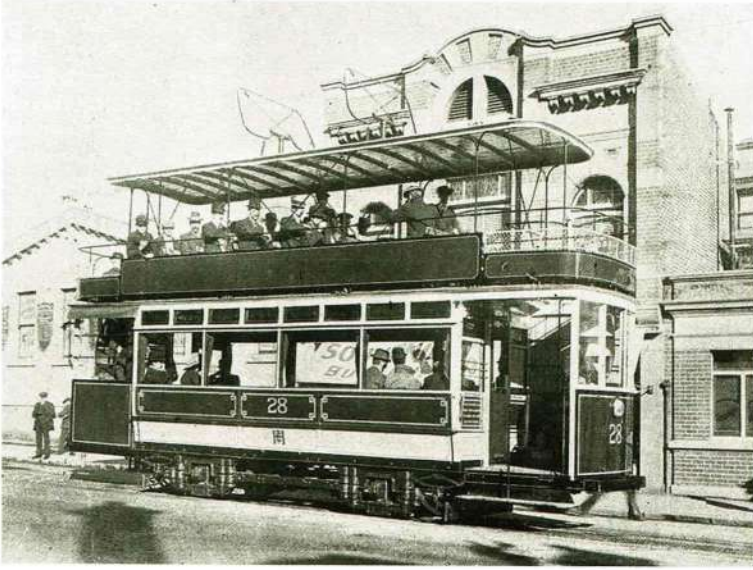
other man in the service. The personal element of the system centres largely on him. He must arrange shifts. Detail duties, get cars despatched from the depot at their right times, decide how many cars are to be used on any particular occasion, see that drivers and conductors are properly qualified for their work. His motto is: Come what may, the trams must run, and run to time. In a busy city, trams must be dependable or nothing. If the public knows that its morning tram will always pass such and such a corner at such and such a time and get to town the requisite few minutes in advance of the hour for starting work, it will contract the habit of travelling by tram. If it is not so, on the contrary, that the tram will always be there and on time, it will elect to walk or buy a bicycle. In the former case, trams will pay, in the latter, not. To reach this state of absolute reliability, the service must be got to work as smoothly as a machine. The human tendency to be content with "near enough" must be vigorously fought. Engines must be efficient, men well marshalled.

Tram crews work in two shifts: The a.m. shift ending before six in the evening, and the p.m. shift ending after six in the evening. A quarter of an hour is allowed at each end of the shift for signing on and signing off. All of the a.m. shift or all of the p.m. shift sign on at the same time, of course. Crews of early trams sign on at about half-past six in the morning; others sign on during the day as their duties require. A perfect rotation of shifts is observed, so that every driver and every conductor has his due share of time off and time on. The roster is so arranged, that no driver is paired for long with the same conductor. There are three sorts of working week – the seven-day, the six-day and the five-day. That is to say, in a given period every man will have worked a certain number of weeks in which he had no day off, a certain number in which he had one day off, and a certain number in which he had two days off. Sunday pay is on the overtime basis at the rate of time and a half.

Double-deck cars 13 and 1 at Lord's Corner in the first week of operation. No. 1 is heading for Sandy Bay whilst car 13 shows no destination but is on the New Town line.

Tasmanian Archives and
Heritage Office





Double-deck car 28 entered service in July 1912 and was the first double-deck tram to be built with glass windscreens.

Tasmanian Archives and Heritage Office

The practice of running extra cars at peak periods, and the necessity of providing meal-reliefs for men on duty and early morning "stand-bys" or emergencies gives rise to what is called the "broken shift." In a continuous, or regular shift, a driver signs on at, say, 8.25 a.m. He sees by the duty board that he is on the New Town run and is set down to leave the Post Office on his first trip at 8.40. Very well, he keeps on that track all day and eventually signs off at 6.30 p.m. Another continuous shift man may sign on a 2.35 p.m., and remain on the same run until he signs off at 11.5 that night. That is pretty plain sailing. Now take the broken shift man, signing on at 8.25 a.m. From 8.40 a.m. to 9.1 he is set down to take a special to Darcy-street and back; from 9.1 to 9.15 he is to take empty cars back to the depot. After the morning rush; from 9.15 to 10 he is a meal-relief; from 10.5 to 11 he is a meal relief; from 11.5 to 12.40 he is a meal-relief; from 12.51 to 1.20 he takes another special to Darcy-street, and so on.

As each driver signs off he makes what comments are needed on the condition of the car of which he has had charge; such as, "headlight used," "brakes very weak," "blew out fuse when near such and such a street," "front damaged by cart." The requisite repairs are then put in hand at once. In any case, before a car leaves the depot for a new day's work it is cleaned and disinfected.

Conductors, as they sign off, pay in money that have collected from the issue of tickets.

The Ticket System

The system of ticket issue and fare collection is not nearly so complicated as people are inclined to suppose. Tickets are received at the tramway offices from the printer in lots of 400,000, numbered according to a plan

of combined figures and letters. Each conductor is issued at the outset, with a thousand 1d. tickets, a thousand 2d. tickets, a thousand 3d., a thousand 4d., a thousand 5d., and a thousand 6d., and hundred of each of 1½d. and 2½d. tickets. The thousand 2d. tickets last about three days and the thousand 3d. about five days. The tickets are issued by cashiers, two at the Hobart office and two at the Moonah, who make a note of the initial number on each class of ticket held by a conductor as he goes on duty. When signing off time arrives and the conductor comes to make his payment, he is given a receipt for his money and the amount is checked both by his waysheet, on which he has noted every ticket sold during the day, and by comparisons of the initial number of each class of tickets in his possession with the corresponding number as noted before he went on duty. The details figures are all set down and an elaborate record of the sales of the various sorts of tickets. A conductor is obliged to hand in every halfpenny of the cash in his bag, even if, as not infrequently happens he has a surplus. The surplus, if there is one goes to a common benefit fund which gains in this way, on an average from two to three shillings a week. A surplus is commonly due to with giving of incorrect change.

Ticket checking begins about three o'clock in the afternoon, as the morning shift starts to come off, and continues until nearly one in the morning. Once a month there is a grand reckoning up for the assistance of auditors.

Every conductor is provided with ten shillings worth of change with which to start off the day.

Training New Men

From time to time vacancies in the ranks of either motormen or conductors have to be filled and recruits are always sent out to learn their work under the guidance of old and experienced hands. New conductors get to know the ropes sometimes in a few days, sometimes not for a week or two. Within reason, they are given as long as they like to learn, for they receive no pay during that period. When they consider themselves fit they present themselves for examination, and a very small percentage indeed fail to pass. They are not required to know much more than common-sense would suggest. Among other things, they are expected to know the location of every street in the city. For the position of driver, applications are called for from conductors and the choice is made from them. The driver picks up his work in three or four days, at the end of which he is also examined. A practical knowledge of driving, what to do in an emergency and so on is all that is required from him: he may study the theory of electric locomotion or not, as pleases himself. It is found that theory is just well left to the engineer.

The Draughting Room

While the workman hammers away down in the yards with his overalls, upstairs in a large room fitted with drawing desks and stools sits the draughtsman, the creative mind of the service. Before a truck can be assembled, a body built, a track laid down, a car-barn erected, he must spend long hours in preparing plans and specifications.

Tracing with the compasses a line here, ruling a line there, shading, picking out, sketching in, he puts on paper down to the smallest detail the design that has evolved in his mind. The design may be an impracticable one: he cannot tell until, with careful measurement and calculation, he has brought the

matter down to stubborn, cold figures. Every piece of construction, of which the method when seen below seems so natural and obvious, is first tried out here in embryo. If ideas are to be tested, let them be tested here, where there is leisure for testing. If mistakes are to be made, let them be made here, where they can be rectified. It is too late to change the plan or to discover errors when you are painting your car, asphaltting your track, or roofing your shed.

The amount of work involved in the designing of a thing so apparently simple as a set of points for branch rails is astonishing. The design must be made from various angles, the radius of curvature calculated exactly, and the place of each rivet, even, adjusted to a nicety. Standardisation of material has done something to curtail laborious draughting, but often as not special circumstances render a new design necessary. In the case of points, for instance, standard castings are supplied for right-angled curves only, curves of any other angle must be specially provided for. The draughtsman has no easy task.

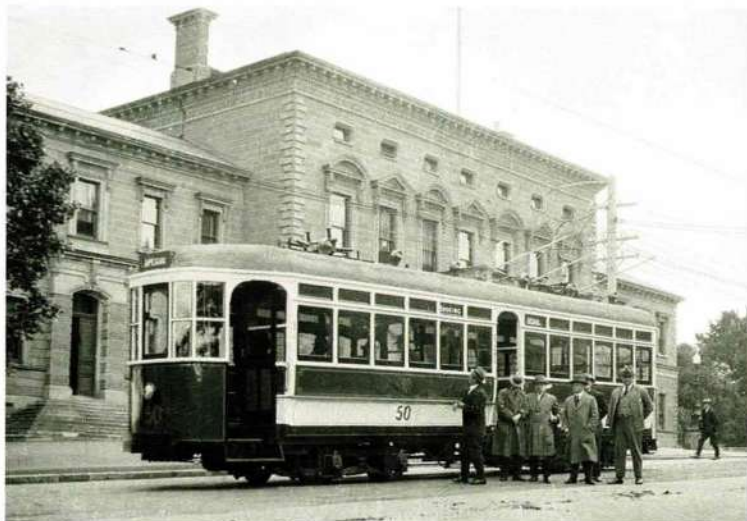
The Permanent Way

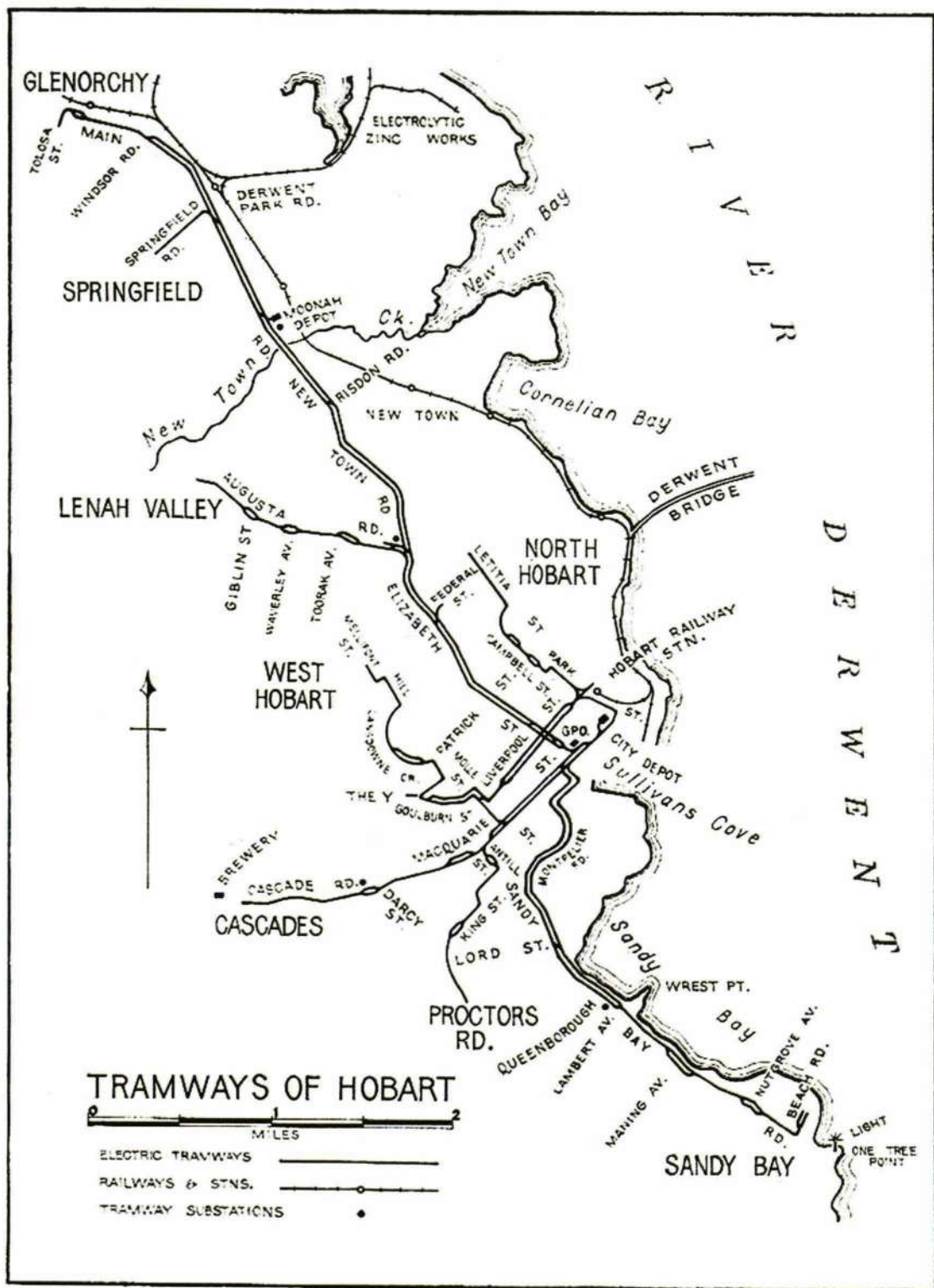
It is bad business to build good cars and then send them out to shake themselves to bits on a poor track. And so rails are soundly laid in the first place and a gang is continually at work repairing the city's twenty-three miles of track. A gang is maintained for this alone, and does nothing else. At present it is occupied in laying down a new curve from Park-street into Liverpool-street. This, incidentally, means that the elaborate Y which was put down two or three years ago at that spot will fall largely into disuse.

The rails laid down by the original company were formed by the junction of old forty-pound railway rails.

Bogie car number 50 is looked on as being the last word in comfort and convenience. It is seen outside the Town Hall on 27 November 1924 preparing for a trial trip to West Hobart.

Tasmanian Archives and Heritage Office





Map by P.J. Carrol.

Reproduced from *The Electric Tramways of Hobart* by J Chesworth, I. Cooper, P. James and J. Stokes.
 Australian Electric Traction Association, August 1960.

They proved altogether too light, even for light trams of the day, and derailments were of everyday occurrence.

After ten years they were pulled up and the tracks relaid with eighty-three pound rails. These also were afterwards pulled up, except on the Crescent, and replaced with ninety pound rails, which perform good service still.

The maintenance of the surface of the tram tracks proves a troublesome business to the department. No sooner is good, smooth dressing of asphalt put on than motorists and others, no doubt supposing that a courteous Corporation provided the smooth surface expressly for them, begin to tear it up again. This is particularly noticeable along the Glenorchy line, where the road on each side of the tracks is only indifferent.

Moonah Depot

The pressure on accommodation at the Hobart depot, and the great increase in traffic to New Town and Moonah, justified the department in erecting recently at Moonah a car-barn, offices and power sub-station. The Moonah depot has eight leads (that is, parallel sets of rails on which the cars ranges); the new depot is designed for nine, but has at present six. The most remarkable feature of the new depot, and perhaps of the whole system is the power sub-station. This was erected to cope with the increasing tram traffic along the Moonah and Glenorchy line, and marks one of the highest points to which electrical ingenuity has attained. By automatic devices just so much current as is required, and no more, is put on the track. If the traffic is heavy, power to correspond is provided; if light, the station sinks its production of current to the needful level. All the human control that is wanted is

the closing of a certain switch when it is desired to put the station in operation, and the opening of the same switch when the extra power is no longer needed. He switch is placed outside the actual convertor room so that it may be operated by anyone; if it were inside, its operator, even if he did nothing else but close the switch in the morning and open it again in the evening, would, under the award, have to be classified as an engineer and paid engineer's rates.

The station was first used for its destined purpose on July 27, and has been operating daily since then. It is employed at present between the hours of 11.30 a.m. and about 8 p.m., and later on towards 11 p.m. on the mainland there are several power stations of the same automatic type, but the plant in them is all of American manufacture; this Hobart station is the only one in Australia equipped with British plant (from the firm of Thomson, Houston Ltd., Rugby).

The plant consists of two main parts – that which performs the stepping-down and transformation of the current as received from the Hydro-Electric Department, and that which embodies the automatic control giving the station its particular interest. Power, as it comes from the transmission line, is of a high voltage (11,000), and is of what is called alternating current type. Trams are run on a direct current at a low voltage (530). The current is therefore first stepped down to 415 volts alternating current, and then by means of a rotary converter changes to 530 volts direct current. The second part of the plant consists of a low-tension switchboard, which carries starting, control, and two-feeder panels. The closing of the main switch sets everything in motion.



Trams 29, 6 and 1 were hired in 1924 to take The Mercury newspaper staff to North Hobart grounds for a photograph.

Mercury collection, Tasmanian Archives and Heritage Office



Car 64, the latest design, with partially enclosed upper deck.

Tasmanian Archives and Heritage Office

Below:

Siemens double deck car 10 rounds the 70 ft radius curve from Murray Street into Davey Street in 1893.

Tasmanian Archives and Heritage Office

Amongst many other protective devices is an arrangement by means of which, in the case of a breakdown on the track, the plant automatically ceases to operate, and then, after an interval resumes. If the fault is not rectified the cut-off comes into action again and the plant is inactive for a further period. Presently it resumes its running for the second time, and if the fault still continues the plant stops once more, and remains so until the trouble is remedied.

The operation of this station will enable the City Council to extend the Glenorchy line beyond Windsor-street and increase the services in the Moonah district when required. Further, trams will be able to maintain a higher average speed. An important consideration is that, in the event of a fire isolating this section of the overhead wires continuity of service on the Glenorchy line, from the Maypole to the terminus, could none the less be preserved.

A Few Figures

Here are a few figures that will be of help in grasping the extent, such as it is, of the Hobart Municipal Tramways. Mileage means the total distance run by cars:-

Mileage, 1924-'25

| | Miles | Per cent of whole |
|----------------|----------------|-------------------|
| Lenah Valley | 104,407 | 7.34 |
| Proctor's road | 80,423 | 5.65 |
| N. & W. Hobart | 242,590 | 17.06 |
| New Town | 560,528 | 30.40 |
| Sandy Bay | 262,693 | 18.47 |
| Cascades | <u>171,872</u> | 12.08 |
| Total miles | 1,422,513 | |

Passengers Carried, 1924-'25

| | | Per cent of whole |
|----------------|------------------|-------------------|
| Lenah Valley | 914,486 | 6.953 |
| Proctor's road | 688,142 | 5.232 |
| N. & W. Hobart | 1,945,097 | 14.790 |
| New Town | 5,342,878 | 40.624 |
| Sandy Bay | 2,663,562 | 20.620 |
| Cascades | <u>1,595,537</u> | 12.132 |
| | 13,151,732 | |

Average number of passengers carried per day, including Sundays, about 36,000.



THE AETA'S 1950 REPORT ON NEWCASTLE'S TRANSPORT

By Dale Budd and Randall Wilson

Concluded

1. FINANCE

Immediate steps should be taken to raise a loan of between £2,000,000 and £2,500,000 to enable the Council to commence a long-term reconstruction programme for transportation services in Newcastle. This initiative should follow negotiations with the DRT&T regarding the taking over of approximately 180 of the Department's most recently built double-deck buses, the complete acquisition of the Gordon Avenue tram depot and bus garage including all plant and equipment, and the satisfactory valuation of all relevant assets.

Prior to arriving at any decisions relating to reconstruction of any tramway routes or in connection with bus services, the Council should seek advice from highly qualified technical officers in successful transport undertakings in the Commonwealth in relation to track laying, overhead, rolling stock, workshop practice and administration.

It is understood that the Melbourne and Metropolitan Tramways Board and the Brisbane City Council

Tramways Department would be happy to assist in the above matters. Both are successful operators of both modern buses and trams. No doubt the Adelaide Tramways Trust could proffer much useful information of a technical character especially in connection with its operation of the only high speed interurban line in Australia.

It will be found that each of these undertakings use various types of street transport in the ways that best suit each type of vehicle, in the interests of economy of operation and the public advantage.

Some may question whether the sum of £2,500,000 should be raised as quickly as possible from the outset. But it should be borne in mind that with the present shortages of steel and other products, funds should be on immediate call so that orders can quickly be placed for rails, rolling stock and the equipment necessary for the modernisation of the Gordon Avenue depot and workshops.

Funds should be allocated over a general reconstruction period of 5 years as follows:

| | | |
|----------|---|----------|
| Stage A. | Acquisition of Gordon Ave. Depot and Garage together with plant... | £180,000 |
| Stage B. | 150 to 180 post-war double-deck buses at not more than £4,000 each, the number required depending on the number of tramway routes which can be operated almost immediately (as buses become surplus they can be sold)... | £720,000 |
| C. | Purchase from the Melbourne and Metropolitan Tramways Board of nine C class tram cars of a corridor type, built 1916 completely overhauled at approximately £1,300 per car plus transportation costs... | £13,000 |
| | Purchase from the NSWTD of six or more overhauled Newcastle type L/P class trams at £500 each plus one Breakdown Car... | £4,000 |
| D. | Re-erection of overhead wire from Adamstown Junction to Waratah terminus depending upon how much has been dismantled... | £35,000 |
| E. | Temporary patching with used rail where urgently needed in Hunter Street, short length only, also lifting and re-ballasting of sunken tracks, replacement of badly rotted sleepers etc. in open right-of-way and reserved track sections... | £32,000 |

It may be found on conclusion of all negotiations with the NSW DRT&T that the Gordon Avenue tram and bus depot together with all equipment could be leased instead of being purchased outright.

The nine M and M.T.B. C class cars mentioned above appear to be the only tramcars available at present for sale. We have been informed by that authority that these cars have done between 800,000 and 900,000 miles, and have not been used since 1944. They have

been kept in covered storage. A complete overhaul of bogies, motors and body would be necessary costing approximately £800 per car. A year ago about 15 of this class were sold as they stood to the Victorian State Electricity Commission for use on its Ballarat, Bendigo and Geelong tramways. Body modification of the cars was carried out by that authority and it is understood that they are all giving satisfactory service and are popular with the riding public.

Melbourne C class trams

The nine maximum traction saloon cars available for purchase from Melbourne in 1950 were Nos. 35, 37-42, 44 and 45. Of these, No. 35 was from the original C class, while the others had been reclassified from E to C in 1928 when the classes were rationalised. Other C class cars had already been sold to the SECV or disposed of, while the mechanical and electrical equipment from five cars had been used for the CW5 class.

The proposed sale to Newcastle did not eventuate and the nine cars were all sold to the SECV in 1951. Initial allocations were: Nos. 35, 41 and 42 to Ballarat, Nos. 37-40 to Geelong and Nos. 44 and 45 to Bendigo. There were a number of subsequent moves between the three cities; most of the nine cars are preserved.

The M. and M.T.B. will not be in the position to build new tramcars for any outside authority for some years to come. This authority has recently taken out sole rights for Australian manufacture of the famous American PCC tramcar (see section 6).

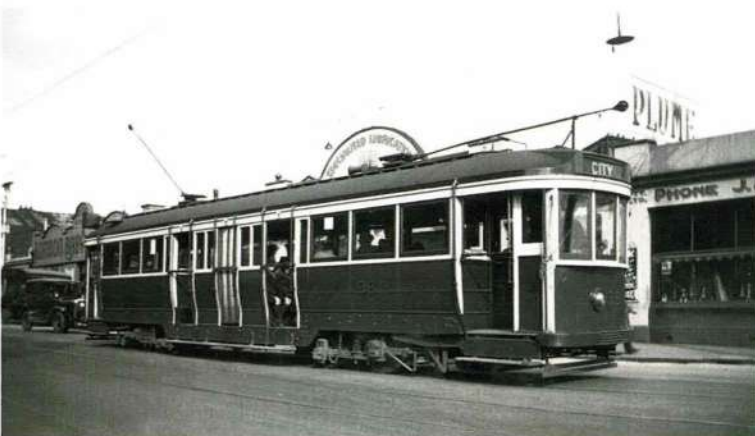
The Brisbane City Council are at present building their own trams which are a fairly modern version of a car using resilient wheels, silent helical gears, etc. and are faster than any trams in this state. However, they too are striving to replace a considerable number of very obsolete cars, but may be able to contract in a year or so.

It is unlikely the NSW DRT&T would be able to supply any other class of cars than the worn out L/P

class car. Considerable numbers of these cars could be available fairly soon as the new R1 class corridor cars are delivered. Extensive re-introduction of these cars should be avoided, if at all possible.

As soon as the City Council has decided which tramway routes should be reopened and rebuilt in the light of this report, orders should be placed with contractors for the construction of at least 40 to 45 cars conforming to the design and specifications appearing in, and appended to, this report. *(The specifications were not available for this article.)*

Expenditure for stage 2 as below.

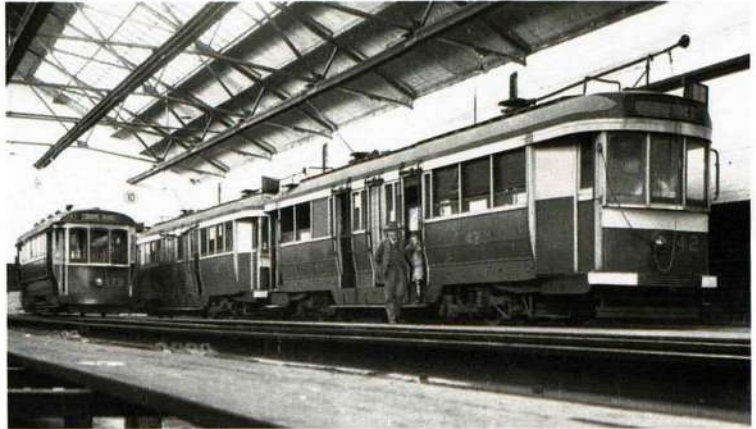


These pictures of Melbourne C class trams show cars from among the nine which were proposed to run in Newcastle. No. 38 is seen in service in Swan Street, Richmond in 1937.

Ray Pearson collection,
courtesy of TMSV

C class 42 and other cars, apparently in storage in Coburg Depot. Note the wartime paint scheme. This is probably indicative of the condition of the C class cars when they were available for sale.

Photographer unknown – provided by Mal Rowe



| | |
|--|---------------------------------------|
| 40 to 45 Standard Tramcars approx. | £500,000 |
| 25 single miles of B.H.P. 102 lbs. per yard grooved tramway rail and/or standard railway 80 lb rail...(and laying of same) | £ 1,000,000 |
| | <u>Grand Total</u> <u>£ 2,485,000</u> |

It must be understood, that the figures appearing in these estimates of costs are approximate only, but extensive research suggests that they are as accurate as possible at a time of constantly rising prices.

2. BUS SERVICES

This chapter of the report has been omitted from this article. Four pages in length, it consisted of a detailed discussion of bus services on some 18 routes together with proposals for city terminals, depots and garages. It suggested the introduction of three new types of bus: a 39 seat single-deck vehicle – type A; a larger single deck bus with 43 seats – type B; and a new design of centre-entrance double-deck bus, type C, which would carry 60 passengers, all seated. The report suggested which type of bus should operate on each route. An outline drawing of the type A bus (only) is attached to the STM's copy of the report.

3. FUTURE POLICY

The City of Newcastle is the principal city of a rich coalfield and one of the principal ports of the Commonwealth. As a large and growing centre of heavy industry and general manufacturing it is destined to become a great city before the lapse of very many years. This being the case, city and suburban transportation will become increasingly important in the future. If Newcastle is to have a transport system that is superior to others in the Commonwealth, it is essential that a sound foundation be laid now.

The Council of the City of Greater Newcastle is fortunate in that almost the whole of the city and

suburban area lies within its corporate limits. Thus it possesses authority over the roads and streets within that area as well as possessing the power to acquire the transportation system serving it. This means that plans can be laid for development along certain lines without the likelihood of interference from other public authorities in the area. By contrast, in Sydney a multitude of local councils have divided responsibility for the greater part of that city's area.

In the event of the Council acquiring the transportation system of the city it should aim to make it as comprehensive a system as possible. It should be, for all practical purposes, the exclusive transportation agency within the area.

First, we will consider the existing railways in the area and what may be expected of them in relation to providing a suburban service.

It is no secret that the NSW Railways in common with most other railway managements is opposed to extension of suburban passenger services where the volume of business is so small as not to warrant the provision of the necessary trackage and platform facilities. In these circumstances, any existing facilities are primarily designed for heavy freight and through passenger operations.

Unless operated by electric traction, suburban passenger services are not particularly attractive to the public in terms of speed and cleanliness. It is also unlikely that a frequent service can be run with steam operation. The alternative is to electrify. However, owing to the very great capital investment necessary to carry out such



Former Melbourne C class car 42 became Ballarat No. 39, seen here in service in the provincial city in July 1965. It is now the Ballarat Tramway Museum's display and souvenir centre.

Richard Jones

a project only a city of large population and a heavy volume of suburban passengers can afford such a step. In Newcastle the suburban services provided by the Railways Department can be dismissed as negligible in the overall transport picture of the city. Were Newcastle five times its present size, a case could be made for suburban electrification - not otherwise.

It remains therefore to outline what should be done to provide areas a considerable distance from the city where there is a heavy volume of riding, with a fast and convenient service capable of wide flexibility in carrying capacity, from semi-railroad standards to the use of single vehicles.

To ensure such flexibility and high speed, electric operation is essential, including operation that is free of interference from street traffic. Under these conditions, suburban dwellers 6, 8, 12 or even 18 miles from the city can benefit from the high potential speeds of modern electric cars.

The most favoured residential area in Newcastle lies on the route of the present bus service to Swansea where, in the main, high and attractive land is traversed ideal for suburban development. However, such development is hampered at present by reliance on bus transport which, though doing a satisfactory job within its limitations, is incapable of great expansion because of increased population and traffic pressures.

The AETA therefore proposes that the Newcastle Council should give serious consideration to constructing an entirely new interurban electric railway of tramway type, that is, lighter standards and very much lower capital cost than railway-type electric operation. The line would run from the city at Hunter

Street and Burwood Street along the existing roadbed of the Newcastle Coal Company's railway to Morgan Street. Here it would leave the coal company's right-of-way and run at the side or the centre of the new Lake Macquarie road to the Pacific Highway. Upon entering Chaldene¹ it would be necessary to run on the coast side of the Pacific Highway on a slightly lower level to avoid the built up area along the highway.

Having passed this area it would be possible for the tracks to follow the highway very closely to North Belmont. From North Belmont to South Belmont the highway is reasonably wide allowing the tracks to run in the street as a fully paved or partially reserved tramway. After leaving South Belmont the tracks would continue along the coast side of the highway to the bridge at Swansea. As a new bridge is required here, an agreement should be reached with the Department of Main Roads to make provision for tram tracks on any new bridge at this point. The line would then run to its terminating point at the southern end of the Swansea shopping area.

Resembling the line of the Adelaide Tramway Trust between Adelaide and Glenelg, the line should be on a right-of-way or reservation in the centre of the roadway at all possible points except through several shopping areas at Belmont, etc. where this is impracticable. All crossings of the line at grade with main or important roads and streets should have simple but effective

¹ Chaldene was not a suburb or locality but a bus stop, named after an adjacent house. It had been established as a first set down point for buses bound for points beyond Adamstown South. See the *Newcastle Herald*, 17 March 1951, page 5.

warning devices installed for protection of highway traffic. (We note that not very many warning devices would be required as the bulk of the motor traffic moves north-south.) The proposed protective measures would be necessary because the interurban cars would operate at speeds up to 45 miles per hour or a little more.

The initial section from Hunter Street along the Newcastle Coal Company's right-of-way is very important to the success of the scheme as it provides an ideal exit from the city operating at high speeds immediately after leaving Hunter Street. Wig-wag or other warning device would be necessary at King, Bull, Parry and other streets in the Cooks Hill and Merewether-Glebe areas. Ash ballast could be used on the line which would need to be double tracked only as far as Charlestown. From there, a single track under modern but inexpensive automatic colour light signal protection would extend to Belmont and Swansea.

Through running time would be about 50 minutes for a service to all stops or 35 minutes for express runs with only limited stops. There would be a saving of approximately 15 minutes in each case as compared with the present bus service. Savings in time allied to greatly enhanced carrying capacity would eliminate the possibility of intending riders being left behind. Three car trains (coupled sets), each car having a rush hour capacity of from 120 to 170 passengers can be compared to 73 on a bus. As on the Adelaide to Glenelg interurban line, high speed operation would be completely safe as all cars would have power-operated doors.

The construction of such a line to Lake Macquarie would result in great realty development and have a highly favourable effect on properties along the route. Negotiations should be carried out with the Newcastle Coal Company to reach an agreement which would

permit their right-of-way being used for a double-tracked electric line, with provision being made for operation of the few coal trains run by the company at times of the day or night when there would be no interference with the ordinary electric services.

The Department of Main Roads should also be approached so that provision would be made for a central reservation in any road schemes along this route. This reservation strip should be about 32 ft. in width.

Because the proposed Belmont and Swansea interurban line avoids the more densely settled districts adjacent to the downtown area, it is proposed that the tramway route from Adamstown Junction to Adamstown be extended to a junction with the direct line to Swansea at a point near Chaldene where a transfer station could be established for the convenience of those living in Hamilton, Broadmeadow and Adamstown. This construction should be wherever possible in a centre reservation and arrangements should be made with the Department of Main Roads in the event of any widening of the Pacific Highway in the area concerned. This would involve leaving a 32 ft. reservation strip between the dual pavements of the widened highway in which tracks could be placed.

Mayfield area

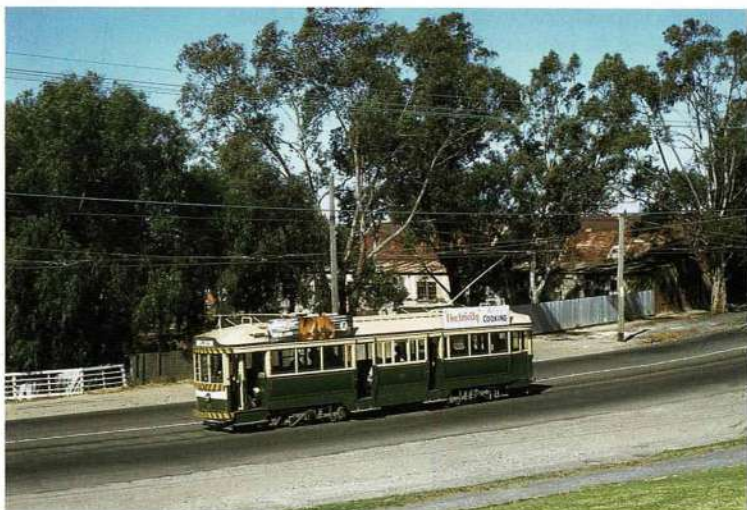
When reconstruction and reopening of the Mayfield line is undertaken, this tramway should be extended to Mayfield West at Maud Street. Later, a connecting line between Waratah terminus and the Mayfield West line at Maud Street should be constructed via Maud and Lorna Streets.

Wallsend area

In bringing the Wallsend line back into operation,

Bendigo 18, previously C class 45, on the Eaglehawk line in December 1971. This could have been a scene on the Wallsend line in the early 1950s if the AETA's report had been accepted. No.18 was converted to a saloon car by the Bendigo Tramways in 1983.

Randall Wilson



approval should be sought from the Newcastle-Wallsend Coal Company to construct the tracks along their right-of-way from Co-operative Junction to the original Wallsend terminus across the existing storm drain. This would remove the tracks from the narrow and unsuitable streets over the last ¾ mile of the line. By achieving substantial separation of the trams from ordinary street traffic between Broadmeadow and Wallsend, travel times from Wallsend would be brought within 33 minutes of the centre of the city. Local investigations could be made regarding the possible extension of this line to Ganney Road.

Merewether Beach area

It is recommended at this stage that, should the Council deem it advisable, the reasonably good track on this route should be left intact for near future use when suitable rolling stock becomes available. In the interim, the present bus service should operate.

Finally, in planning for the future, it is assumed that the Council will be far-seeing and imaginative in visualising possible development within its area and the transportation needs of the citizens.

The Council should be concerned to acquire the latest PCC cars as the possibility of getting this equipment in Australia becomes clearer. To make effective use of them, it should develop a backbone of electric rail lines, supplemented by buses on the routes of lighter traffic. It should also be concerned that, as the city grows, its citizens should have the benefit of genuine rapid transit such as that on the proposed Swansea interurban and on the revamped Wallsend line. Future services should be characterised by high standards of speed, safety, comfort and dependability, which the bus cannot attain, be the population 150,000 or 1,500,000.

The Council should remember that if a sound foundation of wisely reconstructed tram lines is achieved, a basis is established for providing greatly expanded services at relatively low cost as the city's population grows. On the other hand reliance on an exclusively bus operated system can only lead to makeshifts and improvisations

which, with every increase in ordinary street traffic, becomes less able to economically perform the functions assigned to it.

Prepared by the Public Relations Committee
of the
Australian Electric Traction Association
Sydney Branch.

4. ACKNOWLEDGEMENTS

Without the valuable help which we received from the many transport authorities and other bodies which we contacted in the preparation of this report its compilation would have been most difficult.

We wish in particular to express our appreciation to:

The Council of the City of Greater Newcastle
Melbourne and Metropolitan Tramways Board
Hobart Municipal Tramways.
Westinghouse Electrical and Manufacturing
Company, U.S.A.
Brisbane City Council Tramways Department

We have been given every assistance by the employees of the Newcastle City Council, by Mr. Magor of Newcastle and Mr. Simpson of Vaucluse, and by all others who helped on this report.

Acknowledgements must also be made of the extracts taken from the:

Newcastle Morning Herald
The Sinclair report
The AETA Geelong report
The Westinghouse PCC tram book

Signed.

Mr. R.E. Murray
“ K.W. Miller
“ N.L. Chinn
“ G.F. Johnson

for the AETA 1950



Beautifully maintained by the Ballarat Tramway Museum, car 38 (previously Melbourne C class 41), is seen at Gardens Loop in Wendouree Parade in November 2017. Andrew Cook

Breakdown car 126s with L/Ps 147, 145 and 284, at Hamilton Depot on 11 June 1950, the day after Newcastle's last tram service had ended. The AETA report recommended the retention of a breakdown tram such as this. Noel Reed



Outcome of the report

Although dated August 1950, the report was not provided to the Council until November. What follows is sourced from various issues of *Electric Traction* published in 1951.

The Council sent the AETA's report to the Minister for Transport (Mr. Sheahan) for comment by his officers. The Departmental response to the report was published in the May and June 1951 issues of *Electric Traction*. It focused to a considerable extent on the issue of road maintenance costs, anticipated savings on which featured prominently in the report. Among its conclusions were the following:

"In the final analysis the council was being asked to accept responsibilities involving much heavier commitments than those now incurred for the maintenance of bus routes."

"The report of the association has a number of features to commend it, if the financial implications involved in their introduction were to be disregarded. As an economical proposition, however, the question of adopting the proposals takes on a different complexion."

Electric Traction reported that the Works Committee of the Council received the DRT&T's comments. There was no further action by the Council.

So, the recommendations of the report were not taken up, and Newcastle's trams were not reinstated. In retrospect several key factors helped to determine the outcome.

First, the report was prepared too late. It would have had a better chance of success if it had been requested and submitted while the trams were still running. Gradual dismantling of the system following its closure,

particularly overhead wiring and open ballasted track, meant that the review of the condition of tracks and other infrastructure, given in section 6 of the report, would have been out of date by November 1950. The costs of restoration would have continued to increase while the report was being assessed. For example in May 1951 it was reported that virtually all overhead wiring had been removed, some for use in Sydney.

Second, the focus on the costs of reconstructing roads used by buses, while responsive to the Council's concerns, was misguided. The DRT&T in its response to the report pointed out that three of the tram routes traversed roads controlled by the Department of Main Roads, so their maintenance was not the responsibility of the Council. (This had been acknowledged in the report.) The costs of rehabilitating the run-down track on Newcastle's tramways, and maintaining it together with the road pavement, would have been much higher than the cost of upgrading and maintaining a road without tram tracks. Relief from the cost of maintaining tracks was a major justification for the replacement of trams in Sydney and elsewhere. Further, the report overlooked the very large difference in the cost of buying new buses rather than trams. An obsolete fleet of rolling stock was due for replacement, and buses were a much cheaper option. The large differential between the acquisition cost of trams and buses continues today.

Still, as in so many cities, policies have turned full circle and trams will belatedly return to Newcastle, albeit a fleet of just six articulated cars running on an initial very short route of 2.7km. In 2019 we will again be able to travel by tram along Hunter and Scott Streets, where L/Ps ran in the past and where the AETA envisaged the operation of PCCs.

Previously published in the Brill Magazine, 15 April 1914, Vol. 8, No. 4, pages 106-109.

SEMI-CONVERTIBLE, STEPLESS CAR FOR BRISBANE, AUSTRALIA

Brisbane Tramways Company

A short time ago The J. G. Brill Company shipped to the Brisbane Tramways Company, Ltd., Brisbane, Australia, an extremely interesting type of car. The car was shipped whole and, as it has an over-all length of 41 ft. 10 in., lowering it into the hold of any available vessel plying between [US] domestic and Australian ports was out of the question. This fact necessitated special packing and the construction of boxing designed to withstand the strain of a deck voyage during the stormy winter months.

Although the Brisbane car includes a number of features of the New York and Vancouver stepless cars, it differs from these types in a number of important details. Principal among these is the fact that is built of steel to window rail, while the other cars referred to are all steel.

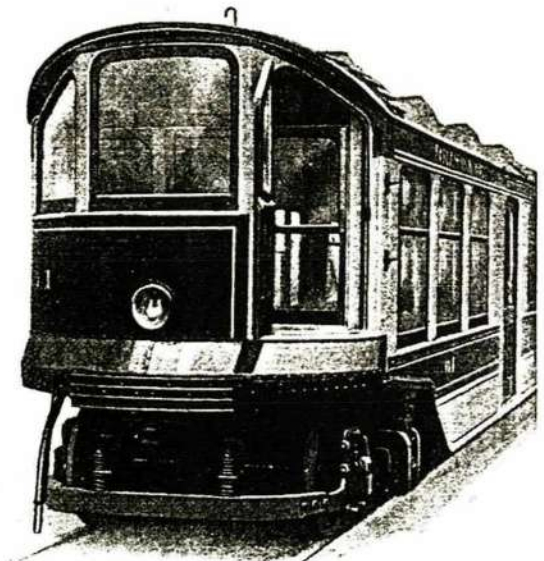
The underframe of the Brisbane car is made up wholly of steel plates and shapes, so disposed as to give maximum strength of construction with the minimum weight permitted by a generous factor of safety. The sides are girders formed of 3 in. by $\frac{3}{8}$ -in. bars for the top members, 4 in. by 3 in. by $\frac{1}{2}$ -in. angles for the bottom members and 1-16-in. steel plates for the webs. The sill angles are reinforced for a distance of 7 ft. at the centre by 2½ in. by 2½ in. by $\frac{3}{8}$ -in. angles. Additional stiffness for the side girder is provided by two angles riveted to all members of the girder at each side post. These act also as post supports. The girder is broken at the doorway over which it is carried by means of two 12 in. by 3-16-in. pressed steel plates, bent to form door posts.

The crossings, of which there are nine, are formed of two 3-in. channels placed back to back. The bolster construction is interesting, consisting of a 3½ in. by 6 in. by 3½ in. by $\frac{3}{8}$ -in. Z-bar, reinforced at the top by a 3 in. by 2½ in. by $\frac{1}{2}$ -in. angle, and at the bottom by two plates, one 3 in. by 7-16 in., extending for 27 in. along the centre. A bulkhead girder formed of a 1½ in. by 5-16-in. bar and a 3 in. by 2½ in. by $\frac{1}{4}$ -in. angle, with a plate 11 in. by 3-16 in. for the web, separates the body of the car from the motorman's cab and acts as in conjunction with the bolster in transferring the side frame load to the centre plate. End sills are 4 in. by 3 in. by $\frac{1}{2}$ -in. angles, reinforced by a 5-ft. section of 7-in. anti-climber. Longitudinal members are formed of 2½ in. by $\frac{3}{8}$ in. and 3 in. by 2 in. by $\frac{3}{8}$ -in. angles, the latter being at the centre of the car, forming platform

supports. Vestibule stringers are 2 11-16 in. by 3 in. by 2 11-16 in. by $\frac{1}{2}$ -in. Z-bars, extending from bolster to end sill. Floor supports are 1½ in. by 1½ in. by $\frac{1}{4}$ -in. angles.

The side posts are of wood, riveted to the angler posts and the web of the side girder. The rafters supporting the plain arch roof are 1½ in. by $\frac{3}{8}$ -in. bars, extending from top rail to top rail, with four 2-in. channels at the centre, running from door post to door post.

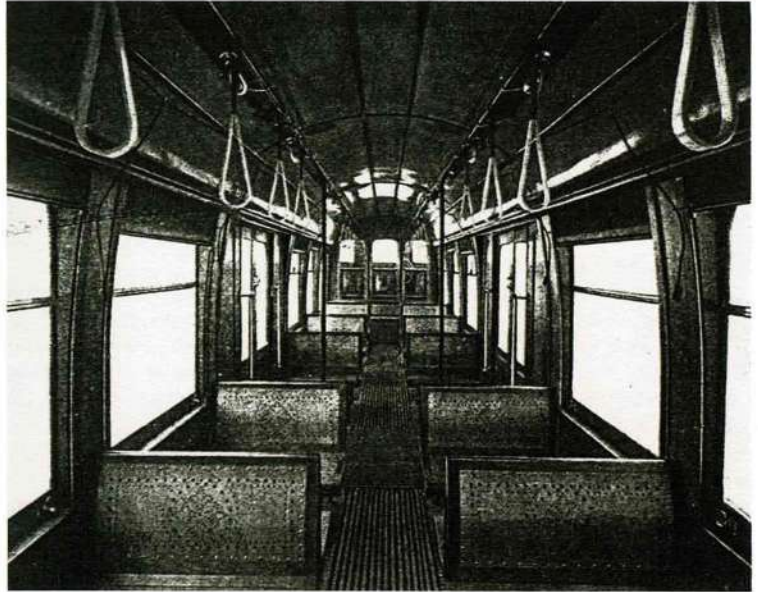
The window system of this car is especially worthy of note: The side posts are unusually wide, but are placed on 4 ft. 6-in. centres, allowing particularly broad windows, which are of the Brill Semi-Convertible type. At the centre of the car are manually operating, double, sliding doors, arranged for manual operation by either conductor or passengers. Except in stormy weather, the left hand doors are left open, the operation of cars in Brisbane being the reverse of that in vogue in this country [USA]. For that reason, also. The motorman's cab doors are placed at the left-hand corners. No prepayment features are embodied in this car.



Stepless Car for Australia. Brill No. 62-E special Trucks carry bolster sufficiently low to accommodate low floor.
Brill Magazine, page 106

The broad windows and plain arch roof give a particularly bright and roomy appearance.

Brill Magazine, page 107

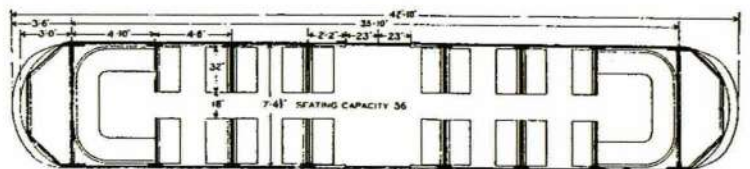


The interior of the car is finished in cherry, with composition head-lining. Seats are placed vis-à-vis, except where they extend entirely around the end of the car, as in the New York type. All have slate seats and perforated veneer backs. Instead of the usual push-button system for signalling the motorman, an extension to the bell cords is provided between each pair of seats. There are no stanchions except at the centre of the car, but hand straps are provided over the side seats. Floor is level at the centre but is ramped 1/2 in. to the foot towards the bolsters. The roof is fitted with eight Brill "Exhaust" ventilators.

The Brill No. 62_E Special Trucks used under this car are similar to those on which several low centre types are mounted, among them being the Columbus double-

deck car described in the March [1914] issue of BRILL MAGAZINE.

Brisbane is the capital of Queensland, Australia, and is situated on a series of hills rising from the banks of the Brisbane River. The city has numerous manufacturing industries and the metropolitan district has a population, according to the latest available figures, of about one hundred and twenty thousand. The Brisbane tramways Company, Ltd., has a virtual monopoly of the tramway traffic in the city and numerous suburbs, but the municipality has a right of purchase in 1920 for an amount to be agreed upon. The lines comprise about fifty-seven miles on single-track basis, and were opened for electric traction in July, 1897.



Side doors are manually operated. Car is not arranged for prepayment system.

Brill Magazine, page 108

HERE AND THERE

AUSTRALIAN AND OVERSEAS NEWS

Adelaide – Testing of the East Terrace and Elder Park tramway extensions

Adelaide's new tramway extensions finally felt the rumble of tramway wheels when Flexity tram 113 was used to carry out clearance tests on the line from King William Street to East Terrace in the early hours of 4 June 2018. This was the first time since November 1958 that a tram had run along the eastern half of North Terrace. The following night, 113 was again used to carry out clearance tests on the northward extension towards the Elder Park terminus. Citadis tram 202 was also used during the night.

The single track curve on the north-eastern corner of the King William Street/North Terrace intersection was used by both trams, with 202 running to East Terrace, thereby completing the clearance tests for both types of trams currently in service in Adelaide. Nightly tests were carried out on the extensions until Saturday 9 June.

– William Adams

Victorian budget announcements - a new tram type for Melbourne?

The Victorian budget presented on 1 May 2018 included a number of items of tramway interest, including the following statement: "New Metropolitan Trams: detailed planning and design for next generation trams will begin this financial year. The new trams will enable the retirement of the ageing high-floor tram fleet. The

business case, which is still to be developed, will also consider supporting infrastructure, such as stabling and maintenance facilities."

This suggests that Melbourne will see a new design of tram, presumably the F class. It appears there will be no more orders for Es, of which fewer than 12 are still to be delivered, unless there is a fill-in order like those at the end of production of the Z2s and later the Z3s.

In terms of fleet planning, the current franchise agreement (which commenced on 30 November 2017 and runs until 1 December 2024), provides for all the Z3 cars to be withdrawn, starting with 13 cars in 2018 and concluding in 2023. The A series cars are to be withdrawn in 2024 and 2025. (Current fleet availability issues have resulted in Z3 cars being retained in service; the only Z3s withdrawn to date are 149, a fire casualty in 1999; 140, sent to Newport workshops for storage in November 2017 and 208, in store at Preston workshops as at early July 2018, stripped.)

Approximately 20 trams will need to be purchased per year to replace the Z3s by the end of 2023, and then 35 per year to replace the A series two years after that. This assumes replacement on a one-for-one basis. Both of these are faster rates than delivery of the Es, which has been at a rate of between 13 and 17 per year.



Flexity 113 travels past the historic University of South Australia building in North Terrace (East) on 4 June.

William Adams

As already reported in November 2017 Trolley Wire, the franchise agreement specifies that six cars are to be upgraded to W8s, bringing the class total to twelve. Three are to be completed by 31 March 2019, and a further three by 30 June 2020. All the cars to be upgraded will be existing City Circle cars; they will not be drawn from among those in 'deep storage'. (The budget on 1 May gave different information: it stated that the target, and expected outcome, for the financial year 2017-18 was completion of two cars.) The eighth car to be upgraded to a W8, SW6 928, went to Bendigo on 18 April 2018.

A new line to Rowville – trams or heavy rail?

The Victorian Government announced on 10 April 2018 that \$3 million would be allocated in the forthcoming budget for design and planning works for a tramway extension from Caulfield to Rowville, a distance of 18 km. The first stage of the proposed route would begin near Caulfield station and run down Dandenong Road and along the Princes Highway, with a stop at the nation's largest shopping centre at Chadstone. It would then continue along the highway before travelling down the centre of Wellington Road to Monash University's Clayton campus, near the intersection of Blackburn Road.

The second stage would see an extension to Rowville.

However the Commonwealth Government announced in the Federal Budget on 8 May that it would commit \$475 million to a heavy rail line to Monash University. Federal Urban Infrastructure Minister Paul Fletcher spoke at the university a few days after the budget announcement, pushing the case for heavy rail and saying that the connection should be a short spur line off the Cranbourne-Pakenham route with a junction at Huntingdale.

It remains to be seen which of the two projects – a tram line or heavy rail – comes to fruition.

The Victorian budget also provided funding to develop a business case for active transport and tram connections between Fishermans Bend and the CBD.

A new future for the W series trams at Newport

The Victorian Government released in May a strategy for "repurposing" most of the W series trams at Newport, many of which have been stored there for more than 20 years.

Of approximately 200 trams at Newport, 134 are being made available by way of an Expressions of Interest process to community groups, commercial

entities or private individuals. Interstate and overseas organisations were entitled to apply. The strategy document referred to a total of 237 retired trams, a figure considerably larger than the number of cars at Newport.

The 134 trams to be disposed of through the process are of the following classes.

| | | | |
|-----------|---|------------|----|
| Z1 | 2 | SW5 | 48 |
| Z2 | 1 | W6 | 18 |
| W2 | 1 | SW6 | 39 |
| W5 | 6 | W7 | 19 |

The strategy was developed with the assistance of a stakeholder reference group which included Mal Rowe as a representative of COTMA.

Trams excluded from the EoI process were the following:

- Operational: 17 for use on the City Circle or for the Colonial Tramcar Restaurant.
- Preservation: 25 in good overall condition, suitable for W8 upgrade or gifting
- Privately owned: 6
- Historical significance: 11
- Transporting Art trams: 20 – the future of these trams is to be agreed with the artists or their estates
- Donor and spares: 20 trams in poor and incomplete condition

The strategy made clear that none of the 134 trams being disposed of would be allowed to run on the Melbourne network.

Applications under the EoI process closed on 6 July. Those requesting trams were asked to nominate the time period in which they would take delivery: four time slots are envisaged, extending to June 2020. This reflects the complexity of removing the trams from Newport Workshops. It may be noted that the removal of 134 trams will still leave many in store at Newport.

COTMA has stated that the 11 cars having historical significance were identified from submissions by COTMA members, the TMSV and another museum. They will be available to museums without further process.

The allocation of trams under the EoI process is scheduled to be announced on 14 September.

Canberra – new trams start test runs

A few minutes before midnight on the night of 11-12 June 2018, Canberra’s first new tram was towed from its depot at Mitchell out onto the line towards Gungahlin.

The overhead wiring in the depot area was not complete, preventing the tram being driven out under its own power. The wiring on the main line was scheduled to be energised on the night of 12 June, enabling test running to begin on the northern section of the line to the terminus at Gungahlin.

Because of the difficulty of accessing the depot, the cars are parked at various spots along the line during daylight hours, in temporary fenced enclosures. The test running has begun while work continues on the construction of stops, all of which have island platforms with substantial shelters.

Landscaping – the placing of plants in continuous beds on both side of the line - is also progressing.

Major construction including tracklaying continues on the southern part of the line, from the depot to Civic. All 14 cars in the new fleet are expected to have been delivered by the time this issue of *Trolley Wire* appears, and it is planned that services will begin by the end of 2018.

R Rail Ready → Are you Rail Ready?

**Light rail is approaching.
Are you Rail Ready?**

canberra-metro.com.au

Only cross at designated intersection crossings.

ACT TCC Transport Canberra CANBERRA METRO

Signs such as this in premises along the line are a reminder to future users to take care when crossing the tracks.

Dale Budd

Canberra Metro does not use the word 'tram', preferring 'LRV' or even 'train'. But this speed limit sign near Gungahlin terminus shows a return to basics.

Dale Budd



A Canberra car on the wharf at Port Kembla on 3 May 2018. The cars are unloaded at Port Kembla and trucked to Canberra in two sections.

Craig Parkinson

BYLANDS

TRAMWAY MUSEUM SOCIETY OF VICTORIA

38 Piccadilly Crescent, Keysborough, Victoria 3173

www.tramwaymuseum.org.au

Graham Jordan

Around the Museum

Our Marketing Manager, William Fedor continues to make progress on the Visitors Entrance Centre and the Tramway Gallery display. William has recently returned from an overseas trip and spent some time getting ideas by inspecting and viewing the style and arrangements of displays and galleries of other like organisations or museums. We appreciate the time and personal effort that William has gone to in improving our visitor attractions at Bylands.

For some years there has been some concern over the condition of the oldest standing Society structure at Bylands the No 1 tram shed. Built in 1972/3 using mostly recycled materials (old SEC power poles, roof trusses from a Sandringham factory and much second-hand corrugated iron), the shed has served its purpose well. The depot doors at each end (and side entrance door) are from the ex-SEC depot in Ballarat. Covering two tracks it currently houses 10 electric tramcars. Several years ago remedial works were required to one of the roof trusses and to date the shed remains mostly weatherproof. In recent years the shed's foundations have moved, and this has made it difficult to open the front doors fully. This problem could make it difficult to remove our valuable exhibits, and give rise to safety concerns.

A high priority for by the Board is to consider how the existing shed might be replaced with a new three road shed covering the present external 'alley track'. This is no easy task and one which will come with an expensive price tag. Replacement of the building is beyond our current resources and would need outside assistance. Associated with our ongoing liaison with the Victorian Government regarding our trams currently at the Melbourne Tramway Museum at Hawthorn (and assets elsewhere), and with possible assistance from the Shire of Kilmore, there is scope for us to continue future planning for the eventual replacement the existing No 1 shed. Our local builder, Greg Clancy of Danesbury Constructions has been consulted to provide a cost estimate for a replacement structure that would be built to our design.

One of our younger members, Tim Fedor cleans the exterior of X2 680 at Bylands.

Michael Fedor

Spare Parts

Back in late 2005, TransAdelaide advertised for sale by tender surplus H type trams and equipment for purchase by interested parties, museums and community groups. The TMSV were successful in its tender for H car No 373 and a small number of essential spare electrical and mechanical parts. While car 373 arrived at Bylands in June 2006, an agreement was reached with our counterparts the AETM at St Kilda in Adelaide for our spare parts to be transferred and held there, along with parts acquired by the Council of Tramway Museums of Australasia (COTMA).

The TMSV was recently made aware that COTMA intends to make a decision at its forthcoming conference in Perth as to the future of its H class parts; the Society has requested the AETM to arrange transport to Bylands of those parts at St Kilda owned by the Society.



BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

www.bendigotramways.com

Daniel Rutherford

Easter 2018

Easter is always one of the busiest times of the year, with large numbers of public visiting Bendigo to see the city's torchlight procession on Easter Saturday and the gala parade on Easter Sunday. Over the four days Bendigo's trams travelled 62.2km and carried 1321 passengers.

Substation upgrades

Work is continuing on upgrading our substation and aerial switching, with the next phase of the project involving the commissioning of a sectioning box that incorporates line testing equipment and standard DC circuit breakers. When commissioned, it will run line tests across the entire network when it is energised at the beginning of each day. In the unlikely event of an error being detected with the overhead, the system is designed to lock out traction supply pending investigation by tramway staff.

Phase 1 of the project involved installation of remote activation and deactivation of the transformer-rectifiers. This means that staff will no longer need to enter the main substation room to activate and deactivate the system. Emergency stop buttons were also installed, enabling an emergency shutdown of traction power.

Depot tours

In March, Bendigo Tramways finished installing a commercial surveillance system throughout our public depot tour area together with lockable gates. The new equipment enables our visitor services staff in the souvenir shop to better monitor movements in the depot at weekends. It has also enabled self-guided depot tours to take place on weekends, a popular time for visits to the depot.

Bendigo No. 25

Bendigo No. 25, a former MMTB maximum traction P class tram, has received an extensive overhaul after its withdrawal from service several years ago. We used the opportunity to overhaul the trucks and the low-voltage system, and to generally improve the tram's

appearance. We expect 25 will return to service in the near future.

Dash cameras

Bendigo Tramways has embarked on a program of installing dash cameras in all trams in our current service fleet. This program is currently well under way with approximately half the service fleet now fitted with cameras. The equipment will be fitted to the rest of the fleet in the coming months.

Dash cameras have already proved to be a valuable diagnostic tool, not only providing video evidence in the event of an accident, but also assisting diagnosis of





It is impossible to step aboard Birney 302 and not smile! It is decorated both inside and out with hand-made crochet bunting, seat covers, blankets and cushions.

Bendigo Tramways

Birney 302, the yarn bombed tram, ran throughout the weekend 21 and 22 July in celebration of the Australian Sheep and Wool Show.

Bendigo Tramways



Birney, our depot cat.

Bendigo Tramways

Bendigo in autumn is spectacular! Birney 15 is running towards the Fountain along Pall Mall.

Imagine Images

*Opposite:
Birney 302 stands at Alexandra Fountain.*

Imagine Images

issues such as the bearing fault that occurred recently on one of our Birney cars.

Yarra Trams Nos. 928 and 961

Work continues on the upgrade of Melbourne cars 928 and 961 to W8s.

Phase 6A is well advanced on car 961, with the installation of the car's air compressors and air reservoirs, its air conditioning and heating, and the master controllers. Following behind is car 928, on which elements of Phases 2 and 3 are approaching completion. This has involved torque inspections and the installation of equipment racking, the drivers cab structure and collision platforms.



BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

www.btm.org.au

Dave Macartney and Warren Doubleday

Museum heritage award

The Museum was selected for the National Trust's 2018 Greg Binns Award for Outstanding Community Contribution to Heritage. This is the top award in Ballarat for heritage matters, and followed a visit by the awards judges on 19 April. The Museum has been described as the best kept secret in Ballarat, so perhaps this will further increase our local profile. Greg Binns OAM was senior lecturer in art at the Ballarat College

of Advanced Education, since renamed Federation University. He served as President of the Ballarat Art Gallery and helped train the gallery's volunteer guides.

On 3 June, a film crew from Caravans and Motorhome magazine visited to get some footage for an upcoming DVD, while on 1 July the Great Dane

Neville Britton (Operations Manager) with the Award certificates and Pam Waugh (Floral Tram Project Leader) with flowers, 15 May 2018.

Peter Waugh



Paul Mong (BTM President) watches the winning slide come up on the screen with Dianne Gow and Jenny Binns at the lectern. 15 May 2018.

Peter Waugh



Some of the Great Danes that visited and rode a tram on Sunday 1 July 2018.

Roger Gosney

lovers visited again, with a dozen or so large dogs enjoying a tram ride.

Cuthberts939 has now completed 69 paid events in just over two years. It has certainly been a great success. A regular event is High Tea on Cuthberts939 on the first Sunday of each month. Most of these have been booked out well in advance. Bookings can be made through the BTM website.

Tram projects

Tram No. 18 was re-united with its truck on 16 May, and should soon be back in service. No. 38 has had its axle bearings re-metalled and will also soon return.

Our next ambitious project is to celebrate the 80th anniversary of Ballarat's floral decorated trams of

1938 and 1939. No. 661 is to be decorated for next year's Begonia Festival, with the artificial plastic flowers being made from plastic bottles and bags. A team comprising primarily a group of ladies has produced some remarkably realistic results. Other community groups and individuals have also been assisting. For details of our progress, and workshop



The new fire hose reel and accessories.

Warren Doubleday

Colourful flowers made from plastic materials.

Peter Waugh





*The track repair crew in Wendouree Parade – 22 May 2018.
Peter Waugh*

dates, have a look at our floral page on the Museum website – www.btm.org.au/floraltram.html. The website provides details on how to make plastic flowers, and any contributions would be welcome. One problem that is becoming apparent is where do we store them?

Work on the reconstruction of ESCo 12 is progressing steadily. The manufacturer of new metal aprons has commenced, using recovered parts.

Around the depot

External painting of the depot building has been completed, together with the insides of the doors. A new fire reel and hose was installed at the front of No.

4 Road, which included a domestic tap. This means it is no longer necessary to lean into the pit to use a hose to wash trams or refill Cuthberts939.

During May a three-metre section of rail at a poor joint was replaced about half way between Depot Junction and Carlton Street. A piece of rail recovered from Geelong was used. During late June, at the start of the school holidays, the car parking area north of the loop was sealed, thus completely sealing the roadside from one end of the line to the other.

On 3 July our concreting contractor installed more flooring alongside No. 7 road, and in front of the display/sales tram No. 39. This resulted in the removal of the last traces of No. 1 road.



Renewed entrance in front of the display tram – 8 July 2018.

Peter Waugh

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY

PO Box 94, Ferny Hills, Queensland 4055

www.brisbanetramwaymuseum.org

Peter Hyde

The last couple of months have seen a flurry of activity in many areas at the museum.

Museum operations

On 29 June, after some very early morning filming by a camera club, the old mercury arc rectifier was shut down for the last time and the 11,000 volt cable to the transformer was cut. After serving the Brisbane City Council for 29 years and the museum for a further 37 years, the transformer had deteriorated to the point where it was no longer serviceable.

Contractors and museum members worked throughout the day to connect the new substation, and in the late afternoon, tram 554 operated several test runs to prove all was in order. While some minor tidying up work still remains to be done, the new substation has since powered museum operations successfully. It was a great effort by John Lambert and his crew.

Maintenance and restoration of trams continues as usual. In the woodworking area, the dust extractor system has been relocated outside the main building to cut down on the noise level inside. We are also pleased to thank Nynas (Australia) Pty Ltd for its donation on 11 June of 400 litres of transformer oil.

Our 50th anniversary

On Friday 6 July, we celebrated the 50th anniversary of the first meeting of The Brisbane Tramway Museum



The official presentation by Philippe Reboul of the transformer oil donated by Nynas (Australia) Pty Ltd.

Peter Hyde



The dust extractor vacuum apparatus and collectors in the new enclosure.

Peter Hyde



A general view of the attendees at our 50th anniversary dinner at the Sports Club on 6 July.

Glen Dyer

Society with a well-attended dinner at the Ferny Grove Sports Club. A major public event is planned at the end of July to further celebrate the occasion. This will be followed by events marking 50 years since the closures of various tram lines of the system.

Support from Brisbane City Council

We are grateful to Brisbane City Council for providing funding of \$53,900 towards the re-roofing costs of depot number 2, in addition to the \$49,500 already provided for depot number 1.



This view shows the Control panel (nearest camera), high speed DC circuit breaker and rectifier at rear.

Peter Hyde



A view of the mercury arc rectifier just before it was closed down on Friday 29 June.

Glen Dyer

The culvert in position.

Peter Hyde



The large concrete culvert that is required under the padmount transformer before lowering into the excavated hole.

Peter Hyde



The new transformer is lowered into position.

Peter Hyde



Concreting has been completed around the new substation. Trams have been removed from Depot No. 1 while re-roofing is underway.

Peter Hyde

In late June the BCC paved part of the car park outside the museum fence. On school days this area is used as a student pick-up point and is often completely full for about 20 minutes. The Council also provided two

banner posts at the entrance to the parkland. While not provided exclusively for the museum, we have already made use of them.



Cr Steve Toowmey of Brisbane City Council beside the new banner poles. Peter Hyde

HADDON

MELBOURNE TRAMCAR PRESERVATION ASSOCIATION

324 Sago Hill Road, Haddon, Victoria 3351

www.mtpa.com.au

Anthony Smith

Restoration of W5 792

Work on W5 car No. 792 is continuing at a steady pace with the restoration of the ceilings in both drivers cabins now complete.

We were unable to restore the original drop-centre bulkhead window sashes on 792 because of their deteriorated condition. However, we were fortunate to obtain many years ago a quantity of new W5 bulkhead window sashes, which has saved us the cost of having new units made. Four replacement sashes have been fitted with new safety glass and, after machining them to size and fitting beading, they currently await installation.

With all the upper bulkhead frames having had the old varnish removed, work is under way on fitting the panel inserts. As all the panel inserts removed from 792 suffered from rot and other defects, new panels were ordered from our joinery contractor using

the originals as patterns. These are currently being prepared for fitting. New lengths of square beading have also been machined to size for use on this project. Another task completed recently relates to the side destination boxes, which have had their internal access doors refitted.

New ply liners for the inside of the drop-centre quarter panel frames have been cut to size and are currently being fitted. Another task involves fitting new door jamb timbers to the cab ends of the saloons. Again, we are able to source these from our stock of serviceable units.

Overhead

As part of supplying traction power to the lower terminus shed, provision is being made for the overhead wire in this building to be isolated from the main system should



Anthony Smith preparing to fit a replacement door jamb to 792.
Jacqui Smith



Test-fitting a replacement window sash to the drop-centre bulkhead of 792.
Jacqui Smith



Anthony Smith fitting a restored access door to the side destination box on 792.
Jacqui Smith



underway for the provision of lighting and power, together with other amenities. We expect the shed will also be used as a paint shop in the future.

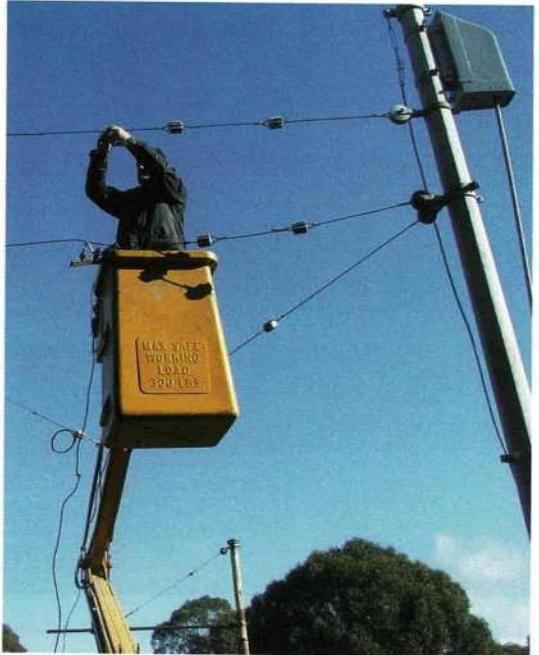
Around the site

The museum now has the use of a one-tonne excavator courtesy of member Daniel Edwards who has made the unit available to us. Already it has been used to remove several small tree stumps as part of the outer garden refurbishment project.

the need arise. This involved fitting a section insulator and a pole-mounted isolating switch immediately in front of the shed. New support spans for the section insulator and cabling have been run in readiness for the extension of the trolley wire.

Lower Terminus shed

Newly constructed troughing for the trolley wire has been placed in position and fitted with ears in readiness for extending the overhead wiring. Planning is also



Anthony Smith attaches a butterfly hanger to a new trolley wire support span.

Daniel Edwards



Top left: Anthony Smith working on the pole-mounted isolation switch unit.

Daniel Edwards

View showing Daniel Edwards removing tree stumps from the garden area using the newly acquired excavator.

Jacqui Smith

LOFTUS

SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

www.sydneytramwaymuseum.com.au

From SPER News

'Ladies in Black' filming

In late October 2017 the museum was used as a location in filming the soon to be released movie 'Ladies in Black'. The film is set in 1959/1960 Sydney and tells the story of school girl Lisa. With dreams of going to the University of Sydney, she takes a summer job at a large department store, F.G. Goodes. Here Lisa works side-by-side with a group of saleswomen who open her eyes to a world beyond her sheltered existence.

As the film is set in 1959/1960 the museum and its trams made the ideal location to re-create a Sydney street scene of the past. In the trailer for the film (at <https://www.youtube.com/watch?v=qbe6018IhJ8>) you may be able to recognise Tramway Avenue as P



The trams used in the production were R1 1979 and P 1497.
Scott Curnow



A clip from the film showing the street scene. Some readers may recognise this as Elizabeth Street looking north near Liverpool Street. Youtube

Our exhibit at the Transport Expo with Sebastian Critchley in the cab. Andrew Burns's magnificent artwork at left is now available as a poster from <https://www.etsy.com/au/shop/BarockyChocky>.

David Critchley / Peter Black





The Sydney Bus Museum's double deckers are passed by Sydney O class 1111 on 12 July.
 Scott Curnow

car 1497 approaches the stop at the waiting shed where actors disembark to begin their day's work at Goodes.

The filming used three trams, P 1497, R 1740, and R1 1979, and double-decker bus 2619. Museum members were used as extras to drive and work the trams and bus. Take careful note of the conductor in the film; Scott Curnow seems to be on every tram as it passes the camera and by the end of filming he was referred to as the Curnow Triplets.

The museum has previously been used as a location for several other films including 'The Harp in the South', 'Poor Man's Orange', 'Caddie', and several TV and print advertisements.

'Ladies in Black' is sure to be a big success at the cinemas and will be released on 20 September.

Traffic

On Thursday 12 July the museum partnered with the Sydney Bus Museum for a transport heritage day out as part of our winter school holiday activities.

Visitors started the day at the bus museum at Leichhardt, exploring the extensive collection of heritage buses. They then boarded two vintage double decker buses for a trip through the suburbs to the tramway museum. There the visitors had three hours to take a tram ride to Sutherland and the Royal National Park, and take in the display hall and exhibits before boarding the waiting deckers for the return to Leichhardt.

This is the second time the two museums have joined to host this event during the school holidays. Originally intending to use only one bus, the popularity of the event saw two buses bringing 80 people to the tram



A family of Indian descent arrived late in the afternoon of April 15. They rode the last trip to Royal National Park and thoroughly enjoyed themselves.
 Richard Jones

The museum's trams are popular with bridal party photographers. This party used C 29 for their photo shoot on April 14.

Scott Curnow



museum. Extra volunteers were needed for the day and three trams, O 1111, P 1497 and R1 1979 were used to move the crowd.

It is great to see the two museums working together with a joint event.

Track and associated work

Work has been carried out on two cross boxes for the Waratah Loop north points. These cross boxes are where the throw over handle is inserted to change the points. Two pieces of new treadplate for the boxes - the top covers in the concrete - have been drilled and countersunk.

The 'four foot' across the northern yard gateway was concreted 20 June with the side strip between the track and the gate following on 23 June. Work on the No. 2

gate driveway continues in preparation for concreting the driveway up to our boundary line.

The CSO workers are continuing to extend the utilities trench from the waiting shed to the No. 3 substation building. They have now reached the building itself and have started to break through the floor slab to allow the power conduits to pass up into the building.

Work continues on the TAFE crossing. The eastern rails on the south side of the crossing have been welded by the Tuesday night team, and will soon be ready for concreting, providing another area of track that can take surplus concrete.

Some Melbourne left hand point-work was unloaded on 23 June. These points will be inserted on the north side of the TAFE crossing on the Sutherland line to allow

Surplus concrete is being used in the 'four foot' at the northern yard gateway on June 20.

Martin Pinches



access to the eastern tracks that have recently been rebuilt across the crossing.

Further preparatory work has been carried out for the up-coming track relay south of Depot Junction. This is on hold until Variotram 2107 is delivered as we do not want to risk it going around the Cross Street curve at this stage. The last of the Anzac Parade bolt-on check rails have been welded to the required length.

National Park Line tree clearing

On 30 June a blitz was started on the National Park line to clear trees and undergrowth that have been encroaching along the right of way. The usual infrastructure crew, with a supporting CSO team and welcome help from a small group of traffic staff, started cutting back and pulling out offending

scrub. The museum's new mulcher was put to use but stopped working as the result of a defective part. After a replacement part is installed the trees left behind will be mulched.

Another tree clearing day will be arranged in early August. About four more days will be needed to clear the scrub back to an acceptable 5-year growth tolerance.

Workshop and maintenance

Whilst in the workshop **San Francisco PCC 1014** is having body rust cut out and is being rubbed back for a re-paint.

The headlight at the No. 1 end is being replaced with an original headlight. 1014 has had a front apron replaced



Tree and scrub clearing took place along the Royal National Park line on 30 June. The museum's new mulcher is at work in the centre of the photo.

Richard Jones

San Francisco PCC 1014 is in the workshop for some much needed maintenance. The headlight at this end of the car is being replaced with an original type. The sealed beam type fitted was installed following accident damage whilst in service in San Francisco.

Michael Hatton



It looks more like Preston than Randwick! Melbourne cars Y1 611 and W2 393 in the workshop on 14 April. Scott Curnow



at some time and a sealed beam unit installed. The museum has had an original headlight in stock since it arrived but there has been no time to fit it until now. Work is progressing on making the mounting for the headlight. As a token of goodwill two correct lenses for these headlights have been donated by museum friends in the USA to make 1014 more original.

Melbourne Y1 611 was outshopped on 16 June with air horns fitted.

Melbourne W2 392 was collected by the purchaser's agent on 7 July. Members from the workshop team spent many hours refurbishing the tram. Much of its side timber framework was either repaired or replaced, and new metal sheeting was fitted to most of the exterior. The timber seats in the drop centre and the interior timberwork were shellacked by our team and the centre doors painted with a special vinyl paint. The saloon bench seats were all re-covered to give the tram a good interior finish.

The car made a final test run to Waratah Loop. It returned via the Pitt Street crossover to the eastern track where the ramp was used to load it onto ATR Services' low loader. It is to run on a proposed resort tramway in Thailand.

This car was purchased by the museum from the MMTB, rather than being donated. The museum has other W2s, and its sale will generate much needed funds for other works.

Liverpool Street Signal Box

Work continues slowly on this project. The platform lower panels have been repainted; the replacement railing has been installed and the new door and replacement window have been received. These will be fitted by our contract carpenter shortly.

Railway Square Waiting Shed

Our carpenter has built and installed replacements for two seats at the southern end that had been damaged by termites. He is inspecting the exterior of the building to ascertain the requirements for repairing it.

It appears that the exterior wall shingles on the signal box are not in bad condition with only a few in need of replacement. Repairs to the roof are required with some broken tiles and the ridge capping requiring repointing. A quote for these repairs together with a further quote from a painter have been sought.

Lakewood Park entrance

The timber entrance to the park was dismantled a couple of years ago due to serious deterioration of much of the wood. Some timber posts are being repaired and replacement timber is being sourced to fully refurbish this feature of Lakewood Park. The work should be completed within the next few weeks, to be followed by painting.

Variotram 2107

Final approvals have been received by Transport Heritage NSW so the Variotram can be relocated to Loftus from Penrith. The contractors engaged by Transport for NSW have applied for the necessary permits from Roads and Maritime and the move will take place once these are in place. The transfer will be made at night and into the early morning so as to minimise traffic delays.

It is expected that in the next few weeks two storage containers housing Variotram spares will arrive from Penrith. It is planned to use the crane to also move the three containers that we already have in the northern yard so that all five will be neatly aligned on the two strip footings laid in the south western corner of the yard.

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC

PO Box 213, Salisbury, South Australia 5108

www.trammuseumadelaide.com.au

Colin Seymour

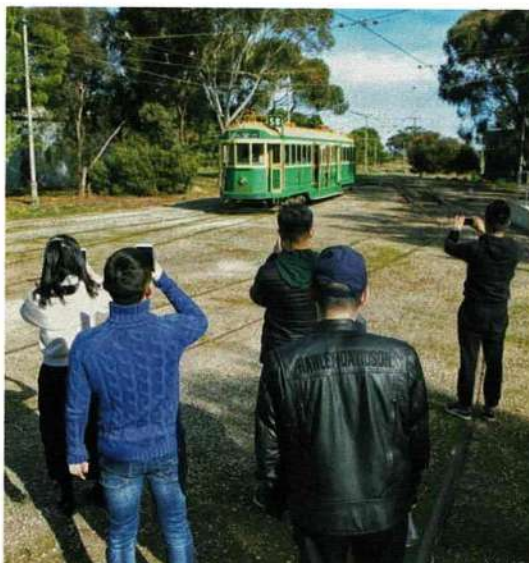
Bib & Bub set

On 13 May the Bib & Bub set cars 14 and 15 were transferred from the Bodyshop to Road 6, the pit road, in the Christopher Steele Tram Maintenance Building to enable the final stages of restoration to take place. Ten days later Geoff Brown, a heritage signwriting specialist, gave the cars their respective identities by applying their running numbers. Since then, floor slats have been installed in one end-cab and two of the gangways on car 14.

AGM entertainment

The 61st Annual General Meeting of the AETM was held in the Northern Depot on Saturday 26 May 2018. Approximately 30 members and friends attended.

After the meeting members were treated to a ride in the Bib & Bub set. Rides were also taken in cars 365 and 381. Movie film of Adelaide trams from the late Trevor Triplow collection was projected by Tim Bell. The barbeque was enjoyed by all.



Here comes a tram! A group of Chinese students capture W2 294 as it enters the Museum yard on 1 July. Sean Zhang



Heritage signwriting specialist Geoff Brown prepares the stencils for the numbers for cars 14 & 15 on 23 May.

William Adams



Geoff Brown applies the number to the apron of No. 14 on 23 May. William Adams



Above right: William Adams in the driving cabin of car 14 in Shell Street, St. Kilda ready to drive the set back to the Museum. Nic Benn



Bib & Bub trams 15 and 14 in Shell Street, St. Kilda. Nic Benn



The fascination of the trolley pole being changed. Boys watch as driver Mark Jordan changes the pole on car 264 on 1 July.

Sean Zhang

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

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Michael Stukely

Celebration of trams

On Sunday 6 May the second annual Celebration of Trams was held at Whiteman Park. A number of trams

and buses were on static display in the Village Mall, and the two service trams took passengers from the



Looking west along the Village Mall through the display area on 6 May: works tram 1023 (left), Guy Arab bus 101 (WAGT livery), Leyland Tiger 81 (Metro Buses livery), Perth Leyland 'Canton' trolleybus 38 (WAGT livery) on the tram line, with Melbourne W7 class tram 1017 and Adelaide H type 371 behind it, and the Leyland tow wagon at right.

Michael Stukely



Adelaide H type 371 at the west end of the display in the Village Mall on 6 May, with Melbourne W7 1017 and Perth Leyland 'Canton' trolleybus 38 behind it.

Michael Stukely



Leyland trolleybus 38 crosses the tramway at Workshops Road on its way back from the Village display to the Bus Preservation Society's workshops, with assistance from the tow wagon, on 6 May.

Michael Stukely

The Star of the Show at the Celebration of Trams in the Village Mall on 6 May: the new PETS works tram, former Melbourne W7 class car 1023, on static display.

Michael Stukely



Visiting crew Hayden Holmes and Katie Strancar welcoming passengers aboard service car Perth E 66, in the Village on 6 May.

Michael Stukely

The newly-arrived Caterpillar loader, whose purchase was funded by the Oketon Geddes Trust Fund, with Roy Daley in the cab on 18 April.

Lindsay Richardson

Village to the Car barn, which was open for tours. A 15-minute service was provided, with trams crossing at the passing loop. In spite of the dull and showery day, a steady stream of interested people inspected the displays and chatted to members.

This year we were pleased to be able to display our new works tram, former Melbourne W7 class car 1023, as the feature vehicle near the Village tram stop, showing the fine work that has been done to convert this tram to its new role. Further to the west, WAGT (Perth) 1943 Leyland TB5 'Canton' trolleybus 38 was positioned on the tram line (courtesy of the Bus Preservation Society), ahead of Melbourne W7 class tram 1017 and Adelaide H type car 371. The two service trams were Perth E class 66 and Melbourne W2 class 329. At the car barn, single-truck Perth B class tram 15 (restored for future static display) was on show for visitors.



The other buses on display in the Village were:

- 2017 Transperth Volvo B7RLE – Fleet No: 2751 (supplied by Transperth)
- 2016 TransWA Volvo B11R – Fleet No: 16 (supplied by TransWA)
- 1949 Leyland Tiger OPS4/1 – Fleet No: 81, Metro Buses livery; operated originally by Metro, then the MTT and now with the Bus Preservation Society (BPSWA)
- 1951 Guy Arab III – Fleet No: 101, Western Australian Government Tramways livery; operated originally by WAGT, then MTT and now with BPSWA
- 1950 Leyland Tiger OPS4/1 ‘Melbourne’ Fleet No: 4, MTT Tow truck livery; operated originally by the Melbourne & Metropolitan Tramways Board, then by the MTT in 1959 as number 269 until converted into a tow wagon in 1973, now with BPSWA
- 1947 Dennis Lancet J3 – Fleet No: D24, Western Australian Government Railways livery; operated originally by WAGR and now with BPSWA.

The displays for the day were arranged and co-ordinated by Bob Pearce, in conjunction with Whiteman Park, the Bus Preservation Society, Transperth and TransWA. Beth Kelly and helpers looked after the PETS sales and information table in the marquee, near the display vehicles in the Village.

Traffic operations and service cars

There were good levels of patronage on the trams with fine conditions in Perth through most of autumn. Motorman, Hayden Holmes, having travelled from Sydney, remained in Perth after the Easter break for the April school holiday traffic, with services running on seven days per week as usual. He was joined by Katie

Strancar to boost our traffic crews available for the school holidays. Thanks go to all our traffic crews, and the maintenance teams who keep the trams running!

Melbourne W7 1017 was the main service car for much of the period, with regular backup provided by W2 329, and with Perth E 66 and Fremantle 29 also running occasionally. Two cars were used for most of Easter.



*Maree Cowley trying her hand at stripping old paint from the body of Perth A 130 on 13 June.
Lindsay Richardson*



*Preparing to re-connect the overhead on Village Junction Curve, following the upgrading works: Noel Blackmore (left), Len Pearce and Ray White atop the platform on works tram 1023, on 12 April.
Lindsay Richardson*

The newly-completed 47-metre retaining wall along the north side of the Car barn fan, funded by the Oketon Geddes Trust Fund, on 16 May. Adelaide H type 371 can be seen at left on the Pit Road, with Melbourne W7 1017 on Road 3, next to the Mercedes truck / cherry-picker. The new Car barn is at the far right. Lindsay Richardson

Nick Tsiaglis standing in the trench dug by him on 13 June to enable the installation of the diverted water line behind the new retaining wall. Lindsay Richardson



Tram restoration

The flooring timbers were installed in the eastern end platform of WAGT A class 130, with brass angle-plate secured over each end of the timbers, at the entrances. Graham Bedells has continued rubbing back the window frames and other exposed timber along the south side of the car body. Bill Allnutt has finished drilling the very many holes in the new steel side panels for re-attachment to the external saloon sides.

Two Melbourne No. 15 trucks have been refurbished by the Wednesday team for installation under SW6 891, and the work is now close to completion.

New level crossing and tramway upgrade

The PETS overhead team has continued making final adjustments on the upgraded Village Junction Curve, following the completion of the contract work.

All tram services have continued to use the temporary tram terminus at the far end of the Village Mall near the Lolly Stop, until the commissioning of the new work is completed.

Other track and overhead work

The full replacement of timber sleepers with steel sleepers on the Bennett Brook North Curve was completed on the April and May track workdays, with another 14 steel sleepers installed. Attention then focused on the west end of Farmgate curve, where the first seven sleepers were exchanged, together with the lifting and packing of seven additional sleepers on the curve. The timber sleepers removed included six of the remaining treated-pine sleepers installed as a trial in 1999.

Major overhead line maintenance continued on the west-to-north curve at Stockman's Triangle, which is used by all service trams.

New Car barn

A new 47-metre concrete block retaining-wall was installed by contractors along the north side of the Oketon Geddes Car barn fan in May. There are access points to the lower level at each end as well as at the centre, opposite an entry to the new Car barn. This replaces the earlier timber sleeper wall built by members. The cost was met by the Oketon Geddes Trust Fund. Paving of the parking area behind the top of the wall has not yet been completed.



Flemington Road in Melbourne has long been a major thoroughfare for trams. Now it has been joined by its namesake in Canberra. Above, B2 class 2086 heads to the city on a route 59 service on 1 November 2016. Below, Canberra 'LRV001' stands on the outbound track just south of Manning Clark Crescent, Gungahlin on 14 July 2018, awaiting its next evening test run.

Above: Mal Rowe, Below: Dale Budd

