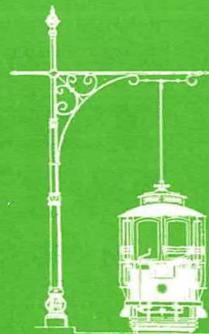


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TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

FEBRUARY 2020

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The Sydney Tramway Museum's Albion Regent double deck bus 2619 assisted in the celebration of the eightieth anniversary of the Sutherland-Cronulla railway electrification. It is seen here at Cronulla station with heritage electric train F1 seen behind the fence. Howard Collins OBE, Chief Executive Sydney Trains, is with driver Craig Parkinson, conductor David Critchley and two of the museum's junior trainees, Sebastian Critchley and Antony Di Mattia.

Frank Zumbo

Correction:

The photograph on page 26 of the November 2019 issue was incorrectly credited to Michael Giddy.

The photo was taken by Timothy Boxsell in Eddy Avenue on 9 September 2019.

Front Cover:

The Sydney Tramway Museum's Sydney R1 class car 2001 is returning to the museum on the Royal National Park line on 13 November 2019. 2001 is painted in a colour scheme used to promote recruiting for the Royal Australian Air Force in the 1950s and will be repainted Sydney green and cream during 2020.

Scott Curnow

TRAMS RETURN TO GEORGE STREET, SYDNEY

On 8 December 1899 the first electric tramway in Sydney's central area opened for business along George Street.

One hundred and twenty years and one week later, on 14 December 2019, trams again carried passengers along the same thoroughfare.

The opening in 1899 ushered in a brief heyday for Sydney's C class trams. Thus, it was appropriate that C car 29 from the original fleet, brought from the Sydney Tramway Museum, was displayed at Circular Quay on the opening weekend.

Trams had been absent from George Street for 61 years and three weeks when they returned in December, the previous service having ended on 22 November 1958.

The report which follows is not a detailed account of the CBD and South East Light Rail (CSELR) project. Rather it is a summary of points of interest for readers of Trolley Wire.

The new line

After consideration of a variety of options for a new tram line serving the CBD, on 13 December 2012 the NSW Government announced a decision to build a line from Circular Quay along George Street to Central Station, then across to Moore Park and beside Anzac Parade, dividing at Kensington into two lines to Kingsford and Randwick. The combined route totals 12.7km. The line was estimated to cost \$1.6 billion; construction was expected to begin in 2014 and to take five to six years. The ALTRAC consortium which

won the PPP (Public Private Partnership) includes Transdev, Alstom, Acciona Infrastructure and Capella Capital. There are three further equity investors, and Laing O'Rourke had a role in enabling works. The contract includes the operation of the Inner West Light Rail (IWLRL) service to Dulwich Hill.

Major construction commenced on 23 October 2015, beginning in the section of George Street between King and Market Streets. Work in the eastern suburbs began soon after. The section between (just north of) Bathurst Street and Circular Quay is wire-free, with trams using Alstom's proprietary ground-level power supply Alimentation Par le Sol (APS), which literally means 'feeding via the ground'. Transport for NSW states that APS is an abbreviation of 'Aesthetic Power Supply'. George Street is now reserved for trams and pedestrians between Bathurst and Hunter Streets.

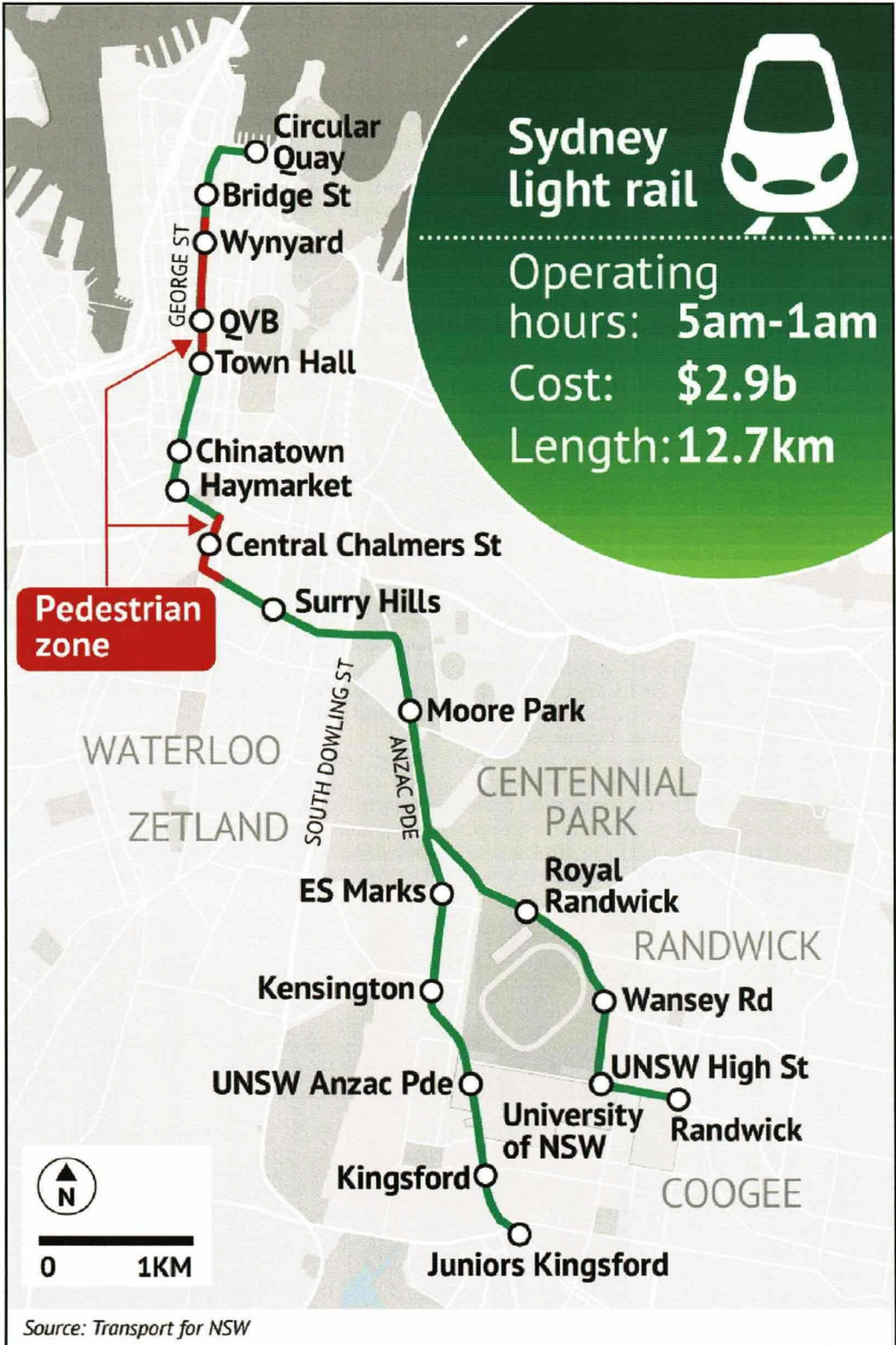
Although sections of the new route along or beside Anzac Parade and Alison Road follow parts of the former Sydney tram system which had open ballast track, the new lines are laid entirely in mass concrete. The slab contains cables for power supply, communications, Opal, emergency links, CCTV and PA systems etc. The major engineering works on the line are the bridge across the Eastern Distributor and the tunnel beneath Anzac Parade.

During construction the relationship between the NSW Government and Acciona Infrastructure – the company building the line – deteriorated, with a dispute over costs incurred from modifications to the line's design. Acciona commenced legal action against the government in April 2018. The dispute was settled

C car 29 stands at Circular Quay on 14 December, approximately on the alignment of the former George Street tracks at this location. In the background, Citadis cars arrive and depart on the new L2 service to Randwick.

Dale Budd





A drone view of a tram crossing the bridge over the Eastern Distributor and about to enter the tunnel to Moore Park.

Transport for NSW



in June 2019; among the terms agreed, the duration of the Public-Private Partnership (PPP) was extended by two years to 2036. Shortly before the line opened to Randwick it was announced that the final construction cost would be \$2.9 billion, \$1.3 billion or 81% more than first forecast.

Rolling stock

The vehicles for the new service are five-section Alstom Citadis X05 cars. There are 60 cars in the fleet. The first was delivered to the Randwick depot on 28 July 2017.

The X05 cars are a substantial revision of the Citadis series of trams incorporating numerous improvements from previous models. As previously they are available with three, five or seven modules; the Sydney cars have five units. Sydney was the first city to order X05 cars, although not the first to operate them. Nice, in France, began using X05 trams when it extended its T2 line to the airport in December 2018. Avignon, France, received the first of its three-unit X05 cars in December 2018 and put them into service in October 2019.

The first six cars for Sydney were manufactured in La Rochelle, France, and the other 54 in Barcelona,



A side view of an LRV.
Alstom Fact Sheet

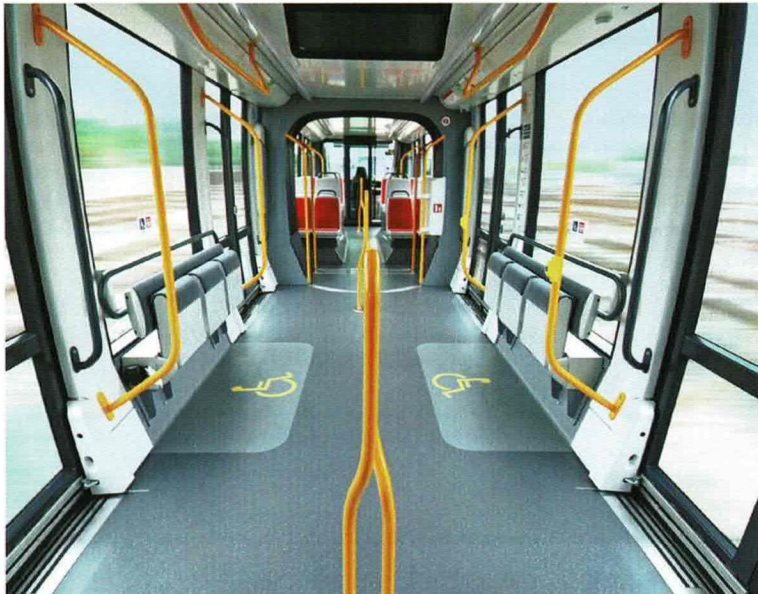
A cut-away view of an LRV.
Alstom Fact Sheet





Interior views of a Citadis X05 car. Above is the seating in the centre section. At left are the spaces for wheelchairs (and bikes) with fold-down seats.

Alstom Fact Sheet



The seating in the driver's end section.

Alstom Fact Sheet



Car 006 is seen arriving at Randwick from Port Kembla on 10 December 2019. It was, unusually, delivered in daylight hours.
Jan Kain



Spain. (As is Alstom's practice, components were sourced from many of the company's plants throughout Europe.) The trams were shipped to Port Kembla. Car 06 was among the last to be delivered, on 10 December 2019, having been held in France apparently for testing purposes. At the opening date of the Randwick service, all 60 cars had been delivered except for Nos. 59 and 60.

Numbering of the cars is a story in itself. Officially they are numbered 2201 to 2260, but at present these numbers are not shown. When delivered to Randwick, the cars were numbered 001, 002 etc, shown by very small numerals high up close to the doors at each end of the car. (These numbers can be seen on the accompanying photo of car '006' being delivered to Randwick.) Shortly before the opening in December, two-digit numbers – 01, 02 etc – were applied on the cars' windscreens, similar to those on the IWLR and Newcastle cars.

Each car has 48 seats and a stated capacity of 185 standing passengers. All services are provided by coupled pairs of trams with a combined length of 67 metres and a total capacity of 466 people. The coupled sets are consecutively numbered; i.e. car 01 is coupled to 02, and 03 to 04, etc.

Servicing facilities

A depot for the trams was built at the north-western corner of Randwick Racecourse, providing stabling facilities and allowing light maintenance. This depot is on the site of the arrival/storage roads for the former

Randwick racecourse tram platforms, in use until 1960.

Heavy maintenance will be carried out at a new workshop at Lilyfield built on part of the site of the former Rozelle railway yard. This facility will service cars from both the CSELR and IWLR lines.

Testing and preparations for opening

On 26 February 2018 testing of the line commenced on a short section alongside Alison Road, between the crossover at Laing Road, Kensington and the depot at Randwick. By August 2019 test running was under way along the full length between Randwick and Circular Quay. The line from Kensington to Kingsford, which is planned to open in March 2020, commenced testing in October 2019.

The testing or trial operation of the Randwick line gradually increased in intensity until in the weeks before the line opened, a full shadow service was evident, with trams displaying 'Circular Quay', 'Central Calmers Street' or 'Randwick' as their destinations rather than 'Not in Service'. A number of would-be passengers sprinted for trams, only to be disappointed. A major purpose of the trial operation was driver training; some 100 drivers have been trained, with more on the way. Each has to have 190 hours in the cab.

At the same time Transport for NSW undertook an intense campaign to educate people about the new line and to promote safety. Given the lengthy pedestrianised

section of George Street, TfNSW heavily promoted messages such as 'Look Twice for Trams'.

Opening day – 14 December 2019

C car 29 was brought from the Sydney Tramway Museum and placed at Circular Quay early on the morning of Friday 13 December. It returned to Loftus on the following Monday.

An official opening ceremony took place at Circular Quay at 8:00am. Master of ceremonies was Rodd Staples, Secretary, Transport for NSW. Speakers in order were Andrew Constance, Minister for Transport and Roads; Gladys Berejiklian, Premier; and Clover Moore, Lord Mayor of the City of Sydney. A plaque—later removed—was unveiled on a temporary plinth.

The official tram, cars 45+46, departed at 8:50am. Cars 11+12 carrying invited guests departed at 9:01am. On the return from Randwick, the official tram made an emergency stop after the Racecourse stop as the points had been set for the depot.

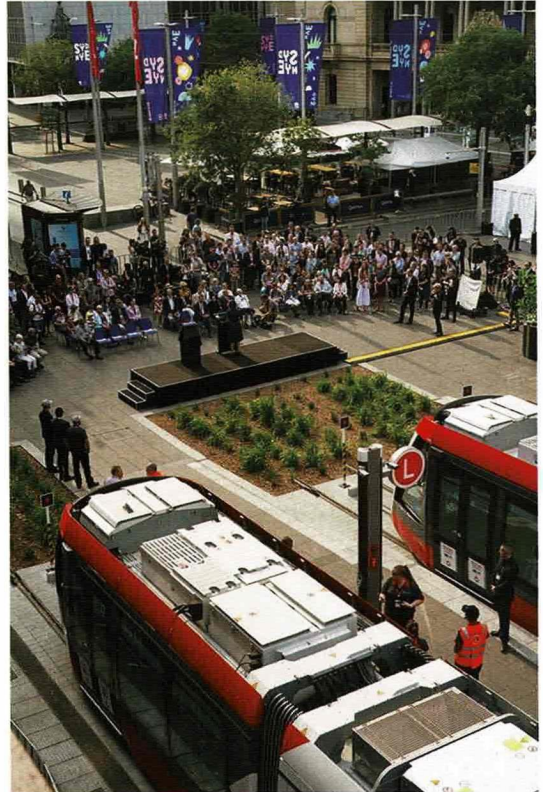
The first public tram, cars 01+02 departed at 10:13am – and took 64 minutes to reach Randwick. The second public tram, cars 15+16, departed at 10:25am – and took 61 minutes to Randwick.

A passenger with a medical emergency caused returning trams 39+40 to be halted in Haymarket, causing a 20-minute delay as emergency services attended. Up to this time, the trams were handling the crowd with ease.

Around 1:50pm, trams 08+07 departing Circular Quay and turning into George Street froze due to a mechanical fault. The cars had not cleared the Circular Quay crossover and blocked trams 45+46 from

entering the Quay from George Street. Alstom were about to move the trams with their Unimog recovery vehicle when the trams responded and were driven off south-bound and stabled in the siding at Royal Randwick. Services were suspended until 3:30pm.

Transport for NSW reported 160,000 passengers used the line on Saturday and Sunday, with ten trams moving hourly in each direction. In routine operation



A view of the opening ceremony from Circular Quay Station.
Unknown



C car 29 on display at Circular Quay. STM staff at the tram were kept busy answering questions from many interested visitors.
Dale Budd

The invited guests were seated in front of the dais. Their invitations came with a coloured ribbon, the colour indicating which door of the first tram they should enter.

John Cowper



The children of invited guests assist Gladys Berejiklian, Premier of NSW, to cut the ribbon to launch the first tram into service. Daily Mail

A plaque has been unveiled. From the left are Andrew Constance, Minister for Transport and Roads; Clover Moore, Lord Mayor of Sydney; Gladys Berejiklian, Premier of NSW; and Rodd Staples, Secretary Transport for NSW.

John Cowper





The pantograph folded down on the top of Citadis X05 car 17 at Circular Quay.

Robert Merchant

patronage is 50,000 per day; it was announced on 9 January that more than a million passengers had travelled.

The new line in operation

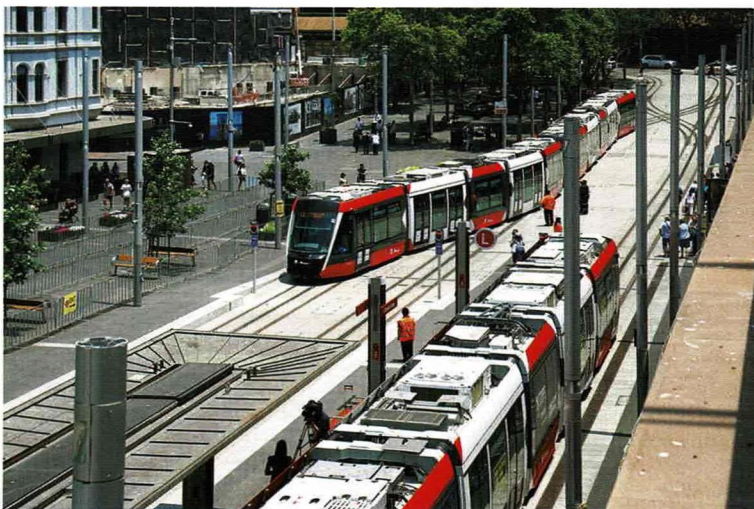
The operator of the new service, until the expiry of the PPP period in 2036, is Transdev. As indicated previously the PPP includes operation of the Inner West line to Dulwich Hill; there is a single control room for the two lines at Randwick. Services to Randwick are designated L2 and those to Kingsford will be designated L3. (The Inner West line is L1.)

A criticism of the new line – strongly expressed in the media – is that journey times are excessively slow. On the opening day journeys from Circular Quay to Randwick took as long as 64 minutes, with 50 minute journeys being common.

Forecasts prior to opening were that the trip would take 38 to 40 minutes. However later advice was that ‘initial’ trips from one end to the other would take about 50 minutes. The longer trip times have been partly blamed on tram drivers having to reduce speeds on George Street because “some pedestrians are still not behaving safely near light rail”.

The speed limit for trams in pedestrian zones such as the one in George Street is 20km/h, and 40km/h for the rest of the line from Circular Quay to Moore Park (except for 20km/h across the Eastern Distributor), with a brief section of 60km/h past that location.

The current journey time means that trams will be about 20 minutes slower than catching a bus between Circular Quay and the centre of Randwick during the early months of operation. Bus services are continuing unchanged for the present.



At Circular Quay on 14 December, Citadis cars 023+024 snake their way into the southernmost terminal track. In the foreground another service waits to depart for Randwick from the northernmost track.

Dale Budd

TfNSW has vowed to work to “improve the journey time as we fine-tune light rail’s integration” into Sydney’s traffic and transport network.

It may be noted that the Environmental Impact Statement issued in 2013 gave the estimated journey time as 30 minutes from Circular Quay to Randwick – 15 minutes to Central then another 15 minutes. The time to Kingsford was given as 15 minutes plus 18 minutes.

The current frequency is that from 7am to 7pm on weekdays there will be a service every 4-8 minutes between Circular Quay and Central, and every 8-12 minutes between Central and Randwick. Anecdotal reports are that service intervals on the new line are irregular, another problem which should be reduced with experience.

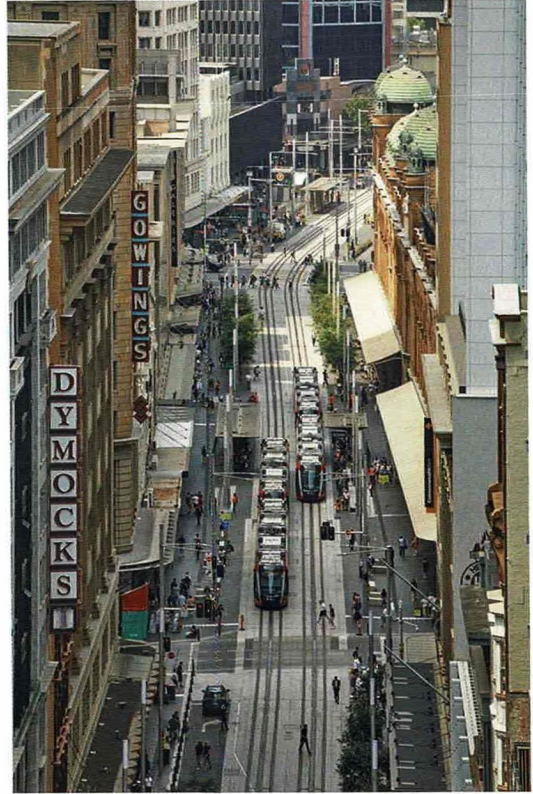
Light rail and trams

TfNSW has resisted the use of the word ‘tram’, strongly preferring to use ‘light rail vehicle’, ‘light rail service’ etc. However as in Canberra (see the May 2019 issue of *Trolley Wire*), strong public recognition of the word ‘tram’ has led to its partial adoption, not least in safety warnings. Moreover, the NSW Road Rules include frequent use of the words ‘tram’ and ‘tram tracks’ and ‘tram stops’ – and even ‘tram recovery vehicle’ – but almost no mention of ‘light rail’, although they state that ‘tram includes light rail vehicle’. The Road Rules mean that the word ‘tram’ cannot be avoided.

A final note: a new ‘break of gauge’

A remarkable aspect of the City and South-East system is that its wheel and track standards are different from those of the Inner West line to Dulwich Hill. The wheels on the IWLR cars have thicker flanges than those on the CSELR cars, with a correspondingly reduced back-to-back measurement between the wheels. This in turn necessitates different track dimensions for points and crossings. As a result the trams on the two lines are not interchangeable. The IWLR cars cannot run on the CSELR tracks, although CSELR cars can run to the workshop at Lilyfield. The two systems are connected by north-to-west connecting curves at George and Hay Streets. Only in Australia, which has suffered from differing railway gauges for more than 160 years, could a new ‘break of gauge’ be introduced in the 21st century.

These notes were compiled by Dale Budd with assistance from Robert Merchant and John Cowper. Material was also drawn from TfNSW, Alstom and other sources.



An aerial view looking south down George Street with trams at the QVB stop. The Town Hall stop can be seen in the distance.

Transport for NSW

An aerial view of an outbound tram in Eddy Avenue.

Transport for NSW



Published in *The Sydney Morning Herald*, Thursday 28 September 1899, page 4

GEORGE-STREET ELECTRIC TRAMWAY

(By our Special Reporter)

It is anticipated that the electric tramway connecting Circular Quay with Redfern railway station and Pyrmont will be opened to traffic either on October 16 or the succeeding Monday. When that final stage in the initiation of this work is accomplished Sydney will have been invested with what is intended to be the first instalment of a comprehensive system of the most modern type of overhead electric tramways. Although the George-street line is, however, only an introduction to what is ultimately to follow, it is absolutely complete in itself, and down to the smallest detail faithfully represents the character of the whole. The best resources of our railway construction department have been drawn upon in perfecting the general design, and arbitrary lines have been departed from wherever the ingenuity of the engineering talent has discovered room for improvement on recognised ideas. For a result it is claimed that no other overhead system of tramways embodies more perfect details. The scheme has not been the creation of a day. For years the pressing necessity of finding for the stream of passengers daily passing to and from the railway station an alternative tram conveyance to that afforded by the steam system in Elizabeth-street had been urged, and in 1889 the attention of Parliament was formally drawn to the question. A cable tram was then suggested, but when the Public Works Committee was asked to make a recommendation in 1891 it hesitated, preferring to watch the fortune which awaited the Ocean-street line at that time under way. In 1895 the Minister for Works (Mr Young) carried the movement so much further that before the year ended the Public Works Committee appended their approval to a suggested electrical tramway the motive power for which was to be generated at the Rushcutter Bay cable-powerhouse. An overhead electric system when first proposed found very many opponents, the grounds of antipathy being various. Appalling results were feared from contact with the wires in the course of fire-fighting in the narrow parts of George-street. Then the accumulator and underground systems had their respective advocates, but after carefully weighing all the evidence the committee decided that the overhead system was the most applicable to the conditions prevailing in Sydney. In considering the first ground of objection the committee had the evidence of experienced firemen, such as Superintendent Bear and others, all of which was to the effect that the danger apprehended could easily be reduced to a minimum. As a matter of practice, to obviate danger to life the electric current could be cut off, and if the wires were

at any particular fire calculated to impede the progress of salvage work, they could be cut away with special appliances, such as have since been furnished to the brigades. The accumulator system, which involves special construction of each car to enable it to store its own supply of electricity, was regarded as too expensive and cumbersome. As a matter of fact, there is not to-day a city which has adopted anything approaching a system of accumulator trams. Opinions differ widely today as to the merits of the underground system; but although it is somewhat largely used in New York and Washington, and in some cities on the Continent, the Government Electrical Department here adhere to the opinion that the overhead system will be the best for Sydney. The possibilities of electricity being not yet even dimly conceived the local authorities do not pretend to claim for the system upon which they have established the city electric trams that it may not be partially obsolete in a decade or so. But Sydney was not prepared to go unserved with the best contemporary services because anticipation pictured something better. If the abolition of the overhead network and its sustaining poles becomes practicable and advisable in a few years' time the change will only be a partial alteration of the system now inaugurated, and it is held will probably be justified by economical considerations.

Before the construction of the George-street system was finally entered upon, it was resolved to ultimately supersede the whole steam service with electricity. The general plans therefore assumed a larger scale, and it was resolved that a modern power-house enclosing an electrical generative plant of great capacity should be erected at Ultimo. A special Act of Parliament was passed in 1896 under which certain expenditure was sanctioned. The cost of laying the permanent way and overhead wiring along George-street and Harris-street, a distance of 3½ miles, together with the proportionate cost of the power-house and carshed, chargeable to that section of the whole scheme, was £135,500. The aggregate amount which will have been spent when the line is opened will be about £260,000. In connection with the whole undertaking no fewer than 32 contracts had to be let, the bulk of that number being for local work. Although legislative sanction was obtained for the expenditure in October, 1896, much other work intervened before the actual laying of the George-street permanent way was begun. That task was first entered upon in April, 1898, and was pushed on so rapidly, despite something approaching an outcry of

the citizens when they observed the lavish stretches of roadway which were laid open, that the track was completed in December of the same year.

There had been experienced no little trouble in deciding the details of the suspension of the electric wires. The most convenient system was that of central pole, carrying at a height of about 20ft brackets to which the wires would be attached. Owing to the restricted width of many portions of George-street, however, a fear was entertained that a line of poles erected in the centre of the roadway would offer too serious an obstruction to the traffic, and the project was mooted of resorting to span wires or support wires spanning the roadway from poles on either side. Research fortunately showed, however, that centre poles were used in other cities whose roads were as narrow as those of Sydney, and that instead of impeding the volume of traffic they actually, by effectually dividing it, increased the facilities. It was thereupon decided that with the exception of the very narrow part of George-street below Bridge-street the centre pole system would be used and solid drawn-steel tubes were imported from the Mannesmann Works. The arms (or brackets), as well as certain embellishments in iron, were cast by Hudson Brothers, of Sydney. The base of the poles at ground level is surrounded with stone oblongs which are designed to serve the double purpose of wheel-guards and "refuges" for pedestrians in their passage across the roadway or on emerging from the cars. The rails used in the line are of steel, weigh 83lb to the yard, and come from the works of the Barrow Engineering Company. The total weight of those laid in George-street alone is 500 tons. In general

construction the power-house is interesting. Being of brick exterior and iron internal parts, including floors, it is regarded as non-inflammable. Adjoining it is a spacious carhouse, and both structures have each a temporary end in anticipation of the expansion of the system.

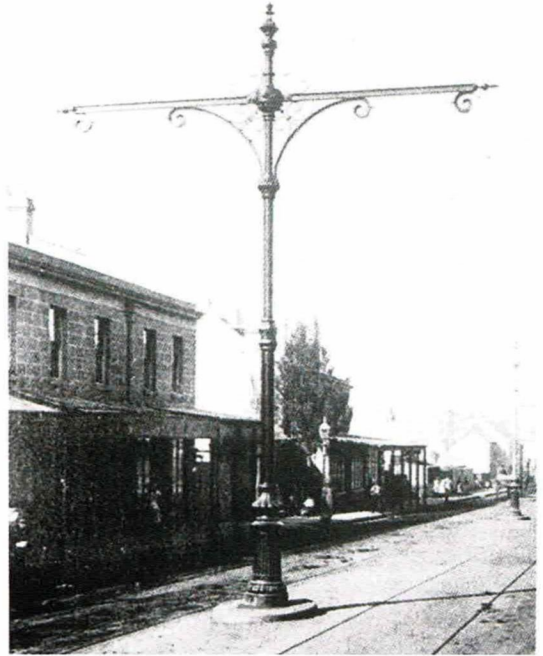
The generating machinery of the power-house and the appurtenances have been supplied by the General Electric Company of New York. At Ultimo there are four sets of engines and electrical generators, each set to produce 1250-h p. These are the largest engines at present in the Australian colonies. The fly-wheels are worthy of note – they are of compound character with the rim enforced by steel plates. They are of about the same dimensions as those at Rushcutter Bay but weigh 40 tons, as compared with 20 tons for the latter. The engine-room is provided with two electric travelling cranes to take 30 tons, and with the aid of these the great masses of machinery which had to be negotiated were put into place. These cranes are of the very latest construction, and three motions – longitudinal, transverse, and lifting – can be worked at the same time by the man in the cage. The switchboard, which is situated on a gallery at the end of the building, contains 24 panels, and here the power from the generators at work can be taken up and distributed and records taken of the intensity of the current, of the quantity of the current's strength, and the work done in such division, as well as the total. The boiler house contains 14 boilers of about 300-h p each. They are the same size as those at Rushcutter Bay where, however, there are only three. The chimney stack is a



Erecting Mannesmann centre poles in George Street in 1899.
State Rail NSW archives

prominent feature of the establishment, being 200ft in height. Between the engine-house and William Henry-street offices and quarters are provided for engineers and others engaged on the work, as well as stores and a testing room. On the floor above the main entrance there is a double battery of E P S cells. Sufficient land has been purchased for an increase of the total hp up to 20,000-h p and also for car accommodation for 200 cars. The car-shed that has been completed so far will hold 104 cars. From the power-house along the length of George-street eight electric cables are laid, four of which are branched off and led under the harbour from Dawes Point to Milson's Point, where they take up the work of the North Sydney system. The other four are tapped at various stages to supply power to the George-street line. The method of feeding adopted is the sectional one. The line is split into sections by crossovers or shunting places, and the electric current for each section can be manipulated independently, and so a block on one section would not throw the whole line out of use. While on the subject of the electric current it is interesting to remember that by what is technically known as "bonding" the rails are converted into a continuous line, along which all surplus electricity is returned to the cells at the power-house. This device is essential, not only to conserve the current from an economical point of view, but, more important still, to prevent its unfettered travels through the earth in search of waterpipes, telephone earth wires, and other conductive material, with which it would work havoc. The bonding system which has been employed is a local adaptation of the best-known systems used elsewhere, with the addition of certain improvements.

It has been estimated that there will be carried annually over the George-street section 5,000,000 passengers, and over the whole line to Harris-street another 2,000,000, or 7,000,000 over the line. An interesting comparison of the cost of running steam, cable, and electric trams respectively was furnished to the Public Works Committee when it was conducting its inquiries. The electric tram was estimated to cost 9¼d per mile run, the Melbourne cable trams cost 1s per mile, and the Sydney steam trams 1s 10d per mile. It followed that during the consideration of the advisability of constructing the George-street line a question should be raised as to how its profits were likely to be affected when the railway system of the colony was supplied with a city terminus. The answer of the experts on such matters was that the George-street line would always have its own peculiar traffic to cater for – a traffic that would not be affected by the building of the city railway. But the construction of the electric line, it was admitted, would interfere with the business of the steam railway trams to such an extent that the latter would be partly discontinued. The railway officials never pretended that there could be any other result, and, as a matter of fact, two very



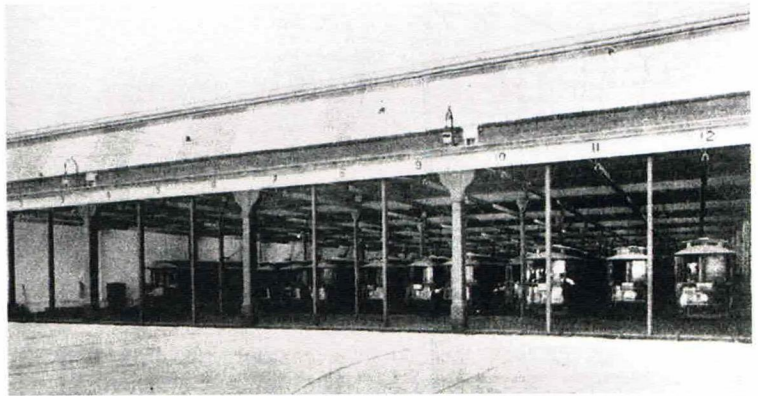
*A Mannesmann centre pole
erected in Harris Street in 1898.
State Library of NSW*

potent reasons for their advocacy of the line were that the Elizabeth-street avenue was too congested, and the accommodation offered by the car-yard near the Quay was inadequate to meet requirements.

Distinct altogether from the construction of a tramway line, the erection of power-house, the stretching of wires, and the general provisioning of the system with motive power is the task of supplying the rolling stock and furnishing the final equipment which is to bring the tram-car into readiness for the conveyance of passengers. The duty is that of the Railway Commissioners, who undertake to carry passengers, and, if appearances are not deceptive, they have so far acquitted themselves in a manner which should satisfy the travelling public. Eighty cars have been built according to carefully and thoughtfully selected model patterns. The details of the design are not uniform throughout, because various improvements suggested themselves as the work progressed, but exteriorly they present no awkward contrasts. The contour of an electric car is necessarily disfigured by the trolley arm – a long reach of iron surmounted by a small wheel, which making contact with the overhead wires conveys the electricity to the car machinery concealed beneath the floor of the trucks or under carriages. The trucks have been supplied by the Peckham Company or the Brill Company, USA, but the car bodies are

Ultimo Depot with St Louis combination cars, bogie combination cars, motor cars and trailers in 1899.

State Rail Authority



the work of the Clyde Manufacturing Company, near Granville, though some few were made by Ritchie Brothers, of Auburn. Included amongst the rolling stock will be a few combination cars having open ends and a saloon in the middle. At a rough average a train, being a trolley-car and a trail-car, will accommodate from 110 to 120 passengers, and such a load will be carried from Circular Quay terminus to the railway station in 14 minutes that time affords no measure of the speed capability of the line, because in a car carrying, say, 50 passengers, the total weight being about 13 tons, a speed of 25 miles an hour could be attained without effort. Such rapidity, however, would be impracticable in a crowded city. The railway to Circular Quay section, it may be pointed out, will in the course of a week or two be an endless rail. Starting from Devonshire-street, opposite the railway station, the car will pass down George-street to the Quay, where the two lines open out and form a circle. The car will traverse that circle, and returning to the railway station platform will describe another circle a little further on, and enter out on the Devonshire-street

line again. For a week or two after the opening of the line, however, the cars will shunt at the station instead of making the circle.

The running arrangements provide for a 10-minutes' service to Pymont, the time of the journey being 25 minutes. As between the Quay and the railway station a service of not less frequency than three minutes will be maintained. This will be increased whenever necessary to a half-minute service, so that even the passengers by heavily laden trains will reach the extreme point of the line without loss of time. The time allowed for the journey on the George-street section will permit of stoppages being made, if required, at each of the jetties on the Quay, and at the corner of each important street. Certain points on the route will be regarded as unconditional stopping places, where halts will be made regardless of the requirements of passengers. The Railway Commissioners have decided that the fares will be 1d for each section, and 2d for the through journey from Circular Quay to John-street, Pymont.

Traffic Manager John Kneeshaw guides a tram along George Street and across the cable tramway in King Street during a trial run.

V.C. Solomons Colln



Published in *The Sydney Morning Herald*, Thursday 26 October 1899, page 9

THE GEORGE-STREET TRAMWAY

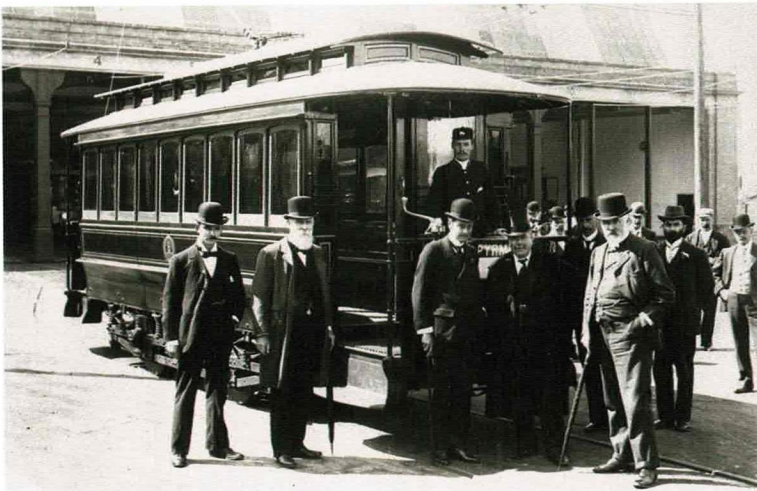
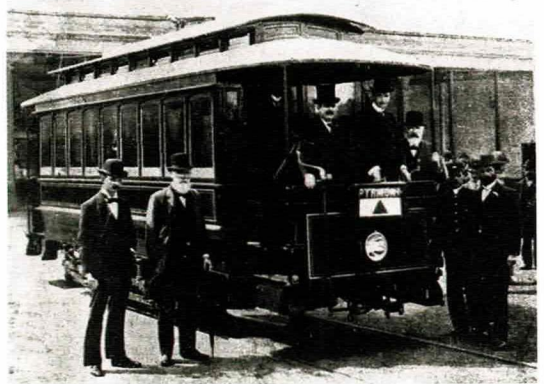
A TRIAL TRIP THE GOVERNOR PRESENT

A special trial trip was made with the Harris street tramway yesterday, at which his Excellency the Governor was present, at the invitation of the Minister for Works Mr O'Sullivan, Mr R.R.P. Hickson (Under-Secretary for Works), and Mr H. Deane (Engineer-in-Chief for Railway Construction) met Earl Beauchamp near the carsheds, Harris street, about half-past 2 o'clock. His Excellency, who was accompanied by Captain W. Smith, ADC, was conducted over a portion of the shed, and was shown a number of cars of the latest American pattern. The party then mounted the tram, and a run was taken down Harris-street for the length of about a mile. At the end of the journey Earl Beauchamp alighted, and the operation of the system was explained to him. On the return journey the car was illuminated by means of the electric light, and for about half a mile "express speed" was maintained, the tram being brought to a standstill suddenly in order to show what could be accomplished in this way. The party alighted at the power-house, where an inspection of the machinery was made. During the trip everything, according to a statement made by the officials, worked with smoothness, and his Excellency expressed himself as pleased with the result of the trial.

Mr O'Sullivan stated that everything connected with the line is rapidly being got into working order, and

he expects that it will shortly be taken over by the Railway Commissioners. It is the intention of the Minister when this is done to throw open the power-house and the carsheds to public inspection. It may be stated that there are no less than 31 contracts connected with the work, and some of these range as high as £38,000 each. The cost of the whole scheme is estimated at £270,000.

The commissioners recently appointed to inquire into the causes of delay in connection with the construction of the line are continuing their investigations daily, and are now taking the evidence of the electricians.



Two photographs were taken of the official car in Ultimo Depot yard on 25 October 1899. The larger view shows the Governor of NSW, Lord Beauchamp (in top hat) surrounded by the official party, including the Minister for Public Works, E.W. Sullivan; R. Hickson, Under-Secretary; H. Deane, Engineer-in-Chief for Railway Construction; and J. Kneeshaw, Traffic Manager. The trip was along Harris Street.

V.C. Solomons Collection

Published in *The Sydney Morning Herald*, Friday 8 December 1899, page 6

THE GEORGE-STREET TRAMWAY

TRIAL TRIPS YESTERDAY OPEN TO PASSENGERS TO-DAY INTERVIEW WITH THE CHIEF RAILWAY COMMISSIONER

The trial trips which were made with the cars on the George and Harris streets electric tramway yesterday were, on the whole, of a satisfactory character. All the cars were marked "special," and they were merely being run for departmental purposes, but with the view of making the tests as near as possible under ordinary circumstances passengers were carried, presumably at their own risk. No fares were collected, and no tickets were issued. People were simply allowed to board the cars free, and were carried upon them until they chose to leave them. Thousands of passengers were carried in this manner, a very large proportion of them being youths of the city. In one instance the two St Louis cars ran the round trip, carrying between them 250 people. The cars employed were motors, and no "trailers" were used. The explanation of the Tramway Department is that they do not care to run carriages behind the motors upon a new road for four they might slip. They prefer to wait until the lines have been used a little. One great use in the trials was that the drivers were drilled in the handling of the cars, and it is stated that very little difficulty was found in negotiating the ordinary vehicle street traffic. Altogether 41 cars were on the line. The journey from Circular Quay to John-street, Pyrmont, takes 25 minutes, and that to

the power-house 14 minutes, and generally speaking very good time was kept. Cars will be run every few minutes to-day, and the tramway authorities will do their utmost to cope with what they call the "novelty" traffic.

The Chief Railway Commissioner, upon being seen yesterday afternoon, said that he had just had a conference with the officers of the Tramway Department respecting the line. The report made to him was that, with the exception of one or two minor mishaps, everything in connection with the trips had worked satisfactorily. One engine ran hot and it had to be stopped, and a little difficulty occurred in connection with the fusing of a wire, which necessitated delay. Mr Oliver added "I have determined to commence running the trams for passengers to-day in the ordinary manner. There will be no opening ceremony of any kind. The officers in charge of the lines hope that they will be able to work them smoothly, and at any rate they will try their best. I can only say that I hope they will be successful, and I think in a little time the whole of the tramway will be open, and be worked with regularity and despatch."



The two St Louis combination cars made a run during the day carrying between them 250 people. Tyrrell Pty Ltd

Published in *The Sydney Morning Herald*, Saturday 9 December 1899, page 7

THE GEORGE-STREET TRAMWAY

SUCCESSFUL INAUGURATION OF THE TRAFFIC

The George and Harris streets electric tramway was yesterday opened for ordinary passenger traffic, and the service proved in every respect thoroughly satisfactory. The time-table, as advertised in yesterday's "Herald" and on handbills [see opposite], was strictly adhered to. This was approximately a two minutes service up to 8.15 am, after which a one minute service was maintained until 10.30 am. From 10.30 until 1 pm the cars ran at intervals of two minutes, and from 4 pm to 7 o'clock a one-minute service was again maintained. It is computed that about 36,000 to 40,000 passengers were carried. During the morning no difficulty was experienced in coping with the traffic but in the afternoon a certain amount of crowding took place, doubtless due to the novelty of riding upon the new cars. The tramway officials are of opinion that the cars running will prove more than ample for ordinary traffic.

With the exception of the Circular Quay fatality and a slight accident reported elsewhere no hitch of any kind occurred. It is only fair to point out with regard to the accident that it is such as might occur at any time. The child who was killed, said to be about 6 years of age, appears to have been unattended and to have unwittingly run in front of the car. Mr J. Kneeshaw (tramway traffic manager) states that the man in charge of the car is an experienced tram driver, who has been

on steam motors for a considerable time, and has had great experience of street traffic. He is also regarded by the officials as a careful man in every respect.

The chief officials of the department, who were on the alert from early morning, state that some difficulty was experienced owing to drivers of vehicles making in certain cases attempts to block the tram traffic. In one case a man, who was riding a horse and leading two others unattached to a vehicle, deliberately obstructed one of the cars, and when the conductor endeavoured to obtain his name and address the man struck him with a whip. The traffic manager (Mr. Kneeshaw) chanced to be upon the scene, and immediately gave the man into custody. On being brought before Mr Wilshire, S.M., at the Central Police Court the accused pleaded guilty, and the Solicitor for Railways, on behalf of the Commissioners, stated that he would not press for a heavy penalty, but the Commissioners were desirous it should be definitely understood that any attempt to block the tram traffic will be in future severely dealt with. The accused in the case referred to was fined 20s, Mr Wilshire, S.M., intimating that any interference with traffic would not be permitted, and but for the leniency asked for by the Commissioners the punishment in the present case would have been much more severe. The officials consider the tramway drivers and conductors are deserving of high praise



Passengers alight and join a crowded car as it pauses at the King Street stop en route to the Railway on 9 December 1899.

State Rail Authority

NEW SOUTH WALES GOVERNMENT TRAMWAYS.

Opening of GEORGE & HARRIS STS. ELECTRIC TRAMWAY.

T I M E T A B L E .

CIRCULAR QUAY AND RAILWAY.

Trams will run at frequent intervals throughout the day as follows :—

WEEK-DAYS—From Circular Quay—First Tram, 5.50 a.m. ; Last, 11.40 p.m.
From Railway—First Tram, 5.35 a.m. ; Last, 11.39 p.m.

SUNDAYS—From Circular Quay—First Tram, 7.51 a.m. ; Last, 10.20 p.m.
From Railway—First Tram, 8.11 a.m. ; Last, 10.41 p.m.

CIRCULAR QUAY AND PYRMONT.

The service will be as follows :—

WEEK-DAYS—From Circular Quay—5.45, 6.45, 7.5, 7.25, 7.45, 8.5, and every 10 minutes up to 11.35 p.m.

From Pyrmont—5.20, 6.15, 6.30, 7.0, 7.20, 7.40, and every 10 minutes up to 11.10 p.m.

SUNDAYS—From Circular Quay—8.24 a.m., and every 20 minutes up 1.44 p.m., and every 10 minutes up to 10.34 p.m.

From Pyrmont—8 a.m., and every 20 minutes up to 1.20 p.m., and every 10 minutes up to 10.10 p.m.

F A R E S :

Circular Quay and Railway Station	-	-	1d.
Circular Quay and John-street, Pyrmont	-	-	2d.
Railway Gates and John-street, Pyrmont	-	-	1d.

Each passenger, on payment of fare, will be furnished with a ticket, which *must be shown when required*, or another fare will be charged.

Passengers are requested to provide *exact change*.

S T O P P I N G P L A C E S :—

FIRST SECTION.

Circular Quay Terminus	α Hunter-street	α Liverpool-street
α Manly Jetty	General Post Office	α Goulburn-street
North Shore Jetty	King-street	α Hay-street
α George-street Fire Station	Market-street	α Gipps-street
α Essex-street	Park-street	α Pitt-street
α Bridge-street	α Bathurst-street	Railway, or Railway Gates

SECOND SECTION.

Railway Gates	α Macarthur-street	α Allen-street
Harris-street	α William Henry-street	α Bridge Road
α Ultimo-street	α Quarry-street	α Union-street
α Mary Ann-street	α Fig-street	John-street, Terminus.

At places marked α the trams will not stop regularly, but only when required.

Passengers are requested to ring communication bell **ONCE ONLY**, or inform Driver or Conductor before arriving at the stopping place where they wish to alight.

On Down (outward) journey steam trams will stop on Newtown side of Regent-street instead of Sydney side as at present.

Up (inward) Through trams will stop at Regent-street.

AVOID entering or alighting on right-hand side of car, and riding on steps or footboards.

By order of the Commissioners.



*Motor cars operating in George Street near Hunter Street on the opening day 9 December 1899.
Kerry & Co.*

The letter classification of Sydney's trams did not take place until around 1908.
 Motor cars became C class
 Trailer cars became T class
 Single truck combination cars became D class
 Bogie combination cars became F class
 St Louis cars became G class

*The manually operated signal at the north-west-corner of George Street at King Street.
V.C. Solomons Collection*



for the satisfactory manner in which their duties were performed. From start to finish it is stated the men worked in a manner that evinced the careful training they have had for this branch of the work.

The new system of signalling at Redfern and Harris-street junctions, which is worked electrically, was brought into operation, and proved thoroughly successful. The necessity for a complete and safe method of signalling is at once apparent to an observer of the traffic at these points, but especially at Redfern. The officers concerned in its working spoke in the highest terms of its success, and it has the advantage of not being in the least degree unsightly. The new signal at the intersection of King and George streets is worked mechanically, and gave excellent results. [The signal can also be seen on the left of the bottom photo on page 15.] Some complaints were heard yesterday that no provision was made for smokers, who were compelled to stand upon the platforms, but Mr Kneeshaw, when spoken to on the matter, stated that the Railway Commissioners have not overlooked this essential, and it will be fully met as soon as the cars known as "trailers" are used. Some difficulty is naturally experienced with new cars and rails and new wheels in assimilating them, and if "trailers" were at once put on slipping might occur. Some of those "trailers" will be supervised by Mr Kneeshaw

(tramway traffic manager), Mr O.V. Brain (acting electrical engineer), with their officers, who are on the alert to smooth over any difficulties that may arise.

HERE AND THERE

AUSTRALIAN AND OVERSEAS NEWS

Newcastle light rail

The Newcastle Beach stop was closed from 21 November to 26 November 2019 due to the Newcastle 500 motor racing circuit infrastructure being in place. Trams terminated at Queens Wharf and used the local crossover to return. The crossover was worked by an attendant inserting a point-hook into a slot.

The Light Rail Service Changes notice.

Peter Gambling



Newcastle 2154 reversing at Queens Wharf crossover on 21 November 2019.

Peter Gambling

Newcastle 2155 in its new livery for Greater Bank on its first day in service in this livery, 18 November 2019.

Peter Gambling



BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

www.btm.org.au

Dave Macartney and Warren Doubleday

Track relaying

The 300 metres of re-laid track from Depot Junction to Carlton Street was officially opened on 7 November, with the formalities being conducted by Juliana Addison, Member for Wendouree, and Ben Taylor, the Mayor of Ballarat. The event was the new Mayor's first official function since being elected the previous evening. Morning tea was provided aboard

Cuthberts939. The smoothness and quietness of the new track drew much praise from all concerned. On 20 December a Christmas break-up was arranged with Fulton Hogan employees and their families after the successful completion of the track-relaying program. We will now redouble our efforts to replace the remaining section of rail laid in 1905 as soon as possible.

Cutting the ribbon to open the new track on 7 November 2019. From the left: Virginia Fenlon, Juliana Addison, Paul Mong, Ben Taylor and Richard Gilbert.

Warren Doubleday



Car 18 at Depot Junction, 9 November 2019. Peter Bruce

Springfest 2019 – Tram Pull in action, 24 November 2019.

Peter Waugh



The Springfest crowds at Gardens Loop on 24 November 2019.

Peter Waugh



Santa Tram No. 38 leaves the depot to pick up eager children on 7 December 2019.

Peter Waugh



Springfest and Christmas

The annual Springfest celebration was held around Lake Wendouree on 24 November. With perfect spring weather, the turnout was of epic proportions. Twenty-four staff signed on at various times, with five trams being used: Nos. 13, 26, 28, 40 and 671. Some 3200 passengers rode the trams, and with V/Line underwriting the financial side, passengers travelled free. As well, some 184 people visited the depot display – a very exhausting day.

The Tram Pull event was again a part of the festivities. This time the contestants were able to move the tram as it was held on the new section of track with the benefit of smooth rail.

The Santa tram promotion was featured again in December. Tram 38 was chosen this year and suitably decorated, as the single truckers which have been used in the past were often overwhelmed by the popularity

of the event. The service ran on five days in December, with a total of 371 eager young passengers. The quote of the day was from one young fellow who replied when asked what he wanted for Christmas said, “A packet of Tim Tams that I don’t have to share.” Does he have older sisters?



Santa (Peter Waugh), John Reynard, Driver and Ruby Mong pause at Depot Junction, 7 November 2019. Paul Mong

Right: Conductor Peter Bruce hands out check tickets during Springfest. Peter Waugh

Christmas Day running saw 88 passengers carried, while Boxing Day yielded 124. With 40-degree heat predicted for 30 December the Museum's adverse weather policy was invoked, and the tramway operation did not run. Even so, 13 people visited the depot, the heat notwithstanding.

In a recent development, the City of Ballarat has produced a new video that promotes the Museum. It features our Operations Manager Neville Britton. It can be viewed from a link on our website home page www.btm.org.au/ Our thanks to the City of Ballarat for the excellent job.

Bungaree

The Museum completed a new storage shed at Bungaree during December 2019. The new building has a concrete floor and was funded by the bequest by the late Lloyd Rogers, to whom the Museum is very grateful. The new facility will enable us to work on trams prior to their coming to Ballarat and to undertake truck maintenance and construction work, such as that

undertaken on No. 12. It will include racks for the storage of equipment such as motors and compressors.

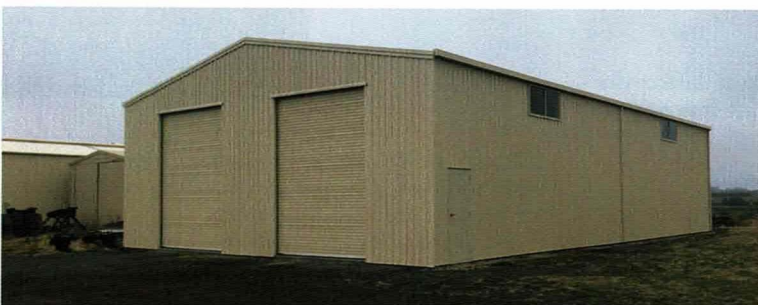
Recently a tractor crane was purchased from a dealer in Bendigo and subsequently transported to Bungaree where it has already been put to good use.

Tram No. 33

The truck from No. 33 has returned from Bendigo Tramways where it underwent wheel reprofiling and other repairs.

Regulatory issues

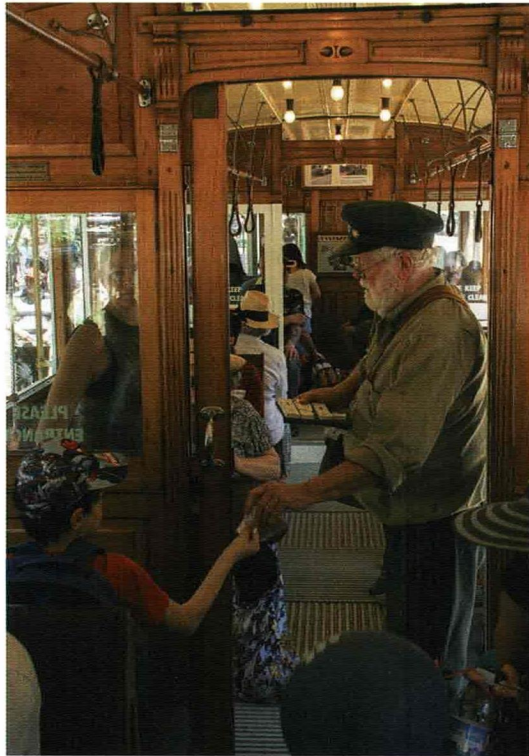
Victoria was the last state to move safety regulation of all its tramways and some heritage railways to the Office of National Rail Safety Regulator (ORNSR). This move will require us to revisit our Safety Management System to ensure that it complies with provisions in the national regulations. Some of these provisions are different from those that used to apply in Victoria.



The new storage shed at Bungaree on 12 December 2019. Paul Mong



Left and below:
Car 18 at Carlton Street
terminus, 9 November 2019.
Peter Bruce



Cars 18 and 13 at St Aidans
Drive, 9 November 2019.
Peter Bruce



Car 13 at the depot on
9 November 2019. Peter Bruce

BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

www.bendigotramways.com

Daniel Cliff

2019 Victorian Tourism Awards

Bendigo Tramways have been recognised at the RACV Victorian Tourism Awards, taking out Gold in the Cultural Tourism category, for the fourth time in six years. We were up against some very strong competition from all around the state, including the State Library and Peninsula Hot Springs, and were thrilled when the award was announced. Bendigo Tramways will go on to represent Victoria at the Australian Tourism Awards which will be held in Canberra in early 2020.

Santa Tram 2019

Interest in Bendigo's Santa Tram continues to increase year on year, and 2019 was no exception. Over the course of 18 days more than 3000 people travelled on the Santa Tram's 98 trips. Patronage was up 6% on last year. Despite some very hot days in December there was a sense of excitement on the Santa Tram, with passengers and crew alike getting into the Christmas spirit on their way to find Santa.

The First Tram Club

HIT FM's morning presenters, Keeshia and Tim, invited their listeners who have never been on board a Vintage Talking Tram to join them on 369 for the

First Tram Club. The tram was packed, and the HIT duo broadcast the morning show live from on board.

Hot summer days

Summers in Bendigo continue to get steadily hotter, and this summer has shaped up to be no exception. It was once unusual to have days in excess of 40 degrees, but now it has become much more common with the first day over 40 degrees occurring in late November.

As part of our commitment to safety and the comfort of tourists, Bendigo Tramways continues to operate a Hot Weather timetable on days in excess of 38-39 degrees. Where days appear as though they may pose a higher risk to health and safety, our staff make a quick assessment of the environmental and workplace risks using a very helpful tool published by Worksafe Queensland. When the risk rating is assessed as High or greater, tram services stop at 2:00pm so crews and tourists can avoid the hottest part of the day in the mid to late afternoon.

While we endeavour to provide as much notice as possible, sometimes we are unable to be sure of the conditions until the day before.



Bendigo Tramway takes out the Gold in the Cultural Tourism category of the 2019 RACV Victorian Tourism Awards.

Bendigo Tramways

Depot pit tours

For the past several months the Pit Tour area, located at the rear of the Self-guided Depot Tour area, has been out of bounds to the public because it was undergoing seasonal maintenance. The first phase of this work was completed just before Christmas, thereby enabling pit tours to resume during the busy holiday period in January. However, pit tours will not be held during February when the second phase of seasonal maintenance is scheduled to be undertaken.

'Pawfect' day out

Our Vintage Talking Tram Tour has become a dog-friendly tourist attraction. We've compiled a list of dog-friendly parks, attractions and cafes which can all be reached easily from our Vintage Talking Tram tour – a boon for dog lovers. See <http://bit.ly/PawfectDayOut>



Are you travelling with your best mate? Dogs are welcome on board. Bendigo Tramways

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY

PO Box 94, Ferny Hills, Queensland 4055

www.brisbanetramwaymuseum.org

Peter Hyde

“Routine with occasional bursts of the unexpected” would be a quite apt description of activity at Ferny Grove over the last few months.

Work has continued to rectify the electrical problems that have emerged with newly restored FM 400, as has a concerted program to improve the presentation of



Work continuing on FM400. Access to some things can be difficult when someone else is using the pit. Peter Hyde

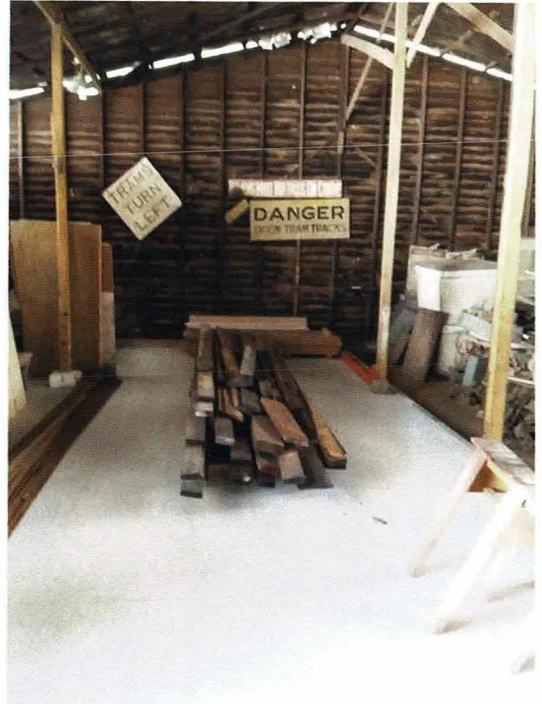
our active fleet. This has involved numerous minor touch-ups to paintwork, polishing and lacquering of brasswork, replacement of missing straphangers and other matters that can be dealt with without taking the cars out of service. Combination 47 has benefitted particularly with all the steps and external surfaces of the 21E truck being re-painted.

Despite the heat, another section of the floor of the store shed was concreted with the assistance of a contractor for the final finishing-off. Pallet racking has now been installed in the section completed before this one and the entire project is now well past the half-way mark.

Advice has been received that the Brisbane City Council has approved a grant of \$10,000 in each of the next three years. This will go towards covering the museum’s operating costs, and is being provided on the condition that a similar sum is spent on restoration or archival preservation work.

A tram driving simulator has been installed in the museum shop and is currently being enthusiastically ‘tested to destruction’ by our younger visitors – and some grown-ups.

The Men of the Trees, a community group, has planted approximately 100 plants in the gardens around the central Jacaranda tree, and a drip irrigation system has been installed to sustain them during the continuing drought.



As soon as a new area is available, someone will find something to put in it. Another section of the store shed completed on 19 November 2019. Peter Hyde

Work has commenced on a detailed assessment of the Scammell recovery vehicle with a view to its possible restoration. The first step in the process has been possibly the most thorough cleaning that it has ever received. Initial indications are that some serious body defects will need attention.

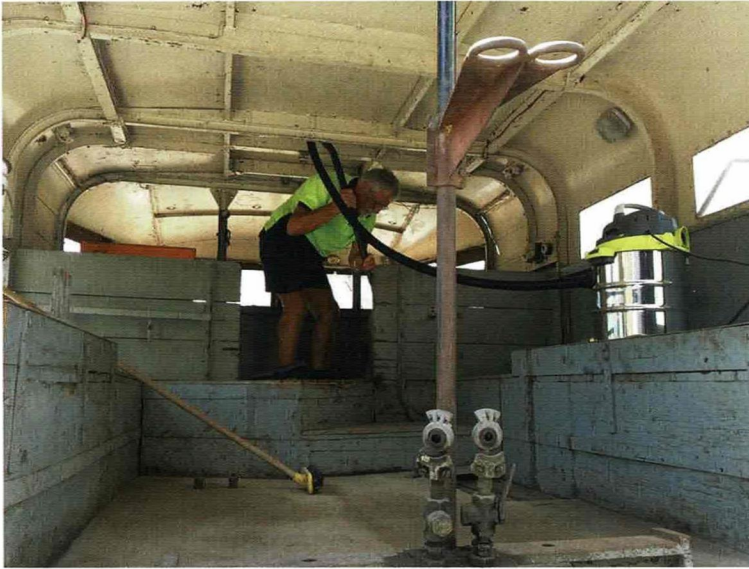
On 20 October a bus tour was held jointly with the Queensland Omnibus and Coach Society using their newly-restored Leyland Panther bus 722. Demand was so great that a second, unrestored Panther was required with patrons changing over halfway through the tour over the southside tram and trolleybus routes.

Summer is usually the quietest time of the year for visits by the public and this year the record high temperatures, dust and smoke haze have ensured that outcome. Even the Tuesday and Friday workdays have seen reduced activity with temperatures in some buildings reaching 42°C. The annual Christmas break-up lunch was held on Tuesday 17 December at Arana Leagues Club. Weekday activity then ceased, except for the really dedicated, until 7 January.

The tram driving simulator.

Peter Hyde





Cleaning the inside of the Scammell at the commencement of its restoration assessment on 5 November 2019. Peter Hyde

Restored Leyland Panther bus 722 and un-restored 498 posed on the remaining tram tracks at Carina during a joint tour with Queensland Omnibus & Coach Society. Peter Hyde



HADDON

MELBOURNE TRAMCAR PRESERVATION ASSOCIATION

324 Sago Hill Road, Haddon, Victoria 3351

www.mtpa.com.au

Anthony Smith

Restoration of W5 792

We are continuing to make good progress on the restoration of this tram.

In November the reconstruction of the vent roof was completed with the fitting of the outer edge capping timbers. During this period the 'D' mould cover strips were fitted to the front destination fascia at both ends.

A major milestone was reached on 17 December with the covering of the vent roof boards. This project was undertaken by coachbuilders from Bendigo Tramways, and completes the major structural work on 792.

Several other tasks have either been completed or

are under way on the tram. The external drop-centre pipe handrails have been restored and refitted, as have the internal doorway barrier rail brackets. Work is under way on fitting the internal cover strips to the roof cant rails. Although we have been able to salvage several of these cover strips from the body of 826, the available material was only sufficient to complete the saloons on 792. New cover strips of the same profile have therefore been milled to complete the drop-centre section. We are now concentrating on completing the fit out of both saloon areas. This involves rebuilding both drop-centre bulkheads using panels removed from 826 to replace those on 792 that are in poor condition. Our team is doing a trial fit of all the panels in unrestored condition to determine whether any alterations are required before restoration work begins.

Elsewhere, we have started to rebuild two English Electric Q2CK1 controllers for 792. So far the main frames have been sandblasted and primed, and the top plates and handles polished.

Trackwork

The trackwork at the front of No. 5 road within the car barn has had the floor surface restored with the



Anthony Smith fitting new 'D' mould cover strips to the front destination fascia of 792. Daniel Edwards



Restored handrails being fitted to the drop-centre of 792. Jacqui Smith



Anthony Smith installing the barrier rail brackets on 792. Jacqui Smith

pouring of concrete on 14 December. Only the edging of the asphalt walkways will require patching to complete this task. Planning is also well advanced for the reconstruction in concrete of No. 4 road at the top end of the shed. However, the project will not

Arthur Ireland preparing cover strips for 792.

Daniel Edwards



View showing roof of 792 after final covering.

Anthony Smith

commence until W2 407 is moved to Ballarat. This will enable the work to proceed without having to leave one of our trams in the open.

Overhead

We recently obtained a large quantity of overhead span wire and fittings from Melbourne as part of a major renewal project. The one-tonne tangled pile of span wire that we collected will yield numerous pole collars, reel insulators, 'GY' type insulators and spiral wraps, etc, for further use either at Haddon or at other

tramway museums. Work is now well advanced on pulling this pile apart to recover the best of the fittings.

Around the site

During December Daniel Edwards used his small excavator to lower the gravel surface around Nos. 1 and 2 roads. This will prevent the flangeways on both tracks from becoming clogged with gravel after heavy rain. Downpipes and stormwater drains were also cleaned to prevent any future blockages.



View showing the concrete pour under way on No. 5 road within the carbarn.

Anthony Smith



Wire and overhead fittings being unloaded at Haddon.

Jacqui Smith



Daniel Edwards undertaking earthworks in the depot area.

Jacqui Smith

LAUNCESTON

LAUNCESTON TRAMWAY MUSEUM SOCIETY

PO Box 889, Launceston, Tasmania 7250

www.ltms.org.au

The new extension to Launceston Tramway Museum at the extension limit of passenger operation, The track under the road is to be rebuilt if used for passenger operation. It adds about a third more operational track and runs in a curve along the river side. 31 October 2019.

Hugh Ballment



Limit of operation on the original line at the railway station. Hugh Ballment

LOFTUS

SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

www.sydneytramwaymuseum.com.auFrom *SPER News***George Street 120 – 8 December 2019**

On 8 December 1899, Sydney's first city electric tramway opened along George Street from Circular Quay to the Railway and Pyrmont. With the imminent opening of the new Sydney light rail line between Circular Quay and Randwick in mind, the Museum decided to celebrate the 120th anniversary of the original George Street opening by having some of our oldest and rarest trams operate all services on 8 December 2019.

Accordingly, Sydney C class 290 was joined by cars C 29, F 393 and N 728 running throughout the day. These trams represented the earliest trams to operate along George Street. The trams operated in pairs (one four-wheeler and one bogie car), providing a half hourly service which allowed visitors the spectacular sight of four late Victorian or early Edwardian trams operating simultaneously.

We had been anticipating that the new Randwick light rail service would commence on 7 December but the opening was delayed by a week. As a result, the planned display of C 29 at Circular Quay did not occur on our George Street 120 weekend and it was able to participate in the anniversary celebrations.

Enhancing the day was the attendance of members of the Historical Picnic Society, a wonderful group of ladies and gentlemen who dress up authentically for special occasions and group picnics. They looked wonderful in their Victorian outfits and added real colour to the day.

Of course, the occasion would not have been a success without our tram crews and those members who work behind the scenes to ensure these veteran trams are mechanically sound and prepared for service. Our thanks go to all concerned for their efforts in the weeks before this successful day.

Sutherland-Cronulla branch railway 80th anniversary celebration

December was a busy month for anniversaries. Sunday 8 December also saw the 80th anniversary of the Sutherland-Cronulla railway line. Opened in 1939, just three months after the outbreak of war in Europe, the electrified railway provided Sydneysiders with their first, and only, direct railway link with a beach. The railway replaced the Sutherland-Cronulla steam tramway that operated between 1911 and 1931 and



Steam motor 1A on display in Cross Street, manned by four of our junior trainees. From left: Harry Newton, Blake Townsend, Sebastian Critchley and Antony Di Mattia

David Critchley

Sydney F class 393 is preparing to depart. It will be followed by L/P 154. Robert Merchant



With cars from the display hall out in traffic, it was easier to photograph Prison Tram 948.

Robert Merchant

Sydney N class 728 awaits the arrival of its following companion, C 290 at The Royal National Park terminus.

Robert Merchant



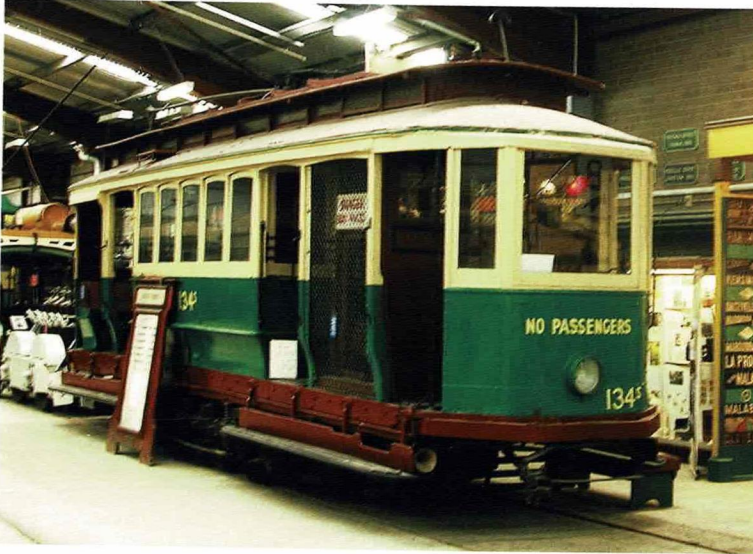
the substituted Bardsleys Bus Service which operated imported Leyland TD1 double deck buses following the steam tram route.

Transport Heritage NSW marked the anniversary with a 90-minute visit to Cronulla by the vintage four-car suburban electric train F1. Mark Speakman MP, NSW

Attorney-General and Member for Cronulla along with Sydney Trains CEO (and local resident) Howard Collins made speeches and a local historical society representative outlined some of the history of the line.

In the early morning of 8 December, the Museum's Sydney AEC Regent III double-deck bus 2619 was

Sydney scrubber car 134s (former D class 102 of 1899) in the display hall on 8 December 2019.
Robert Merchant



C 290 is the oldest tramcar in the museum's collection. It was built by John Morrison in 1896.
Robert Merchant

driven to Cronulla from storage in Wollongong. The bus was placed on display in the station forecourt just a few metres from F1. Our bus attracted considerable attention from the gathered crowd and plenty of museum brochures were distributed by our volunteers. The participation of the Museum was a nod to Cronulla's tramway heritage while our double deck bus stood in for the long extinct Bardsley TD1s. We were very pleased that the Museum was recognised by a number of official guests during their speeches.

Track and associated work

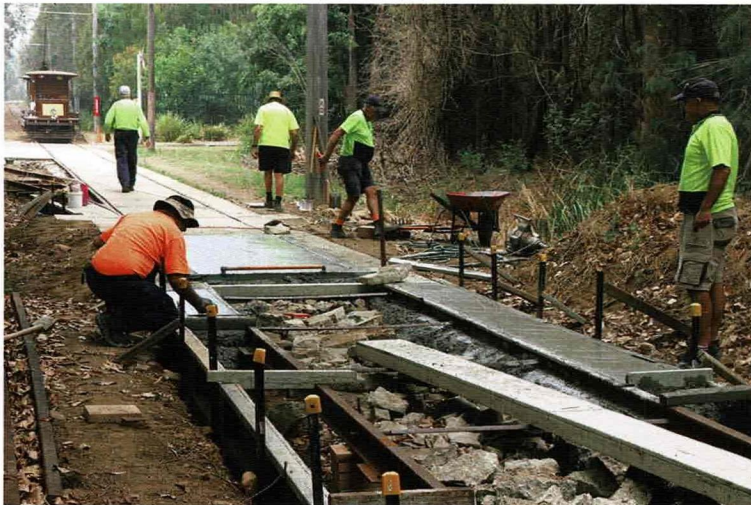
Our CSO team has made good progress on the excavations necessary to provide a major conduit run from the South Shed to the Energy Australia supply point at the Princes Highway near the level crossing. Hand trenching, conduit installation and backfilling has been completed between the South Shed and No. 2

substation. In addition, trenching has been completed from the No. 2 substation to the signal hut adjacent to the highway.

This work has enabled the levelling of the ground surface around the No. 2 substation and the provision of a platform at the substation to facilitate access for tram crews needing to activate the controls for the level crossing signals.

Following completion of the conduit run, cables will be installed to augment the existing supply to the No. 2 substation. This added supply will meet the needs of the Museum's higher-powered trams, such as the San Francisco PCC car, Melbourne Z2 111 and the Variotram as well as providing a boost for trams travelling to the National Park.

The track at the TAFE crossing being prepared for reconstruction on 9 November 2019.
Martin Pinches



Track concreting is under way on 8 January 2020.

Martin Pinches

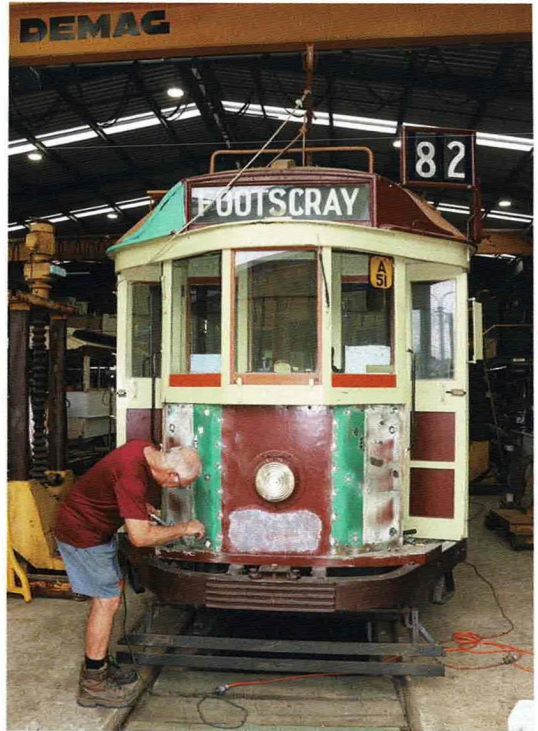
TAFE crossing works

The line north of the Pitt Street (TAFE) crossing closed on 16 November 2019 to enable track work on this section to be completed. Initial work proceeded well with the track bed excavated and the conduits for the negative feeder installed. But then welding was held up by total fire bans; a fire ban also means 'hot works' are banned, that is no welding or grinding. December passed, and due to ongoing fire bans and other extreme weather, the project suffered further delays.

Welding was able to be undertaken between Christmas and New Year, allowing the track to be aligned and levelled to its final position. The formwork for the cess was set up, waiting for the concrete plant to re-open.

Right:
Rod Sanders working on the apron of Melbourne W2 249 on 11 December 2019. Martin Pinches

Richard Jones painting one of the window frames of Melbourne W2 249 on 8 January 2020. Ian Hanson



Right:
Ed Terry working inside scrubber car 11 on 27 November 2019. Martin Pinches

Fortunately, our infrastructure team was on site on Friday 3 January planning to do some tree pruning along the right-of-way. They discovered that the local concrete plant had re-opened early for a job, and two cubic metres of surplus concrete arrived. This was placed in the cess as the first section of the new track work to be concreted in.

On 4 December the midday temperature at Loftus reached 40°C. Our CSO team worked early in the day to strip the formwork used previously and move it forward enabling the completion the levelling for the



final concrete pour. Further concreting took place on 18 December and 11 January, completing 75% of the work. At the time this issue went to press the final pour was planned to be carried out on 18 January, with the aim of the line to North Terminus being available for traffic by early February.

Workshop and maintenance

Work proceeds on the second O class traction motor and the armature has been varnished and machined. It is now ready for assembly. The motor case has had the field and interpole windings re-installed and is ready for varnishing. The next step is to install the motors in the first bogie and test run them. Work will then commence on the second bogie.

Scrubber 11 is nearly ready for service with all functions now operational. Painting of the internals



A front view of scrubber 11 in the workshop 2 November 2019.
Dale Budd

Above right: Sydney scrubber car 139s being loaded at Alexandria Goods yard for shipment to Melbourne on 11 November 1959.
Robert Merchant

Progress is being made on the restoration of Launceston 14.
Hugh Ballment



Sydney O class cars 805 and 1111 in the depot yard at night. 10 October 2019. Scott Curnow



Sydney R1 202 in the depot yard on 30 November 2019. Scott Curnow



Visitors with Sydney O class cars 1111 and 805 at The Royal National Park terminus on 2 November 2019. Dale Budd

Sydney J 675 had its frame pulled back into line using the museum's 'come-along'.

Martin Pinches



is nearly complete. Once the trackwork at the TAFE crossing is complete, 11 will be used to scrub the railhead on the newly concreted section. It will then clean the flangeways and scrub the concreted track to North terminus as part of its commissioning.

Work is proceeding well on Melbourne cable trailer 589 with most of the structural timber work nearly complete. New timber panels are being cut and fitted to the body, which is now back on its wheels.

Preparations for the repaint of W2 249 into traditional Melbourne colours are well under way. The end marker lights fitted in the 1970s have been removed and the lighting circuits returned to original. Work to bring the cab apron panels back to their original condition is progressing well.

Sydney J class 675

During the latter part of December 2019 our contract heritage carpenter Mick Kinsella prepared and planed all the timber for the new No. 2 end underframe. This timber was from the workshop timber stack that had been obtained by the late Bob Cowing. At the beginning of January Mick returned and has been busy cutting the timber to the correct sizes and fitting the bearers temporarily before their final installation. This included the main curved front bearer that supports the front of the tram and some of the control and braking equipment.

Earlier four new metal brackets were fabricated by a local engineering company to hold the cross bearers onto the side frames of the car. These were fitted by

Sydney C 29 has arrived at Circular Quay on the night of 12-13 December 2019 for display during the Light Rail opening,

Craig Parkinson



museum members. The eastern side frame that was 40mm out of line was pulled back into the correct alignment using our 'come-a-long,' a hand-operated winch with a ratchet.

Once the new timber underframe is permanently installed new flooring will be sourced and prepared for installation.

Outside activities

As reported elsewhere, C car 29 was trucked to Circular Quay on the night of 12-13 December for display for the opening of the Sydney CBD and South East light rail line. It proved to be popular as an object on which parents could photograph their young children. The car was returned to the museum on the night of 15-16 December.



Craig Parkinson has tram C 29 already loaded and is ready to return the tram to Loftus on the night of 15-16 December 2019.

Mark Newton

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC

PO Box 213, Salisbury, South Australia 5108

www.trammuseumadelaide.com.au

Colin Seymour

Tram rides suspended

Tram rides were suspended from 29 June 2019 because of problems relating to the Museum's Safety Management System documentation. A group of members is currently working through the main issues.

Track

Further sleeper replacement has been carried out in the tree reserve section (Poles 1 - 10) by members in conjunction with NED (North East Demolition). A total of 402 sleepers have now been replaced. In another development, a recent meeting with Salisbury

Council established that work on our two crossings will start by March 2020.

Rolling stock

Several PC5 controller faults have been rectified on H 365. This tram will be in regular use when tram rides are operating again.

H trams at St Kilda

The ninetieth anniversary of the opening of the Glenelg tram line with H cars occurred on 14 December 2019.

Two of the five H cars housed at St Kilda: silver H 362 is seen on the depot fan with H 360, then newly restored, in February 2000. It had just returned from celebrating the 70th anniversary of the Glenelg tram line during December 1999 and January 2000.

John Radcliffe



With no H cars kept at Glengowrie Depot and no tram rides available at St Kilda, there was no opportunity for an appropriate celebration of the opening of the line. Nevertheless, on Sunday 15 December visitors to St Kilda were able to view Museum H cars 360 (in its 1929 livery); 362 (in 1950s silver and carnation red); 364 and 365 (as refurbished in the 1990s); and restaurant tram 378.

Vale - Peter Letheby

Peter Letheby passed away on the 1 November 2019, aged 95. Despite failing eyesight Peter was a regular



Peter Letheby doing a test fit of 118's bumper on the rebuilt platform during its restoration prior to its launch in May 2010.

Ian Seymour

workshop volunteer at St Kilda for many years. Pete worked on E 118 and Bib & Bub 14-15. He also played an important role in the construction of the Members Room, office and archives in the Northern Depot development in 2002-03.

Pete was a long-term member of the Pichi Richi Railway at Quorn and for many years travelled to Quorn from Adelaide to participate in their weekend work parties. He came to St Kilda as a retired Defence Department draftsman in the late 1990s and was a well-respected member of our Friday gang. He was known as a quiet achiever.

Pete's 80th birthday party was held at the Museum in June 2004 as was his 90th birthday in 2014. Many of his friends from Pichi attended both events. Pete attended a number of COTMA conferences and was well known amongst the COTMA community. Pete spent the last few years of his life in an aged care facility. He will be fondly remembered.

Vale - Ron Fluck

One of our earliest members - No. 15 - Ron Fluck passed away on 9 December 2019 aged 93. Although an AETM member, Ron's heart was with trains and he was well known through his many years of volunteering with the National Railway Museum at Port Adelaide.

Ron was instrumental in getting BHP electric locomotive E1 which had been at St Kilda since 1968 relocated to the NRM for refurbishment and public display. The locomotive was transferred to Port Dock on 17 September 1999. As NRM Chairman, Ron accepted the handover of the locomotive on 26 May 2001.

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

PO Box 257, Mount Lawley, Western Australia 6929

www.pets.org.au

Michael Stukely

Pia's Place

The official opening of Whiteman Park's new fully-accessible children's playground, named Pia's Place, took place on 14 December. It is located just behind the newly renamed and upgraded Pia's Place tram stop (formerly called the Mussel Pool East or Dog Park tram stop).

At the tram stop there is a rebuilt street kerb-level boarding area, with a newly-constructed boarding platform to the east. This platform is at the floor level of our Melbourne W class trams, and is accessed by a ramp, for use when required by passengers with mobility restrictions, wheelchairs, and prams. The parking area, previously used mostly by visitors to the Dog Park, has also been upgraded, with the provision of a number of disabled bays. To help our service cars to keep to the timetable, cars will stop at Pia's Place once per round trip, when travelling in the direction of the Village.

A total fire ban was in force on opening day, which meant that no trams could operate. SW6 891 was placed on static display at the platform for visitors to see and inspect, with a PETS motorman in attendance.

Early indications are that the playground will be popular, and will provide a welcome though moderate boost to tram passenger numbers.

Traffic operations and service cars

There were good levels of patronage on the trams in September, with Melbourne W7 1017 and SW6 891 regularly in service. October saw very good passenger numbers, with services running as usual on seven days per week in the school holidays. WAGT (Perth) E 66 was the main service car for the month, with 1017 and 891 also in operation. November patronage levels were lower, with 891 being in service the whole month. However, three running days were lost in the month because of high fire danger. December saw record-breaking hot weather for Perth in the early part of the month, with six running days lost due to high fire danger.

Track and overhead work

On 28 September at Red Dam (north of the Triangle), nine steel sleepers were lifted and packed by the track team. The shoulders of the track formation were repaired with added road base following erosion caused mainly by the passage of the local cattle and kangaroos crossing the track here over many years to access the permanent water hole. This work continued on 12 October, over a wider distance.

The Wednesday team (many of whom now also give their time on Thursday mornings, so more accurately called the 'Midweek team') also focused their attention on the track uphill from here towards the



SW6 891 at Pia's Place (playground) tram stop on 21 December, showing the updated signage, improved tram stop facilities, the new pedestrian crossing and the upgraded car-park. The newly painted steel traction poles in the distance at Horse Swamp Curve (at far left) are barely discernible against the trees.

David Brown

SW6 891 enters the Village Mall on the newly upgraded track section as it returns from the Village Junction Station terminus on 2 November.

Michael Stukely



SW6 891 enters the newly re-laid and concreted track section at Camel Curve, at the north end of the Village Mall, on 2 November.

Michael Stukely

The newly upgraded track section at the far end of the Village Mall, with SW6 891 crossing the service road as it heads for the Village Junction Station terminus on 2 November.

Michael Stukely



Christmas tram SW6 891 waits next to works tram W7 1023 on the PETS carbarn fan after a quiet Saturday in service, on 7 December. Both trams look resplendent following attention from our restoration and maintenance teams.

David Brown

Looking down the grade from the Village to Stockmans Triangle on 29 November, showing the newly-painted dark-green steel traction poles.

David Brown



On the track day on 30 November, five timber sleepers were replaced with steel, with lifting and packing also carried out, just to the east of the Mussel Pool tram stop on Swamp Straight.

Whiteman Park’s contractor has continued welding the rail joints in the Village Mall, with a good number of dropped joints now treated and resulting in a greatly improved ride for the trams.

Maintenance of the overhead on the Triangle West-to-North Curve has continued, with a span wire replaced.

In November-December, all of the steel traction poles downhill from the Village road crossing, and westward from the Triangle to the Bennett Brook road crossings, were painted dark green by Whiteman Park contractors. Poles in the Village Mall were also repainted. Pole numbers have all been repainted on these poles. The overall result is very pleasing.

Tram restoration

The restoration team has continued to make good progress with the body restoration of WAGT A class 130. All the steel panels have been re-affixed to both sides of the saloon, with battens fitted over the joints, and paint priming work has started. This gives a very pleasing improvement to its appearance. Repairs to the upper body timbers, and the western end platform interior, are continuing. The old malthoid has been removed from the saloon floor.

Attention has now moved to the installation of the steps — a tricky process, as the dimensions at the four corners are inconsistent. No. 130 was one of only two WAGT saloon trams with an extra step at the entrances, the other being D class 84 (also in the PETS collection).

cattle grid, where maintenance to numerous rail joints was carried out. Members of the Midweek team have agreed to dedicate a Thursday to track maintenance on a regular basis.

Progress with the body restoration of WAGT A class 130 on 21 December: the steel panels have been re-affixed to both sides of the saloon, and paint primer has been applied.

David Brown



Along with their ongoing maintenance of our service trams, the Midweek team is bringing forward the mechanical and electrical refurbishment of Melbourne W6 998. This car has already received significant attention to its body restoration. A major obstacle to completing the work on 998 has been the very poor and worn condition of its wheels, which must be exchanged.

General

Preparations for track laying in the Don and Laurie Tyler Car barn and the future car barn fan have continued, with more loads of road base delivered, and spread and compacted by Ray Blackmore.

Maree Cowley and Mike Fielder have sent many hours tidying up the rear storage compound, and clearing weeds from around the site. They have planted suitably selected shrubs around the Oketon Geddes Car barn fan, which will greatly enhance the appearance of the area.

The Christmas barbecue, organised by Beth Kelly, was held at Mussel Pool on 8 December with a very good number of members, families and friends attending. Santa made a visit, and the customary evening tram ride through the Park was enjoyed by all.

Another 26-tonne load of road base is delivered for levelling the fan area for the new Don and Laurie Tyler Car barn. The Lindsay Richardson Car barn can be seen at the far right, across the main line.

Lindsay Richardson





Drivers from Sydney's new light rail line, and their families, visited the Sydney Tramway Museum on 2 November 2019. Trams from the previous George Street service operated for the day. F car 393 is seen departing from Railway Square waiting shed, appropriately showing Randwick as its destination. Two of the visitors, at right, photograph the tram: their colleagues are already aboard.

Dale Budd



Is this a case of trams holding up traffic for a hundred years or an instance of a fine old vehicle developing a following? Vehicles from the Aston Martin Vintage Car Club visiting the Brisbane Tramway Museum surround Brisbane combination 47 at Ferny Grove on 25 October 2019.

Peter Hyde