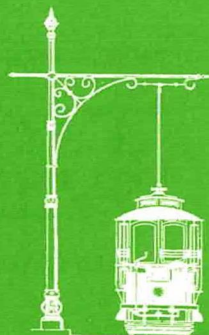


TROLLEY WIRE

No. 358
AUGUST 2019

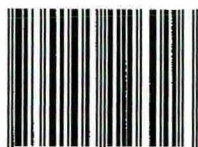


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- Sydney Metro North West Opens

TROLLEY WIRE

AUSTRALIA'S TRAMWAY MUSEUM
MAGAZINE

AUGUST 2019

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Front Cover:

Sydney CBD & SE light rail testing continues. Light rail cars 003-004 and 013-014 are being tested in daylight and stand at the University of NSW stop in High Street, Randwick on 10 July 2019.

John Cowper



A Sydney CBD and SE light rail sign in George Street at Town Hall. This location is the transfer point from the Aesthetic Power Supply (APS), known as third rail, from Circular Quay to Town Hall, and the Overhead Supply System used for the rest of the light rail lines.
R.I. Merchant

BENDIGO TRAMWAYS IS EXPANDING

A new era for Bendigo's tramways

On 10 May 2019, Jacinta Allan, Victoria's Minister for Transport Infrastructure and Member for Bendigo East, announced that Bendigo's tramway facilities will undergo a \$10.7m expansion.

The project aims to establish Bendigo as an international leader in heritage tram and road vehicle manufacturing and restoration. It also seeks to promote the reputation of Bendigo Tramways in developing and operating the city's tourist tramway.

Funding for the project will be provided as grants from three sources: VicTrack (\$6m); Regional Development Victoria (\$3.7m) and local bodies (\$1m).

The planning and design phases of the new facilities will take place during 2019, with construction occurring in 2020. The facilities are expected to open in 2021. They will be managed by Bendigo Heritage Attractions, the not-for-profit trust formed in 1974 to operate Bendigo Tramways, the Central Deborah Gold Mine and the Bendigo Joss House Temple.

Project highlights

The new facilities will include a major expansion of the existing tram depot and workshops. They will include:

- A new purpose-built restoration centre for trams, railway rolling stock and other similar restoration projects.
- Storage space for retired W series trams from Newport Workshops in Melbourne, including parts and equipment, and for trams stored previously at the former Bendigo Gasworks site.
- Training rooms and facilities for use by other heritage groups and community organisations.

The project will enable Bendigo Tramways to gain further experience in vehicle restoration, with financial surpluses being reinvested in enhancing the city's Talking Tram service.

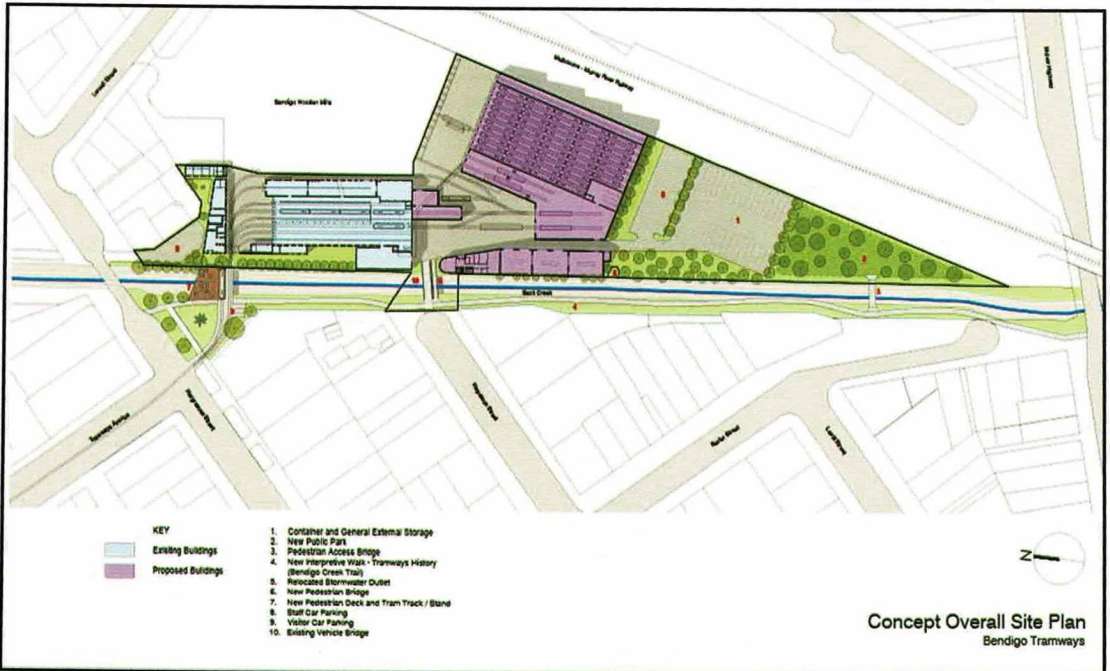
Victorian Minister for Transport Infrastructure, Jacinta Allan announces the expansion of Bendigo's tramway facilities at Bendigo depot on 10 May 2019.





An aerial view of the proposed developments.

Development concept site plan.



A stronger focus on visitors

Enhancing the experience of tourists and other visitors to Bendigo is a central part of the project. In addition to restoring and expanding the existing heritage-listed tram depot – the oldest operating tram depot in Australia – there will be:

- A better entrance to the depot precinct with larger hospitality and function spaces, including a tram cafe.
- Larger display areas for heritage trams and transport artefacts.
- Improved disability access around the depot and workshops.



A tram cafe will be included in the better entrance to the depot precinct.

The new purpose-built workshop for restoring trams, railway rolling stock and similar projects.



A new workshop

A new workshop will be a central part of the project. It will include:

- Areas for larger, more complex tram restoration projects including ‘working from height’ platforms that will improve safety for staff and volunteers.
- Space to enable Bendigo Tramways to repurpose

and maintain W series trams released under the Victorian Government’s Retired Trams Strategy.

- A new paint shop suitable for large projects.

Job creation is also part of the new project. The Victorian Government is keen to create opportunities for new employment positions including apprenticeships that could be managed in partnership with a local Rotary Club.

PARRAMATTA LIGHT RAIL

Parramatta Light Rail is one of the NSW Government's latest major infrastructure projects for Sydney.

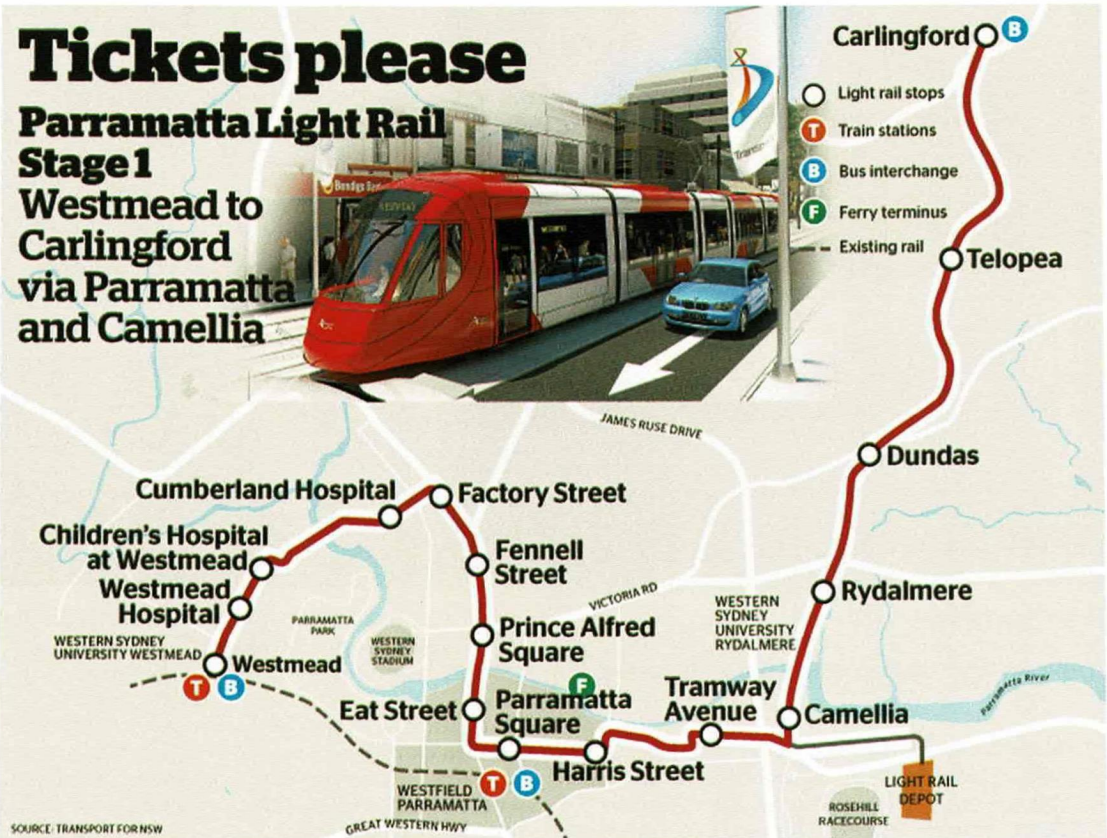
Stage 1 will connect Westmead to Carlingford via the Parramatta CBD and Camellia with a route extending 12 kilometres, and is expected to open in 2023. It will link Parramatta's CBD and railway station to the Westmead Precinct, Cumberland Precinct, the Bankwest Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatres, the private and social housing redevelopment at Telopea, Rosehill Gardens Racecourse and three Western Sydney University campuses. Stage 1 will include the conversion of the existing Carlingford railway to light rail between Camellia and the terminus. The line will close for the conversion in January 2020.

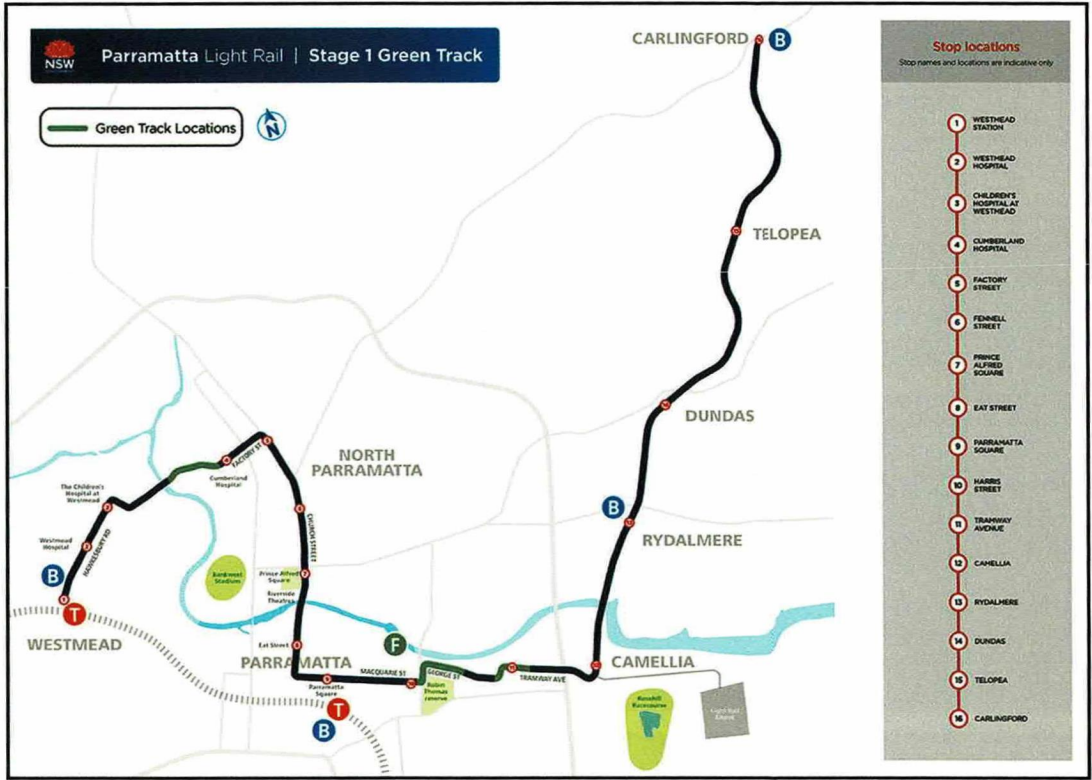
By 2026, around 28,000 people are expected to use Parramatta Light Rail every day. An estimated 130,000 people will be living within walking distance of stops.

In October 2017, the NSW Government announced the preferred route for Stage 2 which will connect Stage 1 and the Parramatta CBD to Ermington, Melrose Park, Wentworth Point and Sydney Olympic Park along a nine-kilometre route.

Following common practice overseas, Parramatta Light Rail will include Australia's longest stretch of grassed track, referred to by the government as 'green track'. This is a welcome change of policy; proposals for the adoption of grassed track on sections of the CBD and South East light rail project were emphatically rejected.

Program director Tim Poole said the decision to use grassed track meant that "we're ensuring the very latest technology, innovation, and best practice is applied in Parramatta. Green track will make the light rail easier to embed in existing local landscapes and see it beautifully integrated into the public domain."





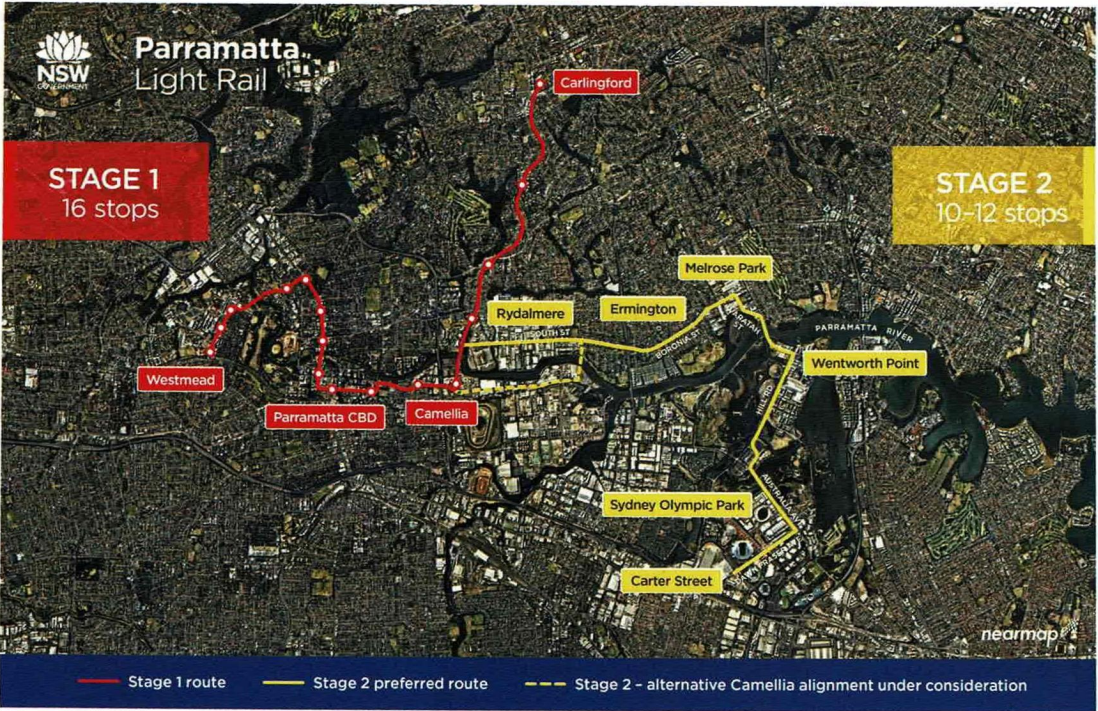
Parramatta Light Rail will feature up to one kilometre in total of 'green track', with grass or shrubs planted between and beside the tracks across three zones: Cumberland Hospital, Robin Thomas Reserve and Tramway Avenue.

Mr Poole said countries around the globe had embraced grassed track as an aesthetic and sustainable urban

design solution. "Not only does green track look good, it contributes to increased biodiversity, noise reduction and urban cooling – a positive result for those who live and work in the Western Sydney heat," said Mr Poole. "Green track on Parramatta Light Rail will bring positive change to the historic landscape, local parks and streets through which it passes."



Artist's impression of the grassed track at Robin Thomas Reserve.



Artist's impression showing light rail at Camellia.



Artist's impression of Telopea light rail station.

Artist's impression of wire-free Macquarie Street operation.



Transport for NSW is partnering with Western Sydney University to understand how green track will perform in Western Sydney.

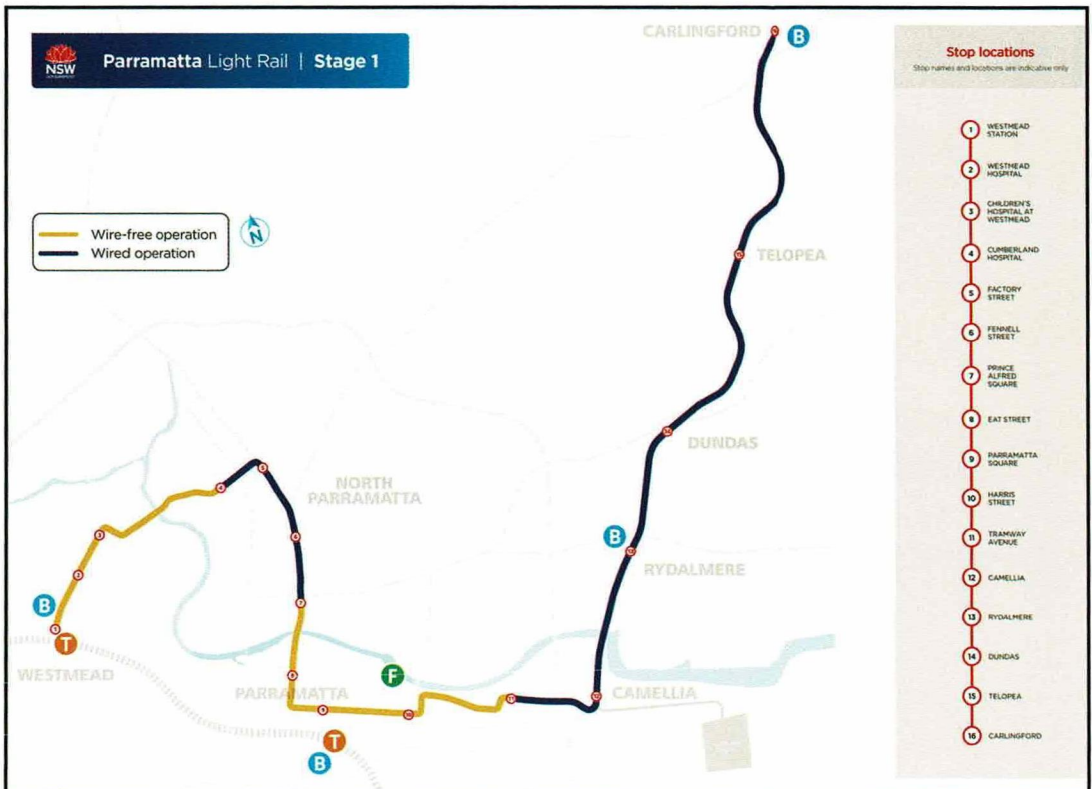
Station and Cumberland Hospital stops, and between the Prince Alfred Square and Tramway Avenue stops.

In terms of power supply, the line will have a combination of overhead wires and approximately four kilometres of wire-free operation.

The cars will be equipped with roof-mounted batteries which will be charged while they are running under overhead wires, and from “ground level conductor rails” at the Westmead Station stop.

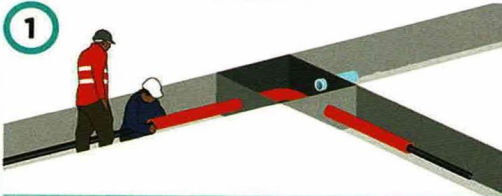
The wire-free sections will be between the Westmead

Illustrations courtesy Transport for NSW



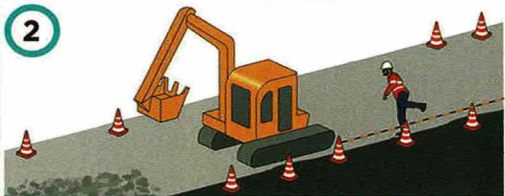
Typical Stages of Construction

1



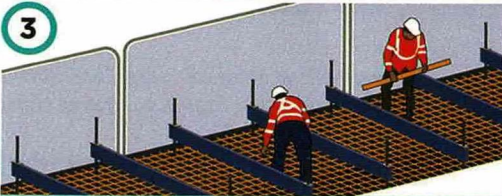
Surveying and site investigations are carried out to identify and, where necessary, relocate existing underground utility services.

2



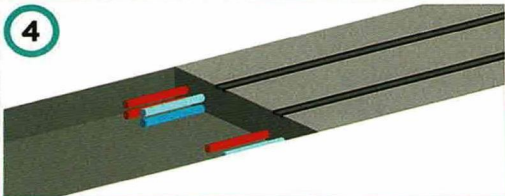
Enabling works, such as road widening, intersection upgrades and traffic changes, are undertaken to prepare for light rail construction.

3



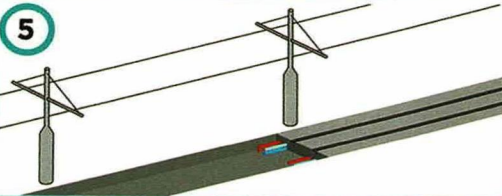
Along the alignment, ground is excavated and prepared to support track slab and conduits (pipes).

4



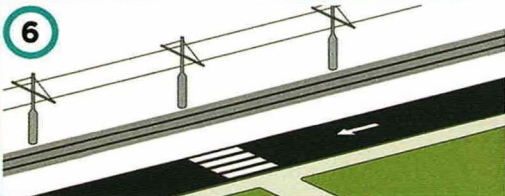
Conduits and rails are installed, concrete is poured to form the track slab and tracks are laid progressively within the slab.

5



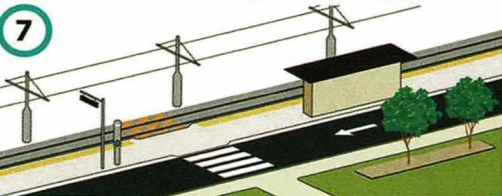
Overhead power poles and wires (where applicable) are fitted, and communication systems and rail signals are installed.

6



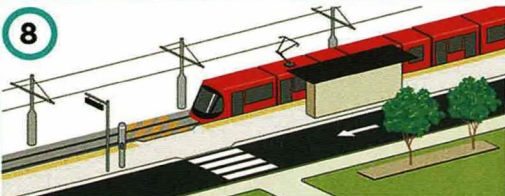
Road lanes and markings, drainage systems, kerbs and footpaths are reinstated.

7



Light rail stops are built, with shelters, seating, ticketing systems, lighting, help points, signage, electronic information displays and landscaping.

8



Operational testing of the vehicles and system is carried out. Once testing is complete, the light rail service can commence.

SYDNEY METRO NORTH WEST OPENS

Some 75,000 passengers converged on Sydney's first metro line on Sunday, 18 May after the NSW Government decided to make the opening day free for passengers. The line commenced regular services on 26 May and approximately 140,000 people travelled on that day.

The 13 stations on the \$7.3 billion Northwest Metro line between Tallawong and Chatswood opened to the public just after 11:00am on 18 May. The last metro train left Chatswood at 10:05pm and, from the other end of the line, from Tallawong station near Rouse Hill at 9:35pm.

The line is in tunnel from the approach to Chatswood to Cherrybrook, and from Cherrybrook to Bella Vista.

The new trains are made by Alstom and operate exclusively on the Sydney Metro network. They are required to run at 98 per cent on-time reliability. The design has been customised for Sydney but is based on the international Metropolis train, which is used in 25 cities including metros in Singapore, Barcelona and Amsterdam.

Features of the new trains include:

- Level access between the platform and train and three double doors per side per carriage for faster loading and unloading

- Heating and air-conditioning
- Continuous mobile phone coverage throughout the metro network
- Two multi-purpose areas per train for prams, luggage and bicycles
- Wheelchair spaces, separate priority seating and emergency intercoms inside trains.

Electronic route map displays above the doors show the train's progress and the next station. Across the roof at each vestibule is an electronic sign which displays the name of the next station. On arrival it shows on which side the doors will open.

A team of controllers continuously monitors the operation of trains on the line to ensure the service runs smoothly.

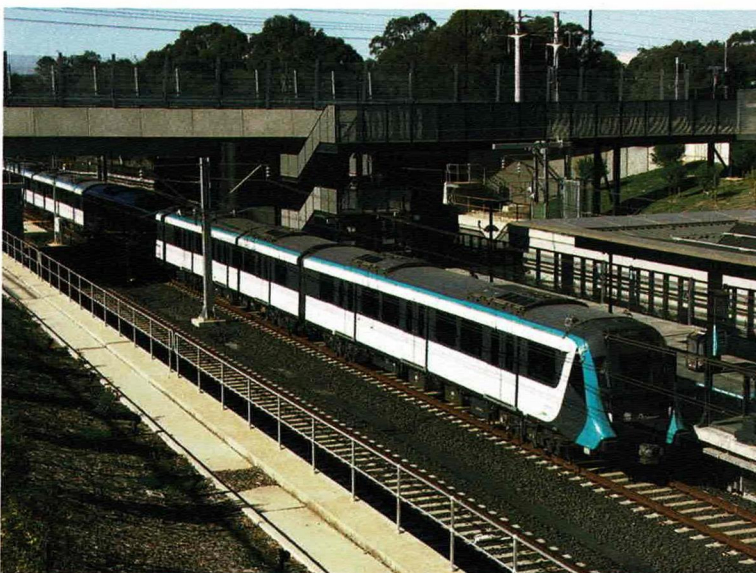
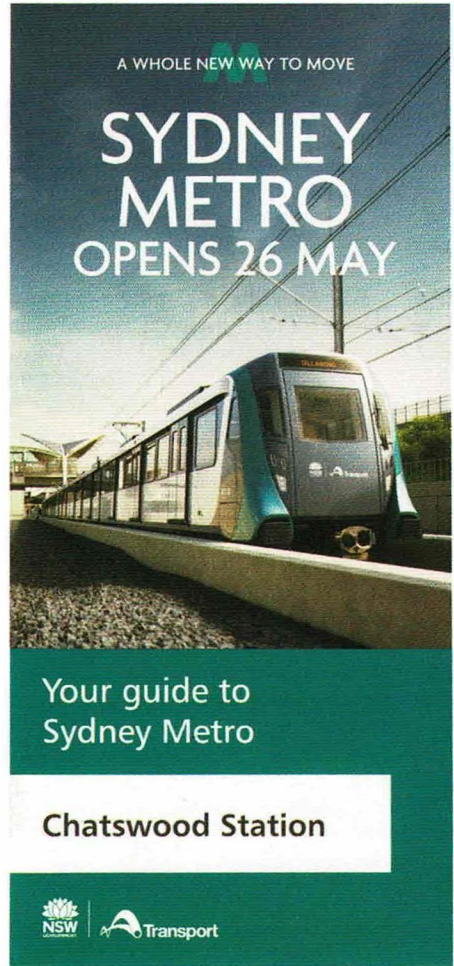
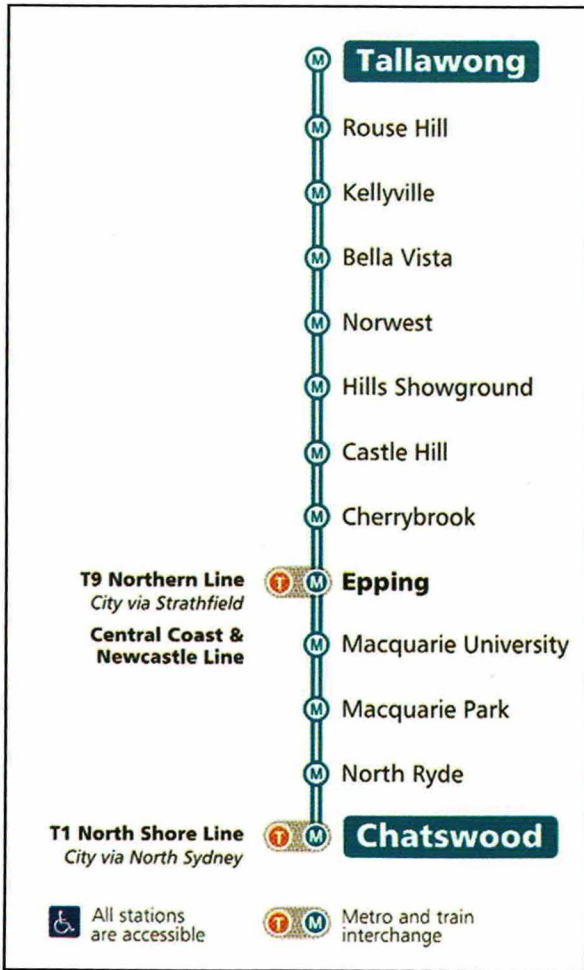
Customer Journey Coordinators at metro stations assist with access to platforms and can organise help with train transfers.

Each train has a friendly and helpful Customer Service Officer on board to assist and advise passengers.

All photos by Robert Merchant unless shown otherwise.



A Sydney Metro train is approaching the Cudgong Road bridge immediately before Tallawong station.



Special opening day brochures were printed for Chatswood, Tallawong and Rouse Hill.

Sydney Metro train 10 arriving at Tallawong station.

Sydney Metro train 18 awaits departure from platform 2 at Tallawong station. A second train, not in service, is at platform 3. Tallawong does not have a platform 1.



Interior view of Sydney Metro train 08.



Passengers enter an open door on train 17 at Rouse Hill.



A favourite spot for men and boys is the front of the train from which the line ahead can be viewed.

The electronic display at the car entrances:
A route map showing the progressive location of the train.



Next Station is....

Doors Open on the Left / Right which changes to Doors Open This Side, then Doors Closing.



Metro train 03 from Tallawong has crossed the bridge over the Windsor Road and is approaching Rouse Hill station.

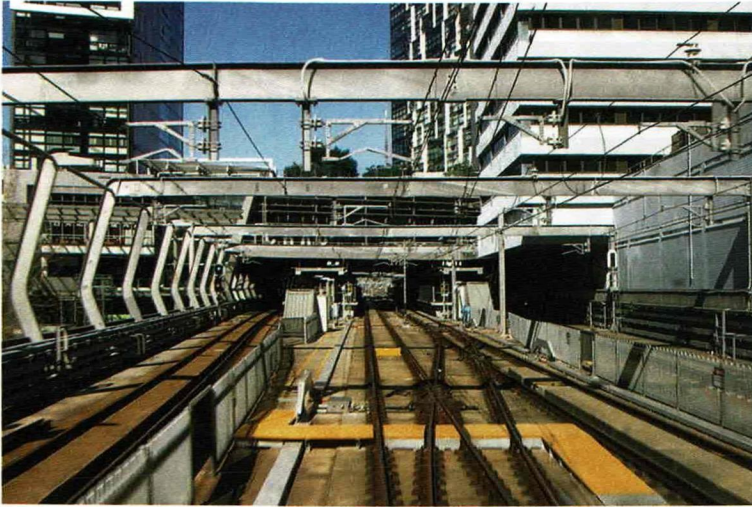


An aerial view of Rouse Hill station with a train at platform 1 bound for Chatswood.
Google Earth

Two Metro trains pass east of Kellyville station.



A view from Metro train 03 approaching Chatswood No. 2 platform.



A Metro train is approaching Chatswood platform 2. The crossover is used when Sydney Trains are not running to the city so there is no cross-platform change. The Metro trains then arrive and depart from platform 3.



Sydney Metro trains at Chatswood. Train 10 is at platform 3 and is due to depart for Tallawong, Train 04 has arrived at platform 2. It will run forward, reverse and cross to platform 3 once train 10 has departed.

SYDNEY: TESTING REACHES CIRCULAR QUAY

John Cowper

Testing for Sydney Light Rail's CBD & South East line has now reached the northern end of George Street and Circular Quay with Alstom Citadis X05s LRVs 015 and 016 commencing this task on 30 July 2019. The trams had made the trip the previous night when driver Tom Bedingfield guided the coupled pair into Alfred Street; the first trams to do so since November 1958.

Testing overnight on 30/31 July included runs from Alfred Street into lower George Street, through the scissors crossing, and return into each of the three terminal tracks at Circular Quay stop checking clearances on each of the platforms. This was followed by a run to Town Hall and back thus testing the APS third track power delivery system. Satisfactorily completed, the LRVs ran through to Central testing traffic and tramway signals along the route.

The test team which includes representatives from Altrac, Alstom, Transdev and Transport for NSW, was not deterred by rain, torrential at times, which is becoming a common occurrence during the late-night testing regime.

Meanwhile testing and driver familiarisation continues right along the line between Town Hall and Randwick. Night-time testing continues in the city precinct, whilst day and night running continues between Central (Chalmers Street) and Randwick. The testing regime includes, running at various speeds, testing responsiveness of traffic signals, tram precedence at intersections and the like. This activity continues in parallel with a public awareness campaign appearing on traditional and social media with themes such as 'Be aware, there's a tram there', 'Heads up!' are becoming familiar around Sydney.

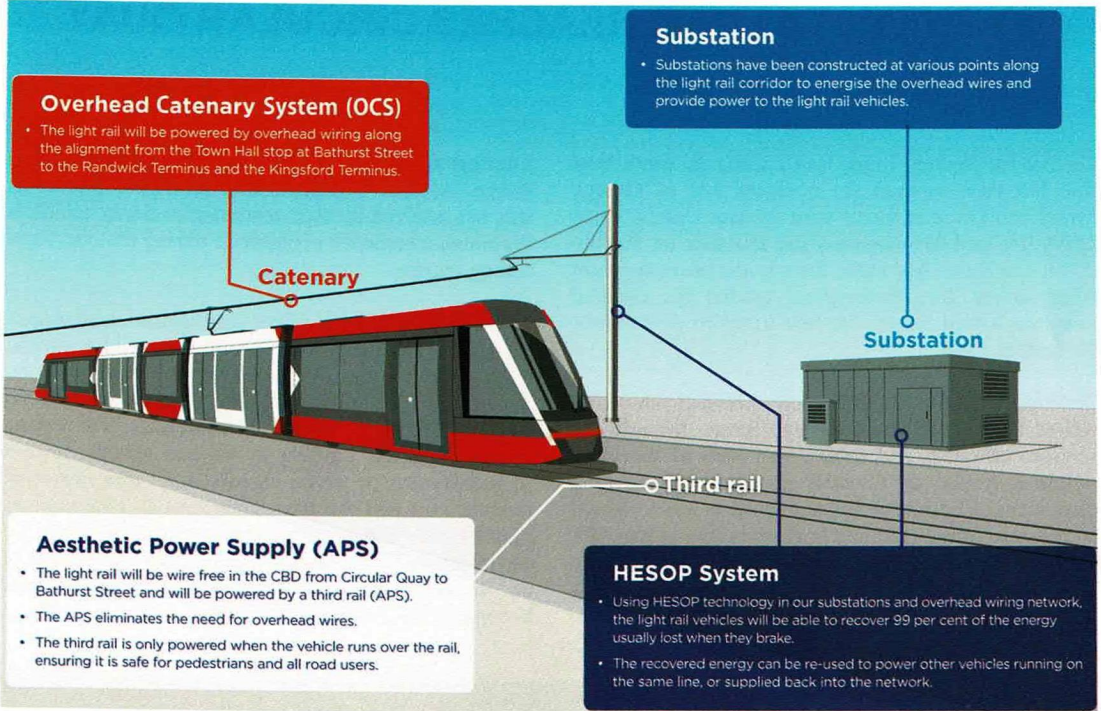
Sydney LRVs 015 and 016 testing at the Bridge Street stop on the night of 29/30 July 2019.

John Cowper



Sydney LRVs 015 and 016 at Circular Quay, 30 July 2019.

Martin Pinches



*Sydney Light Rail Power Supply.
Sydney Light Rail*

The first LRVs to Town Hall cross Pitt Street from Eddy Avenue to Rawson Place on 25 June 2019. Transport for NSW



Sydney LRVs 001 and 002 arrived at Town Hall around midnight on 25 June 2019. It was the first time in 61 years a tram had travelled along George Street.

Transport for NSW

For the first time in daylight Sydney LRVs 003 and 004 are seen at Town Hall on 3 July 2019.

John Cowper



LRVs 001 and 002 at the Moore Park stop on night testing to Chalmers Street, 22 May 2019.

John Cowper

The first testing to Chalmers Street took place on the night of 22 May 2019 with LRVs 001 and 002 making the first journey.

John Cowper





Sydney LRVs 011 and 012 emerging from the tunnel from Anzac Parade to Devonshire Street during testing to Chalmers Street on 23 July 2019.
Martin Pinches

Sydney LRVs 002 and 001 pass St Peter's Church in Devonshire Street on during testing on 23 July 2019.
Martin Pinches



Sydney LRVs 011 and 012 on a test run turn from Devonshire Street into Chalmers Street on 12 July 2019.
John Cowper

Circular Quay Railway Station with two LRVs creating a lot of attention in the street below.

Courtesy Transport for NSW

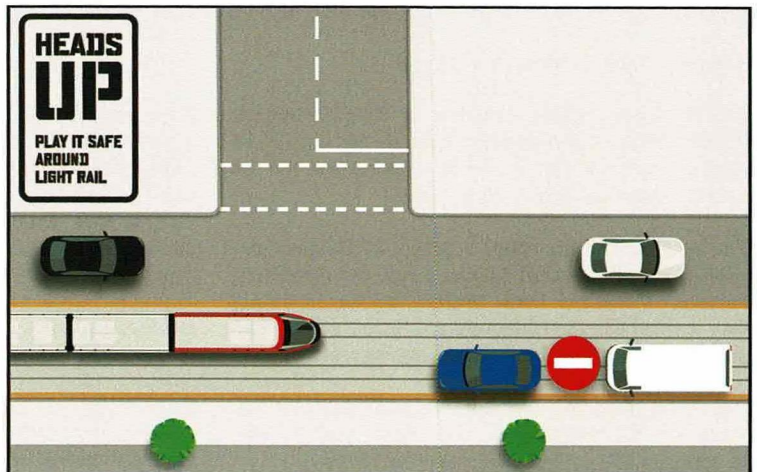


Sydney LRVs 008 and 009 at the University of NSW stop in High Street, Randwick on 10 July 2019. This stop is named "UNSW (High St)".

John Cowper

Trams are being tested from Randwick to Circular Quay so Heads Up "Play it Safe around Light Rail". Remember tracks are for trams and drivers or riders are not permitted to drive or park in the tram lanes.

Sydney Light Rail



HERE AND THERE

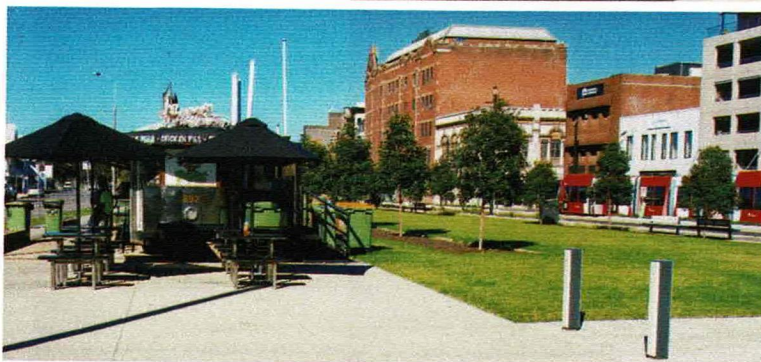
AUSTRALIAN AND OVERSEAS NEWS

Newcastle light rail

The sixth and last light rail vehicle in Newcastle's current fleet, No. 2156, entered service on Thursday, 2 May 2019.

Newcastle LRV 2154, seen here at Queens Wharf, entered service in an over-all advertising livery for the NIB Health Fund.

Peter Gambling



One of Newcastle's new trams, running in Scott Street on 4 April 2019, passes former Sydney R class 1892 (showing the number 892). The R car was converted for use as Newcastle's Harry's Café-de-Wheels.

Peter Gambling

Seashore Trolley Museum turns 80

The Seashore Trolley Museum in Kennebunkport, Maine, USA, has officially opened for the 2019 season, launching an anniversary celebration for the world's oldest collection of its type.

The museum began when a group of Boston area college students visited Maine to ride the dwindling number of streetcar lines. While enjoying an outing they learned that the Biddeford and Saco Railroad had ordered replacement buses for its ageing trolleys.

One open-sided car, No. 31 was a favourite of the group. On the spot, they agreed to save the little car. In doing so, the college students made history.

This was the first time a non-company group saved a street railway or railroad car for historic purposes. Today, the museum includes artefacts from coast to coast in the USA. Its Canadian collection is the largest outside that country. The museum also has transit equipment from Australia (Sydney P 1700), France, Japan, Germany, Great Britain, Italy and New Zealand.

Besides rail cars, the collection includes petrol and diesel buses and 19 trolleybuses.

During the weekend of 5 to 8 July 2019, Seashore celebrated its 80th birthday by displaying to the public trolleys that had been out of sight for many years.

Melbourne – trams in the Victorian state budget

The Victorian budget announced on 27 May 2019 contained the following tram news.

The government will purchase a further ten E class trams, bringing the E class fleet to 100 cars. Funding will continue for the design and development of a 'Next Generation Tram'.

The budget stated that the target is for three W8 class upgrades to be completed in 2019-20. This includes one which was rescheduled from 2018-19; the expected outcome for 2018-2019 is two conversions against a target of three.

The budget documents said that ten 'Z class' trams will be overhauled; these of course are Z3s. Curiously placed under the heading 'network upgrades' was a reference to 'remediation works for B class trams to ensure the fleet's continued operation'. There was no mention of the number of cars to be treated.

There was also no mention of the new line from Caulfield to Monash University and Rowville, announced in the state budget in 2018. It will be recalled that there is a competing Commonwealth proposal for a heavy rail line to the university. However funding will be provided to further progress planning, design and business case development for tram and active transport connections between Fishermans Bend and the CBD.

Other Melbourne news

The planned withdrawal in 2019 of 13 Z3 cars, set out in the current franchise agreement, is

not going ahead. The current situation is that car 149 was withdrawn as a result of a fire in 1999; 140 was sent to Newport in 2017; 190 and 208 are in the yard at Preston Workshops with many parts removed; and 197, also at Preston, is expected to be scrapped following a collision in early July 2019.

Within Yarra Trams the overhaul program at East Preston is referred to as Rolling Stock Additional Works (RSAW); the term 'life extension' is not used.

The W series cars which were abruptly withdrawn in September and October 2018 were initially stored at Southbank Depot but were soon transferred to Preston. As at early July 2019 cars 866, 935 and 1020 were under cover in the operating depot while 938, 964 and 1000 were outside, in the area traditionally occupied by cars awaiting workshop attention. Also outside was B1 2001, retained for preservation.

W8 cars

No. 928 returned from Bendigo in April 2019, the eighth W8. Former City Circle car 925 has gone to Bendigo for its upgrade, and No. 1000 is expected to follow.

No. 961 ran only briefly on the City Circle after coming back from Bendigo as a W8 in February 2019. It was placed in under-cover storage at Preston Workshops, where it remains; it is expected to become the next restaurant car.

B2s which have been through the overhaul program at East Preston can be quickly identified by the white surround to the destination sign. Car 2019 passes Flinders Street Station on 11 July 2019. Dale Budd



Victor Harbor horse tram re-opens

The Victor Harbor Horse Tramway in South Australia was forced to close during the peak summer holiday season at the beginning of 2019 due to safety concerns about the structure of the causeway jetty.

It re-opened on 23 June after temporary repairs to the causeway structure. During the peak season the suspension of horse tram services was claimed to be costing the City of Victor Harbor Council approximately \$6,000 per day.

On 10 June 2019 the South Australian Government announced an allocation of \$20 million in its 2019-20

budget to repair and upgrade the Granite Island Causeway. A study is currently under way to determine whether the existing causeway should be repaired or replaced by a new structure. An issue to be considered by the study is the possibility of cruise ships visiting Victor Harbor.

The causeway project is expected to commence in 2019-20, with construction taking about two years to complete.

From *Victor Harbor Times*,
10 June and 18 June 2019



Victor Harbor horse tram No. 2 leaves Granite Island to cross the Causeway back to Victor Harbor on 4 January 2017.

Colin Seymour

BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353

www.btm.org.au

Dave Macartney and Warren Doubleday

Transporting Art tram W2 504

After some involved work by John Whiting and Peter Winspur an agreement has been reached with VicTrack to transfer the ownership of the Clifton Pugh Art Tram, W2 504 to the Museum. The tram was painted by the renowned artist in 1978 as part of the Victorian Government's Transporting Art program – see below.

W2 504 has been stored at Bungaree since 2015. This transfer will now allow the Museum to obtain professional advice on conserving the tram's artwork and commencing the process of returning the tram itself to a serviceable condition.

Operations

The Annual Heritage weekend took place over 13-14 April. Horse tram No.1 ran in service, along with electric car No. 38. Some 350 passengers were carried on a pleasant 27-degree day. The school holidays followed immediately after, with good loadings throughout. On Tuesday, 16 April no less than 20 staff were on duty at the depot, with plenty of work under way.

Running during the July school holidays has seen steady patronage with reasonable numbers for the

Continued on page 26.

The story of 504

Clifton Pugh was one of the originators of the idea of trams being painted by artists. According to Arts Victoria's website, "over lunch in January 1978 the then Lord Mayor of Melbourne, Irvin Rockman, and artist Clifton Pugh hatched an idea to paint Melbourne's trams for a public art project – and to brighten up the city. The scheme was backed by the Premier and Minister for the Arts, Rupert Hamer, and Transporting Art was introduced by the Ministry that year".

Clifton Pugh described the tram: "The apostle birds in flight, as if the tram has run into a group of them and they're flying along the sides. Then I found the route was to be through Hawthorn and Collingwood football territory, and one cannot be one-eyed in that world, so there is a magpie and a hawk on each side!"

This car was retained when the others from the first series were disposed of in 1987, because it was assessed as having special artistic merit. The intention was that it would become an exhibit at Museum Victoria.

In about 1986 it was involved in a minor collision. Its paintwork was damaged in the accident and subsequent repairs. The intention was that Clifton Pugh would touch up his artwork, but he died in 1990 without having restored the tram. It remained in storage, under cover, at Preston Workshops for almost 30 years, until on 3 June 2015 it was transferred to Bungaree, at that time remaining in government ownership. The Pugh family are very supportive of the museum's plans to resurrect the art work and the tram.

Transformed into a work of art by Clifton Pugh, W2 504 poses for the official photographer at Preston Workshops in 1978.

PTC 5283.



504 made a rare public appearance at an open day at Hawthorn Depot on 28 March 1998.

The panel repaired following accident damage is evident.

Dale Budd



Sage and Monica pull the horse tram into the loop before picking up another large group of passengers on 14 April 2019.
Paul Mong

winter period. We thank all those workers who provided the service and maintain our trams and infrastructure.

Preservation

The repairs to W3 661 have been funded by the insurance company, so we are pleased to report that the process of returning the car to service can now proceed. This work is planned to be done in Bendigo when their work schedule allows for it. As part of maintaining our fleet with a second equal wheel bogie tram that can handle the big crowds, the Melbourne Tramcar Preservation Association's W2 407 will soon



W4 671 has been fitted with red and white auxiliary lighting.
Neville Britain



The red lights at night. 3 July 2019.
Neville Britain

No. 27 arrives at Carlton Street while Cuthberts939 is waiting in the sun with the passengers enjoying coffee on 14 April 2019. Paul Mong



The CP25 crank rod after repairs had been made. Ballarat Tramway Museum



During the work to check a very noisy clunking CP25 compressor, it was found that on one of the crank rods, the white metal bearing surface had failed. Although a good spare was obtained from another compressor, the crank rod itself has been repaired by Bearing Remetalling of Dandenong.

Depot visit by the 'Botanikids'

The former gatekeeper's cottage from the Gardens has finally been completed in its new location near the crossing loop. It is for use by the Botanikids, a group of youngsters with an interest in gardens and gardening. The group made their annual visit to the depot on Wednesday, 3 July. One hundred and eleven visited and travelled, so they are obviously doing something right down there!

be joining our fleet for a while. This arrangement shows the co-operation between COTMA members.

W4 671 has been equipped with red and white auxiliary lighting to make it more visible during evening wedding bookings particularly during the cooler months. Our experience is that the wedding market dries up during winter, but bookings pick up in the spring.

Tram No. 27 has been set up with the weather shields for the winter running, while No. 18 has finally received its numbers and SEC crests and is now complete. No. 33's truck is still away in Bendigo where it was apparent that the journal bearings in one of the wheel sets had to be resurfaced. This work was done by a Melbourne company which specialises in such work. No. 13 is being fitted with a new set of striped weather blinds and looks very smart.

In other news, Gordon Bentley has made up some test rigs for both electric and air systems and is kept busy servicing brake valves and compressors.

Track repairs

The track joints near Carlton Street have received some attention to keep them smooth, though the whole of this section is to be re-laid shortly.

Insurance and regulation

The Museum expresses its thanks to the City of Ballarat continuing to facilitate at a very reasonable cost, insurance cover for our depot, contents, archives, tramcars and the overhead infrastructure.

One thing all operating Tramways in Victoria will have to do, including Yarra Trams, is to transfer from the Victorian Rail Safety Regulator to the National Regulator. No doubt a very considerable amount of paperwork will be necessary in the course of the transfer over the next three years. The actual date for the transfer is scheduled to be 1 October 2019, but the enabling legislation has not yet been passed by the Parliament of Victoria.



Tram No. 26 tows horse tram No. 1 down to the loop at the start of the day prior to the annual running of the horse tram. 14 April 2019.

Paul Mong

BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550

www.bendigotramways.com

Bendigo Tramways

Easter operations

We hit the ground running at Easter 2019, trialling a new Park and Ride service. This seemed to work very well with passenger numbers for the weekend reaching 2,576 which was around a 95% increase on the previous year.

Feedback provided by the City of Greater Bendigo major events team indicated that this was the largest year on record for Easter, thought to be attributable to the newest Bendigo Chinese dragon, Dai Gum Loong.

Tudors to Windsors exhibition and the Dame Tram

In mid-March the Bendigo Art Gallery opened their Tudors to Windsors exhibition. This popular exhibition traced the history of the British monarchy through the collection of the National Portrait Gallery, London. To complement the exhibition, we created and ran a special themed service that became known as the Royal Express.



Bendigo Tramways depot tours are popular with our visitors. Self-guided and guided tours are available. Bendigo Tramways

The themed tram ran for ten services, operating as a bar tram with a self-appointed British Dame providing some hilarious entertainment. (See the May 2019 issue of Trolley Wire, page 25.)

Along with this service, Bendigo Heritage Attractions provided a British-themed pop-up café tram at the Piazza at Charing Cross which was used as a coffee shop and information booth. Decked out in loud British colours, the tram was fitted with a small kitchenette at one end and a combination of booth and bar seating.

Yarn bombed tram

Wednesday 29 May marked the first run of the yarn bombed tram for 2019. This year our local group of Knitting Ninjas really outdid themselves. They had worked hard to repair damage to one of the skybreaker panels after a minor collision last year tore the panel

apart; this year there was no sign of a tear in the artwork.

The yarn bombers have already begun thinking of what improvements can be made for next year and are looking at replacing the two front wraps which have faded badly over the past six years.

Substation upgrade and track works in Pall Mall

Bendigo Tramways suspended services from 17 to 27 June while sections of track in Pall Mall were re-laid, and some much-needed upgrades to our substation were undertaken. The track works were completed by Coleman Rail and owing to the heritage listing for Pall Mall, the replacement sections needed to maintain their previous appearance. While modern construction standards were applied, the original blue stone sets were reinstalled on the surface giving a very satisfactory result.



The Windsors tram in Rosalind Park.
Bendigo Tramways



Visitors enjoying morning tea in the Windsors tram.
Bendigo Tramways



Birney 302, the yarn bombed tram, in Pall Mall.
Bendigo Tramways

FERNY GROVE

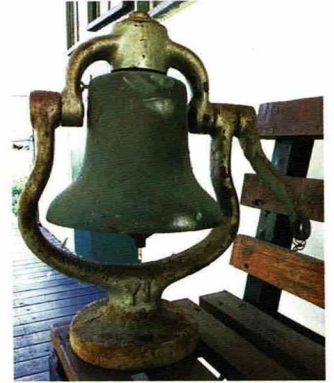
BRISBANE TRAMWAY MUSEUM SOCIETY

PO Box 94, Ferny Hills, Queensland 4055

www.brisbanetramwaymuseum.org



The perfect cool dry Brisbane winter sunshine provides an ideal environment for touching up the paintwork on the regular traffic cars.
Peter Hyde



Peter Hyde

Since the frantic activity associated with the gala open day commemorating the 50th anniversary of the running of the last tram on the streets of Brisbane, life at the museum has resumed a more normal pace. That is not to say that there is not still great deal being done.

Work continues on items necessary to have FM 400 certified for public use, and cosmetic touch-ups to the operational fleet which had been postponed because of the anniversary celebrations are now under way. This includes replacing the worn wooden floor slats in 10 Bench car 65.

Left: The Belmont Shire Tramway steam tram built by Baldwin (b/n 35935) of 1911, gauge 3ft 6in.
Right: The bell from the Belmont Shire Tramway steam tram bell was acquired by the museum recently from the estate of the late Bob Deskins. Peter Hyde

Two significant grants have been received. \$11,200 from the Queensland Government for the painting and minor repairs to the Store Shed and Mechanical Workshop; and \$10,000 per annum for the next 3 years from the Brisbane City Council for Heritage Conservation.

Mark Furner MP, Member for Ferny Grove, presents a cheque for \$11,200 to Peter Hyde, President of the Brisbane Tramway Museum Society, on 26 July 2019.



HADDON

MELBOURNE TRAMCAR PRESERVATION ASSOCIATION

324 Sago Hill Road, Haddon, Victoria 3351

www.mtpa.com.au

Anthony Smith

Restoration of W5 792

Completion of the covering of the side sections of the roof boards on car 792 has allowed us to fit the new drip rail timber mouldings to the tram. This work was completed during April and involved many hours machining the curved sections of the end canopy and plugging the numerous countersunk screw holes.

Two replacement metal fascia bands were also fitted to both cab end canopies during April. These fascia bands are the original 3-inch style, as fitted when the car was new. In later years, when these trams were fitted with replacement windshields with half-drop sashes, the fascia band was increased to 5 inches in width.

New blackwood ply insert panels and beading were also fitted to the drop-centre and driver's bulkheads during the autumn months. In early June, work commenced on fitting a new vent roof to 792. So far, both cab roof sections have been completed. This has involved steam-bending the roof boards to the correct profile and the preparation and application of paint stain to the underside of the boards to ensure their

colour matches the existing roof timbers. The finished result is most pleasing. Work is currently under way on preparing the new saloon and drop-centre vent roof support ribs for fitting.

Acquisition of two trucks

We recently received advice from VicTrack through the Heritage Registrar that several special purpose road vehicles used previously by Yarra Trams were being made available to the heritage sector as part of the Victorian Government's ongoing support for the sector.

After lodging a formal Expression of Interest, the MTPA was successful in obtaining two vehicles. One is an Isuzu elevated work platform truck used for overhead maintenance; the other is an Isuzu tip truck used in carrying out track repairs. We were advised that that all vehicles had to be collected from their storage location in North Melbourne promptly as the site was required for construction purposes.



The new vent roof ribs being prepared for fitting to 792.

Jacqui Smith

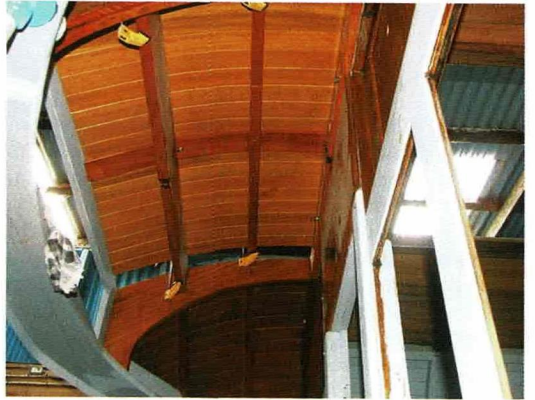
Anthony Smith working on the new drip rails of 792.

Daniel Edwards



New roof boards being fitted to the No. 2 end canopy.

Anthony Smith



View showing underside of new vent roof boards.

Anthony Smith

New 3-inch steel fascia band being fitted to 792.

Frank Schroeders



The recently acquired elevated work platform truck being unloaded at Haddon.

Anthony Smith

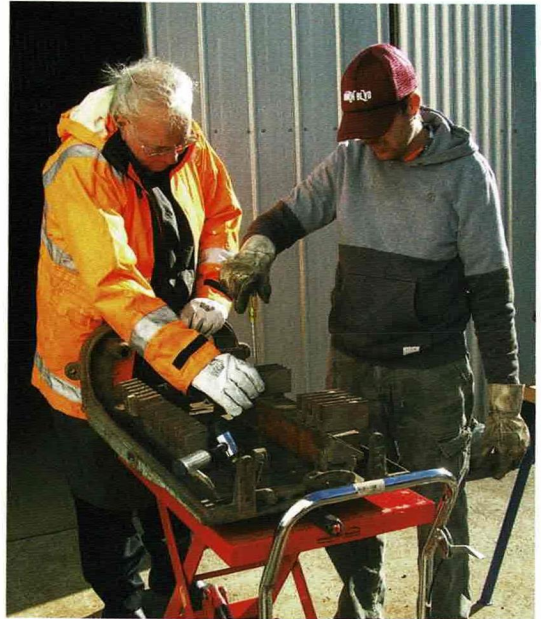
Lindsay Bounds and Daniel Edwards work on dismantling a K35 controller frame.

Anthony Smith

To expedite the process, arrangements were made to have our two vehicles towed to Haddon in early June. Under a package deal negotiated with the haulage company we were able to help the Ballarat Tramway Museum transport their truck to Bungaree.

Acquisition of tram parts

In recent months we acquired a large quantity of damaged or incomplete GE cast iron resistance boxes of various types along with a number of damaged or partially dismantled K35 controllers. These have now been fully dismantled to salvage useable items such as resistance segments, mica spacers, copper washers and tapping connectors. The controller frames also yielded numerous items such as reverser barrels, blow out coil assemblies, and main barrel fingers. All parts have now been inventoried and placed in store and will no doubt be of use in the future in maintaining our operating fleet or assisting other tramway groups as required.



W3 663 heading to the lower terminus shed for storage.

Anthony Smith

LOFTUS

SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY

PO Box 103, Sutherland, NSW 1499

www.sydneytramwaymuseum.com.au

From SPER News

Railway Square waiting shed

Repairs and painting of the centre signal cabin have been completed by our builder. The work was more extensive than first envisaged with a number of the timber eaves being found to require replacement. All the windows have been repaired, with some needing new timbers, and they have been reglazed with polycarbonate. Both the interior and exterior of the cabin have been repainted and the damaged roof tiles have been replaced.

Our two volunteers have continued with the painting of the internal walls and the large timber support columns, together with all the guttering. The fixed seating has been repainted with the first coat of 'maroon'. One of the next jobs will be the preparation and painting of the six picnic tables sited on the western side. The waiting shed is now looking very much improved.

Tramcar maintenance

Due to the planned bogie swap between 141s and O 1111 becoming an overhaul of the four traction motors in the bogies, 141s was placed on temporary bogies and placed in the display hall to make room for Milan 1692 in the workshop so its pantograph could be fitted. This was done as the main line overhead wiring is to be made pantograph compatible for future operation of Variotram 2107. This work, together with modification of the display hall doors, will also enable 1692 to go into service. Some repairs were made to the centre door of the car which had been damaged during its time in Hawthorn depot. Richard Jones has been busy making some authentic destination panels for 1692, which does not have roll type destination boxes.

Scrubber 11W has been placed in the workshop to make room in the display hall. While 11W is in the shop, work has commenced on returning it to



The museum's overhead cranes make light work of removing a motor from one of 141s's bogies.
Michael Hatton

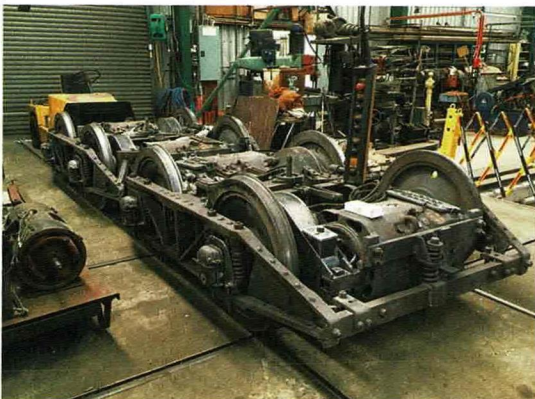


Milan tram 1692 has had its pantograph reinstalled. In the background scrubber car 11 is getting a Sydney style repaint. Martin Pinches

Bill Parkinson and Mal Macaulay separate the trolleybase and pole from car 11. Michael Hatton



The bogies from 141s have been cleaned and painted for use under O 1111. Michael Hatton



operational status with repairs being carried out to the roof hardware. The timbers supporting the trolley pole and base had deteriorated to a point where the pole and base were only retained by the traction cables. The roof also required repairs as a result of outdoor storage for some years; these have now been completed with the trolley pole and base mounted on new timbers. The metal hardware on the roof has been painted, and the complete roof given a coat of Navy Dressing.

The team has started on preparing the car for a repaint, with some rotted timber sections being replaced. The fluorescent lights on the dash canopies have been removed as the electrical fittings were beyond repair due to exposure to the weather. It was felt that there was no case for replacing the lights as they were a late

Martin Pinches is doing some touch-up work on trolleybus 19.

Michael Hatton



Matthew Geier and Peter Mudie at work on the electronics of Variotram 2107.

Michael Hatton



addition and we have no plans to carry out night track scrubbing work.

It is planned to fit the couplers from K 1295 to the car to give it more capability for other work as well as scrubbing: it can be used to propel the weed killer car at low speed as it would when track scrubbing. The coupler mounts are still fitted to the car. Being able to see the coupler when coupling to another tram was another reason for removing the dash lights.

Once the work is completed on 11W and C 37 is returned to the shop, 11W will be placed on road 2 so further work can be done on its running and scrubbing gear. It can then assist in the maintenance of our concreted track sections, using the track groove cleaning apparatus installed when it was last rebuilt in Preston Workshops.

Trolleybus No. 19 restoration: our contract painter has finished his work on the complete preparation and repaint of the vehicle. His final job was to paint the three black lines that were part of the final livery of the Kogarah trolleybuses. This was a painstaking job and the final result is excellent. Four sets of numbers have been applied to the vehicle.

Almost all the replacement window glass has been installed and the beading required for the final four windows is being sourced.

Victrack and Newport Workshops

The Museum has received advice from Victrack that they are clearing items from Newport Workshops. We have at least one motored No. 15 truck there, and two 5ft 3in gauge trucks which our J class 675 was sitting on before its restoration. These trucks can be re-gauged for use with Kalgoorlie 22 when it is due for rehabilitation. Also allocated to STM by Victrack is Sydney R car 1845, previously at Ringwood and owned by the late Alwyn Marshall. This car will go to safe outside storage.

Track and associated work – South Hill

After a week's weather delay due to some heavy rain David Canini returned on Saturday 6 April and

finished excavating the road bed of South Hill to an even grade. He also moved the two 66-metre welded rails roughly into position using his excavator. These are rails recovered from Anzac Parade, Kensington that were excavated for laying of the new Kensington light rail line. The remaining spoil was stockpiled up near the south shed to be used as back fill later along the south hill, as the grade will be now be consistent up the hill removing many dips. These will need filling to bring the ground level in line and remove trip hazards.

The replacement rails were then welded to the existing rails at Depot Junction in a tag team effort with Mike G, Ian S, Charles Yu and Noel working on Wednesdays and Saturdays and Chris O, Danny A and David Bennett working on Tuesday nights. All up 34 steel sleepers were cleaned and welded in to place at 1.7 metre intervals. Levelling and lining and commencement of formwork construction resulted in

the first load of concrete for the cess being placed on 22 May by Mike G, Ian S and Noel.

Concreting is proceeding at a rapid pace with the cess being poured 9 metres at a time on Saturdays and the formwork being stripped on Wednesday and reset for the next Saturday pour. The method is to prepare the formwork to extend the two side strips and to purchase concrete on Saturdays when we have the CSO workers to do the grunt work wheeling barrows uphill beyond the reach of the shutes on the concrete trucks. The trucks can then back up the two side strips as the rails are fully supported, leaving the '4 foot' to be finished to rail level with surplus concrete when available. Martin recently fabricated an additional pair of 4.8 metre formwork panels allowing longer pours of the side strips to be done each time. This work is proceeding well at the time of writing, with the concrete now reached the end of the track to be concreted near Pole 28.



Receiving a load of surplus concrete on 15 June 2019. Many hands make the work load lighter.
Martin Pinches

Concreting the strips outside the 'four-foot' first, enables the concrete trucks to back up to the site to deliver their load of concrete. 15 June 2019.

Martin Pinches



A previously prepared track drain by Mike G has been welded across the '4 foot' uphill from the south gate in replacement of the previous earth drain that was in place. A huge amount of water drains down the hill at times including runoff from railway land which we

are working to minimise with our current works. New cess drains have been fabricated to suite to complete the drain.

Chris , Danny and David have spent many a Tuesday night welding up and grinding defects in the track caused by the removal of rail from Anzac parade.

The first 50 metres of track south of Depot main points has been certified by the Infrastructure Manager and Chief Engineer and put back into service as a head shunt for traffic operations so trams no longer need to be brought out using Cross Street.

With bulk of the concreting completed attention has shifted to lifting and packing the original RNP line buried in the ground to align with the new concreted track at a different grade. Work is also progressing on the western rock wall and filling the cess to the new rail height with soil that was stockpiled along the back when the RNP line connection was originally laid. Tree trimming will commence end July to cut bac the trees that have grown too close to the trolley wire. Its planned to have the track reopened for traffic by early August.

South Shed utilities work

CSO workers have also been engaged in extending the hand-excavated trench from the previous end point of the conduits, laying a water line, electrical and communications conduits, and various access pits from the South Shed towards the level crossing relay hut via the No. 3 substation. This will permit 240/415volt power to be extended to the South Shed as well alarm and CCTV installation.



Completing this stretch of concreted track has enabled traffic cars to shunt via the depot junction instead of using Cross Street. 26 June 2019.

Richard Clarke



Formwork for a track drain is under way on 26 June 2019.

Richard Clarke

Concreting for the track drain is in progress, 5 July 2019.

Martin Pinches



Museum site and lineside maintenance

As the museum site gets larger with more buildings, facilities and upgraded track more maintenance is required. This is often unnoticed until it is not done. Ongoing tasks include cleaning out points, blowing clear debris and lubricating points and curves; mowing grass, clearing weeds and keeping the brush under control. Turf laying and tidying up of Army Hill has continued. We thank the members who make the lineside and site look so great.

On the morning of 5 June three fallen she-oaks were found across our track near TAFE Crossing. They were cut up with the chain saw and the line cleared in time for the first service of the day. Another she-oak tree came down at Army Hill and was cut on Saturday 15 June.

On 7 and 8 June a hired cherry picker was used to service the numerous street lights on the main site for the upcoming Trams After Dark event. A new street light was also installed on a pole near the new waiting shed at North Terminus. This will make it easier to see the trolley pole when changing ends at night and provide ambient lighting to the whole area for security purposes.

Electrical

Recently our specialist lighting contractor returned for stage two of our HI bay lighting upgrade. This involved replacing the fluorescent lights in the road 4 annex to the restoration building and the row of fluorescents across the south end of the main building with LED HI bay fittings. Energy use will be about half that of the lights which they replaced and it is



Finishing off a load of concrete in the 'four-foot' received on 10 July 2019.

Martin Pinches

expected that maintenance will be greatly reduced. The increase in light levels is quite noticeable and it is rumoured that some staff have requested sun glasses.

This is part of a project to gradually convert the lighting at Loftus to LED. In other progress, the lights over the display in road 8 are now LED tubes, as are those in the bookshop. LEDs have also been installed in other high use areas and this will continue.

Miscellaneous

STM had its yearly safety audit by the Office of the National Rail Safety Regulator (ONRSR) on 10 April. The audit covered our traffic operations and paper

work. Two non-conformances and one observation were issued, all centred on our Risk Register. The Rail Safety Management Team made up of Richard Clarke, Geoff Graham, Matthew Geier and Ian Saxon have met and are preparing a response to the audit findings. To assist the team, the ONRSR auditor and a risk management expert will be visiting the Museum in the near future to provide assistance with closing the non-conformances.

The Museum again took part in the annual Transport Heritage Expo at Sydney Central Station over the Queen's Birthday weekend, 8-10 June. Our R1 class tramcar driver's cab was very popular with parents photographing their children in the cabin.

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC

PO Box 213, Salisbury, South Australia 5108

www.trammuseumadelaide.com.au

Colin Seymour

Track replacement

Over the past couple of months, most of the old loop has been removed and rail on the straight track has been replaced as required and welded using a contract welder.

A large number of sleepers were removed from the straight track by North East Demolition using an

excavator and bobcat. They were replaced with good second-hand sleepers obtained by Kym Smith by donation from the suburban rail network. Recent work has involved spiking the sleepers using the works car and air tools.



The replacement track adjacent the old loop on 26 June 2019.

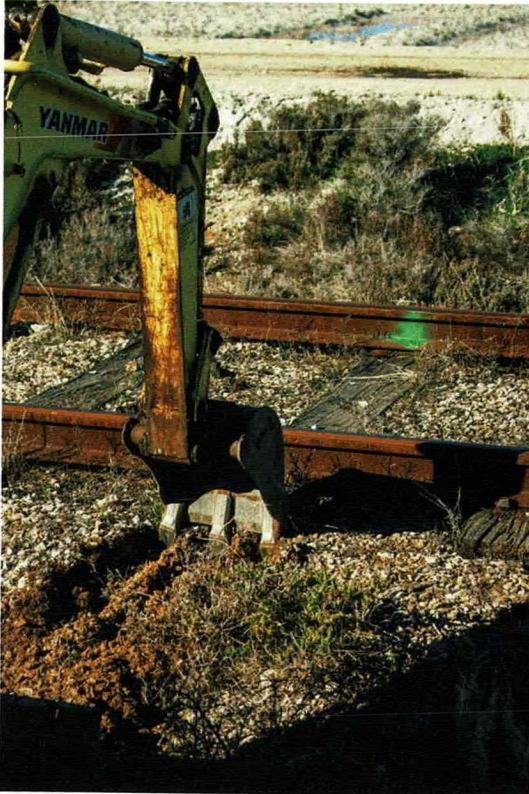
Nic Benn

In another development relating to trackwork, the Museum has received drawings from the Salisbury Council of the proposed new Mangrove Street level crossing, which is planned to be constructed towards the end of the year.

Rollingstock

After just over a month of work, R1 1971 has undergone a general service, with the brakes being adjusted with some help from Kym Smith. The car has returned to regular operation. As well, Birney 303 is back in service for the winter months. Car 111 has had its original compressor removed and the replacement has been installed.

A large shunting day took place recently, with help from Tony Smith. Among a number of moves, car 111 and the diesel bogie were moved into the workshop, and W2 294 joined No. 192 in the body shop.



Photos show how sleepers adjacent to the old loop are removed and replaced using an excavator. Nic Benn



During the recent shunt, E1 111 was brought during the recent shunt to bring from the Bodyshop into the main depot shed for servicing. Nic Benn

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

PO Box 257, Mount Lawley, Western Australia 6929

www.pets.org.au

Michael Stukely

Celebration of Trams

The third annual PETS Celebration of Trams display was held in the Village Mall on Sunday 5 May. Works Tram W7 1023 was featured, complete with 'Burt' the mannequin (on loan from the Park's Revolutions Transport Museum) standing in his overalls at the work bench inside the tram. Other trams on static display were Fremantle 29 and Adelaide H type 371. Perth 1943 Leyland TB5 Canton trolleybus 38 from the Bus Preservation Society was again displayed, along with several of their other beautifully restored early buses. The latest vehicles from Transperth and TransWA were again made available for the day and were displayed near the early buses, for which we are most grateful.

Service cars Perth E 66 and Melbourne W2 329 ran return trips from the Village to Mussel Pool and on

to the Car barn where single-truck Perth B class tram 15 (restored for future static display) was on show for visitors. These trams ran on a 15-minute headway with crossings at the passing loop, while SW6 891 provided a separate shuttle service between the far end of the Village Mall displays and the Village Junction Station terminus.

The newly purchased yellow PETS marquee was set up near 1023 and attracted a steady stream of interested visitors, with Beth and Tony Kelly and helpers running the sales desk.

The vehicle displays for the day were arranged and co-ordinated by Bob Pearce, in conjunction with Whiteman Park, the Bus Preservation Society, Transperth and TransWA.



Service car Perth E 66 arrives at the Village on Celebration Day, 5 May. Michael Stukely



Works tram W7 1023 takes centre stage at the Celebration of Trams display in the Village Mall on 5 May. The PETS marquee with the sales desk and display is at right, and a range of early and modern buses can be seen at centre.

Michael Stukely

Bill Allmutt supervising volunteer 'Burt' (the mannequin) at the work bench inside Works tram W7 1017 at the display on 5 May.

Michael Stukely

Traffic operations and service cars

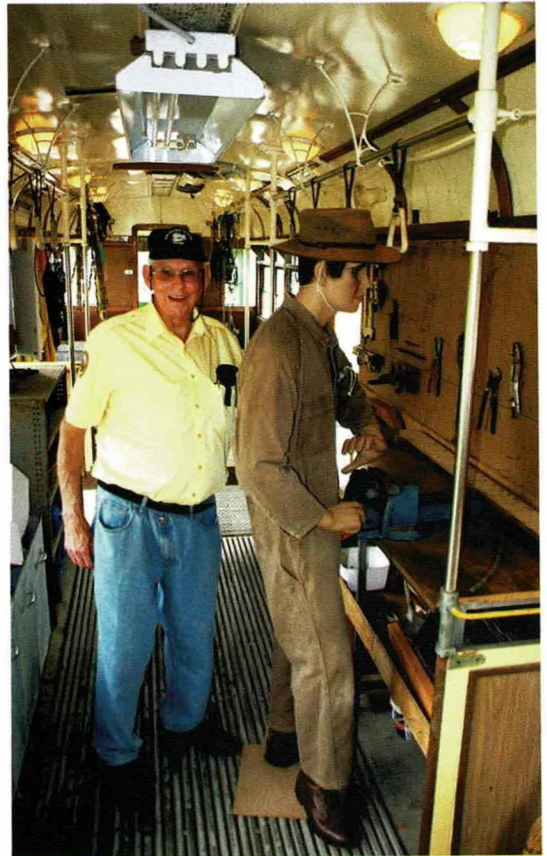
There were good levels of patronage on the trams in March. Melbourne W7 1017 was the main service car with back-up from W2 329, and Perth E 66 running occasionally.

Easter, and the two weeks of the April school holidays with the usual tram operations on seven days per week, brought excellent results. Two trams were in service on each day over Easter, with Perth E 66 in regular use. Melbourne SW6 891 was the main service car in April, with W2 329 also running occasionally. Our Sydney-based member, Hayden Holmes, again travelled to Perth and drove our trams over Easter, as well as covering several shifts in the second week of the holidays. Many thanks go to Hayden, and also to all our local traffic crews as well as the maintenance teams, for their efforts over this busy period which is one of our peak operating times each year. May, although dry, was a quiet month with lower visitor numbers; SW6 891 was again the main service car, with W2 329 and Perth E 66 also running.

Track and overhead work

The Road 1 to Road 2 points on the Oketon Geddes Car barn fan have been excavated by Ray Blackmore using his excavator, and completed by the track team in May, in preparation for re-gauging and setting the points in mass concrete. Work on the Triangle North-to-West Curve continued in June-July with the installation of 11 steel sleepers to replace rotting timbers. Welding of rail joints in the Village Mall by the Park contractor, and coordinated by Noel Blackmore, is progressing well.

Two steel traction poles were installed in April-May on the north side of the car barn fan by Ray Blackmore with assistance from Nick Tsiaglis to reposition two existing poles, giving better overall alignment. This



is in preparation for a major program of raising, re-aligning and re-tensioning the overhead on the Oketon Geddes Car barn fan. Catenary wires are being installed over the fan to raise and equalise the height of the overhead on the four roads.

General

Near the Mussel Pool East (Dog Park) tram stop there is now major construction work in progress,

The Bus Preservation Society's Perth Leyland Canton trolleybus 38 on display in the Village on 5 May. Michael Stukely



Roy Winslow raises the pole on the Village–Village Junction Station shuttle car SW6 891, watched by a young enthusiast on Celebration Day, 5 May. Adelaide H type tram 371 is at left Michael Stukely

Fremantle 29 on display in the Village Mall on Celebration Day, 5 May. Michael Stukely





W2 329 approaches newly placed steel sleepers at the triangle, observed by Roy Winslow (left) and Nick Tsiaglis, on the track day on 15 June.

Michael Stukely

Track team members completing the excavation of the Road 1 to Road 2 points on the Car barn fan on 19 May: Nick Tsiaglis (left), Roy Winslow and Trevor Dennhardt. Michael Stukely



Len Pearce and Ray White with the new rail greasing tool made by Len, 29 May. Lindsay Richardson



being extended, and the stop is being modified with access to be added for passengers with mobility restrictions.

The PETS display was again used, this time including the new marquee, at the annual Australian Model Railway Association (AMRA) exhibition at the Claremont Showgrounds over the long weekend of 1-3 June. There was a good level of interest shown by the public.

with a new children's playground being built by Park management. The toilets building at the tram stop is

Unravelling a large section of cable on 22 May, for future use as a traction power feeder: Ian Kelly (foreground), Terry Young and Nick Tsiaglis, with Roy Daley on the loader.

Lindsay Richardson



Ian Kelly with the newly fabricated trolley bridge for W7 1017 on 19 June.

Lindsay Richardson

Mike Fielder and Maree Cowley on 29 May with the new storage area road-based by them, next to the front vehicle port.

Lindsay Richardson

Two 'Drive-a-Tram' days were held in June, aiming to attract new active members by offering a fully supervised tram driving experience on our trams at the Park. These were well attended, and several new members have been signed up as a result.

Our booklet Destination Whiteman Park has proved popular, and a second print run has been completed by the Whiteman Park Print Shop.

TW May 2019 – Errata

Page 45 – lower photo caption: Triangle West-to-North curve (not 'East-to-North').

Page 46 – Track and Overhead – para 1: Triangle North-to-West curve (not 'North-to-East').





Then and now.

Above: Newcastle LP class 161 bound for Merewether Beach comes to a stand in Scott Street at the stop at Watt Street c 1949

Postcard from V.C. Solomons collection.

Below: Newcastle light rail tram 2153 is passing the same location in Scott Street on 8 March 2019.

V.C. Solomons

