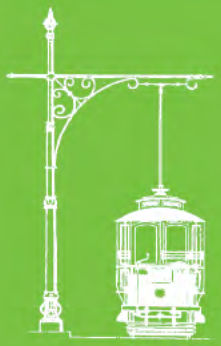
TROLLEY WIRE

No. 348
FEBRUARY 2017



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In this issue

- Sydney Tramcars that were never built
  Including some that were built

TROLLEY WIRE

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The Sydney Tramway Museum has received grant to restore Sydney freight car 24s to operating condition. It is seen here during its move from the display hall into the workshop on 19 November 2016. Scott Curnow

Front Cover:
The Red Flowering Gums (Corymbia ficifolia) in Whiteman Park's Village Mall in are in full bloom as Perth Electric Tramway Society's former Melbourne W7 1017 passes on 6 January. Michael Stukley

SYDNEY TRAMCARS THAT WERE NEVER BUILT
INCLUDING SOME THAT WERE BUILT

Ian Saxon

In updating the Sydney Tramway Museum's Drawing Register with details of drawings held by the Museum, I came across a number of drawings of proposed tramcars that were never built by the NSW Government Tramways. Unfortunately the Museum has only about 10 per cent of the drawings produced by the NSW Department of Road Transport and Tramways and its predecessor, the NSW Government Railways and Tramways.

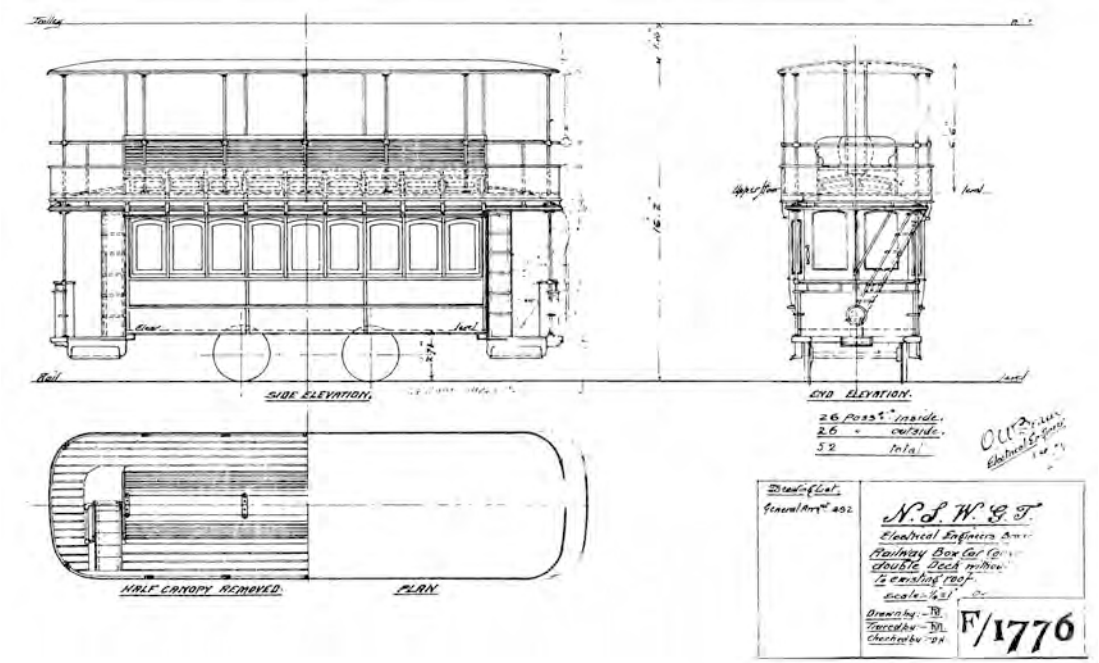
Over the years the NSW Government Railways and Tramways developed a number of proposals to build new tram types or modify the existing tram fleet. These proposals were mostly to either increase the size of the tram or to provide services on proposed new lines.

With the NSWGR&T always trying to increase passenger carrying capacity due to the popularity of the trams in the early 1900s, the Chief Electrical Engineer's design office appeared to be proposing larger tramcars based on recycling its existing fleet rather than building new trams. This was probably due to the financial restraints placed on financing capital works in NSW.

C class cars

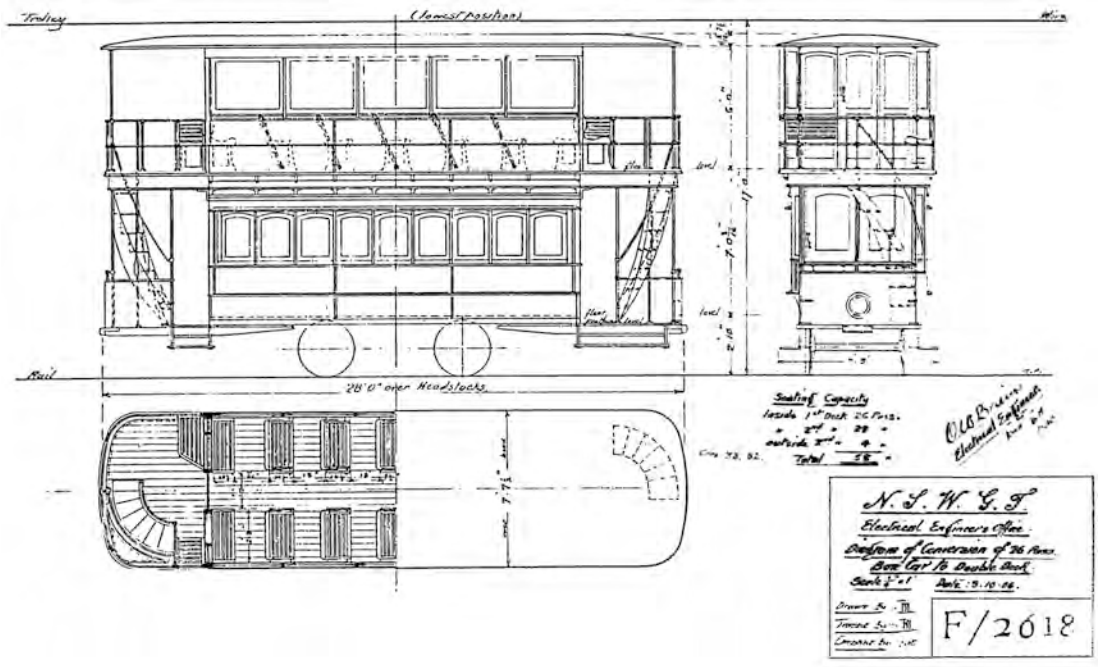
In 1905 two designs for a double deck 26-Passenger Box Car, later classified C class, based on the nine-window version, were submitted to the Railway Commissioners for approval to test double-deck trams versus large bogie trams.

The first proposed design kept the car's original clerestory roof and had the top deck open with central back-to-back longitudinal seats over the clerestory. This arrangement was similar to double-deck steam tram trailer cars. It was planned to carry 26 passenger in the saloon and 26 passengers on the top deck. Its height was 16ft 2in.



Proposed double-deck C car with open top deck. [F/1776]

The second proposed design had an enclosed top deck with centre aisle and tip-over two-and-two wooden seating similar to Hobart's double-deck single-truck electric cars introduced in 1893. It was designed to carry 26 passengers in the lower deck saloon and 28 passengers inside on the upper deck plus 4 passengers outside over the end platforms. It was to be slightly higher at 16ft 5½in.

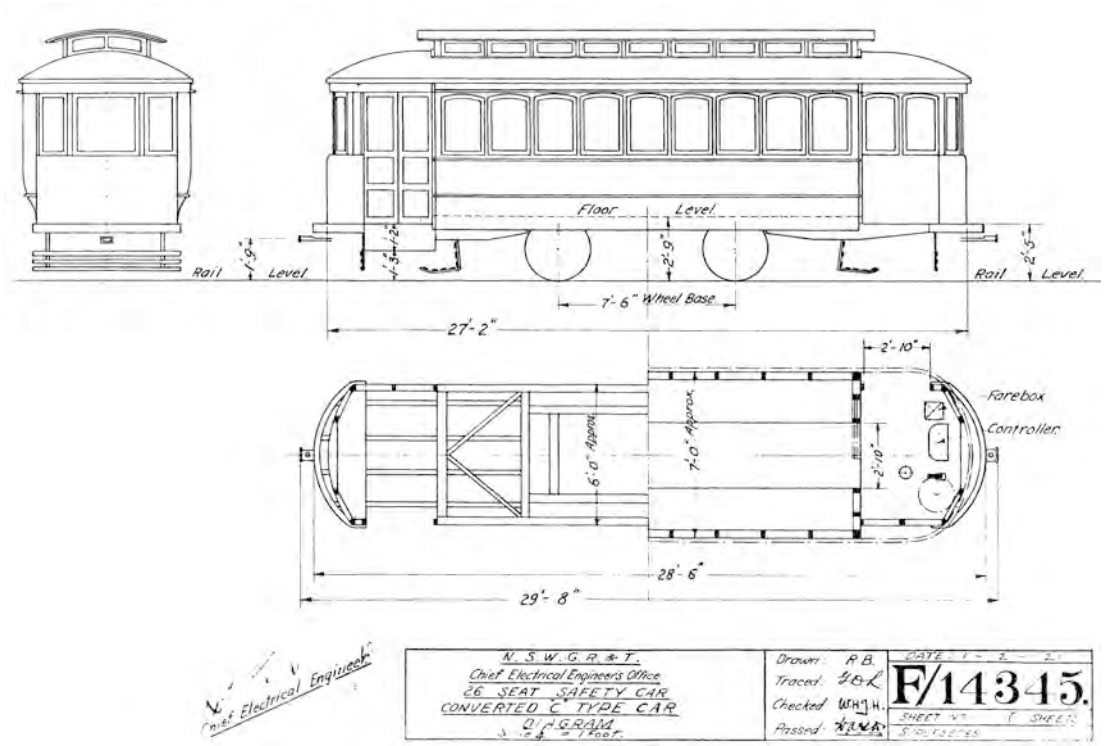


Proposed double-deck C car with enclosed top deck. [F/2618]

Two experimental double-deck C class tramcars were built to the second design in 1907. Due to their height which precluded fitting a trolley pole, they operated coupled to a normal C class car which provided the power from the overhead for both cars. The trial cars were C class 33 and 82, and they entered service in March 1907. They proved to be slow loading which held up following services. They were withdrawn from traffic in January 1908 and were rebuilt back to their original single deck configuration. Large single-deck bogie cars became the standard for Sydney.

Side view of C 82 at Randwick Workshops.
NSW Government Printer

In 1921 a drawing was developed for a 26-seat Safety Car to be converted from a nine-window C class tramcar. The end platforms were to be enclosed by doors looking very similar to those fitted to Birney Safety cars. It was designed for the proposed link from Burns Bay Road, Longueville to the Ryde tramway via Fig Tree Bridge.



The proposed conversion to a Safety Car. [F/14345]

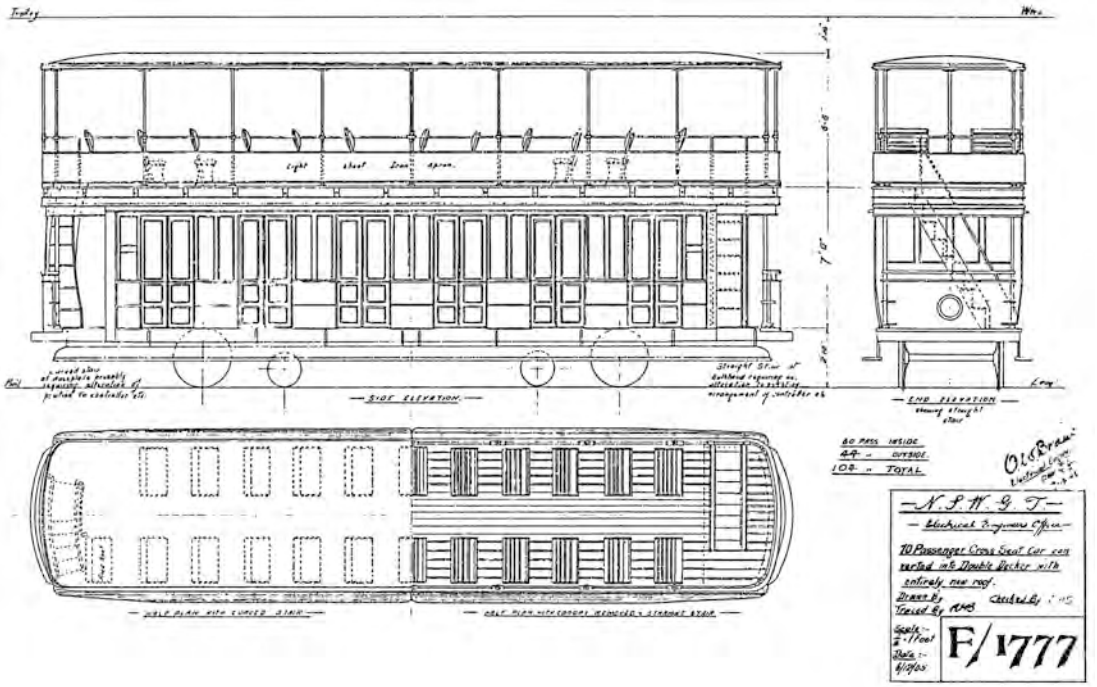
Bogie double deck tramcars

During December 1905 a drawing was prepared for the proposed conversion of a 70-seat crossbench car (later N class) to a double-deck design with an entirely new roof. It retained cross seats for 60 passengers on the lower deck and had reversible transverse two-and-two seating for 44 passengers on the roofed but open sided top deck. The drawing shows different stair arrangements at each end. The curved stair at left would require alteration to the position of the controller, whereas the straight stair at right would not require any alteration to the controller position. The design was not adopted.

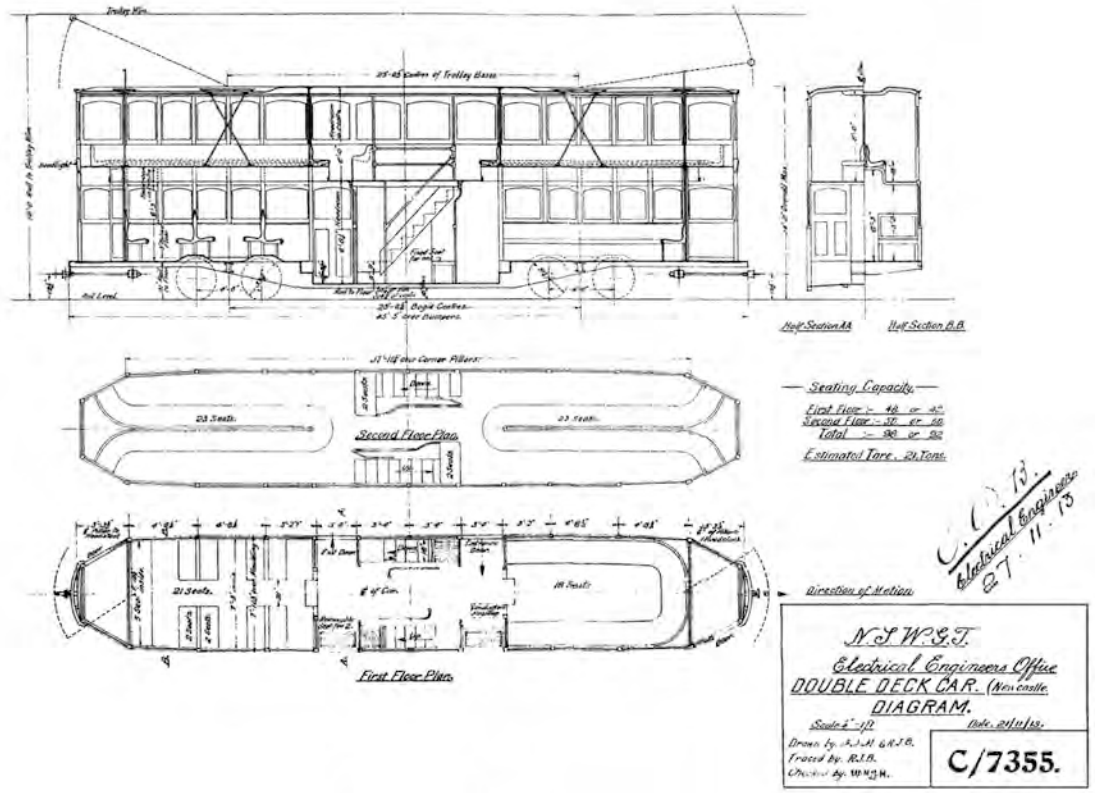
In November 1913, a diagram of a double-deck car proposed for Newcastle was signed off by the Chief Electrical Engineer, O.W. Brain.

The lower deck, shown as First Floor Plan, provides different seating arrangements at each end. If the left hand arrangement of two-and-two seating with centre aisle was selected, the lower deck would seat 48 passengers. If the right hand arrangement of perimeter seating was selected the lower deck would seat 42 passengers. The top deck, shown as Second Floor Plan, has an unusual central arrangement seating 50 passengers. In each case, folding seats for three passengers were provided in the drop-centre well.

The diagram of the proposed Newcastle car was based on a drawing of Pittsburgh car No. 6000, which entered service in August 1912 as a single ended trailer. Based on the success of this car, Pittsburgh ordered five steel double-deckers numbered 6001 to 6005 from St. Louis Car Company. They entered service in 1913. Pittsburgh used different seating in each end of the lower deck. Folding seats were fitted in the centre well to be used on whatever was the off-side. There were no driving cabs. The driver stood at the front end operating the master

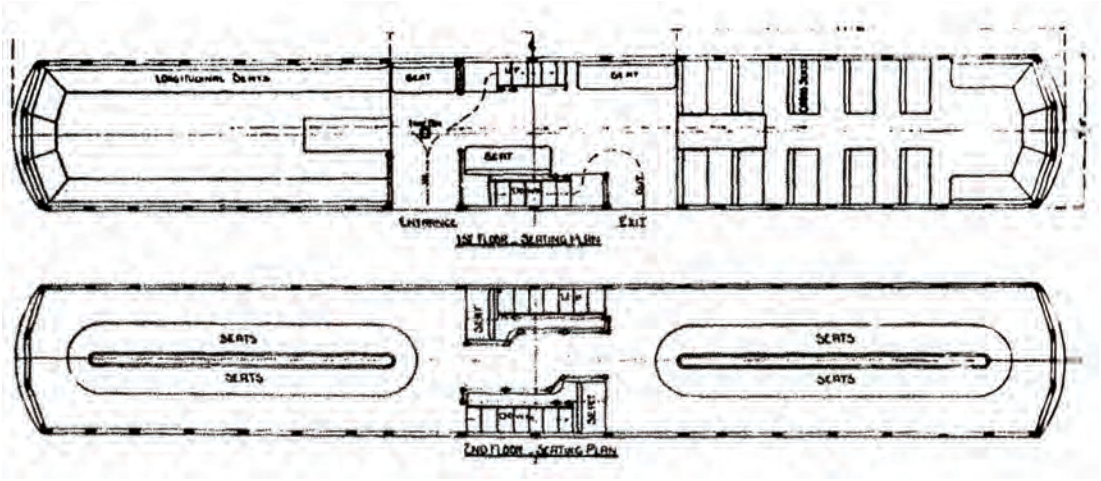


Double deck N car drawing [F/1777]



Drawing of double deck car for Newcastle [C/7355]

controller and brakes by a system of rods which passed up through the partitions separating the seats. The small master controllers were actually located under the end seats. All were withdrawn in 1924 and broken up in 1925 (No. 6000) and 1927.



The interior layout of Pittsburgh 6001. [Pennsylvania Trolley Museum]

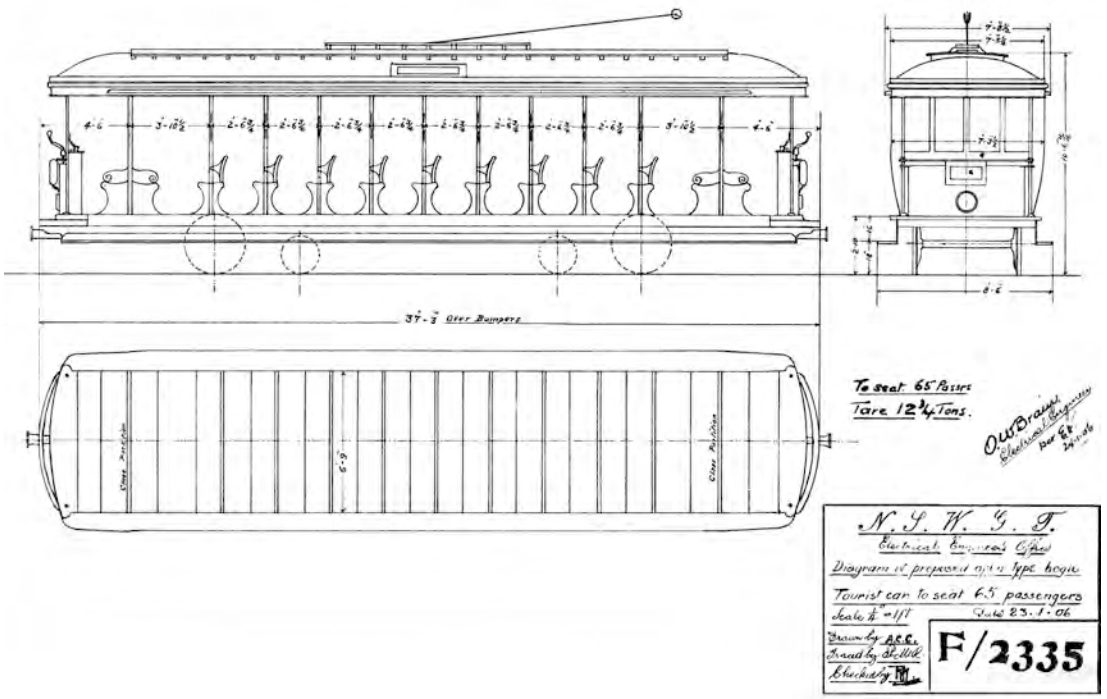
Pittsburgh's double decker car 6000. Largest in the world at that time, it sat 110 people. It was introduced on the Highland Avenue to Fifth Avenue line in 1913. Six cars of this design were used until 1924.
R.I. Merchant collection

Tourist tramcars

Special tourist services had operated over various lines of the Sydney system since the 1890s and they were most successful. A regular summer weekday afternoon tourist operation appeared in 1905 from the city to Bondi, Coogee, La Perouse and Botany using as an interim step, G class cars.

The Chief Traffic Manager, John Kneeshaw addressed a suggestion to the Railway Commissioners drawing their attention to the desirability of obtaining open crossbench vehicles as soon as possible. He soon added that two bogie and two four-wheel cars could be imported, the former for the established Coogee and La Perouse circuits, and the latter for new excursions to Watsons Bay or over the scenic North Sydney lines.

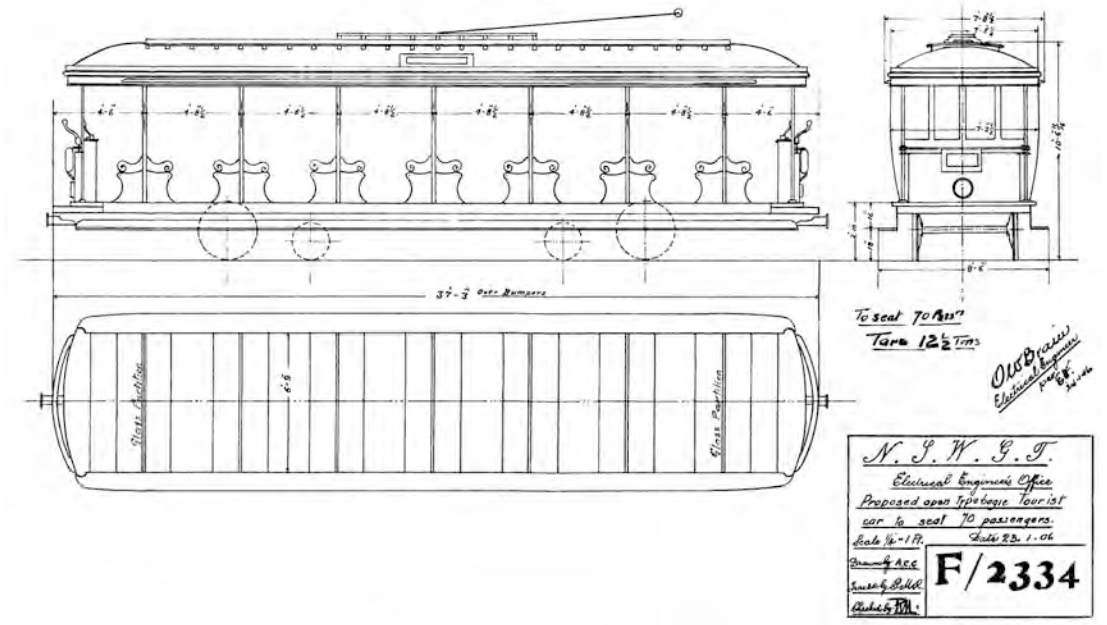
By 23 January 1906, four sketch plans were ready and were submitted to the Commissioners. The two drawings dealing with the bogie car depicted a vehicle 37ft 3ins long mounted on maximum traction trucks. The first of these proposals would seat 65 passengers on four fixed and nine reversible transverse seats.



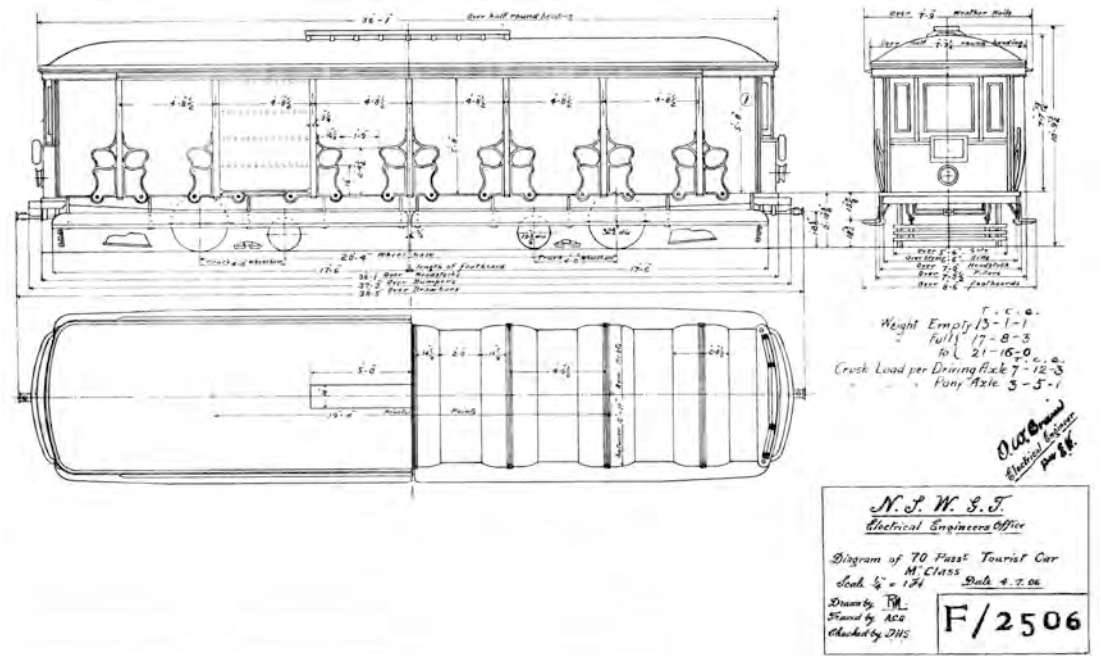
Proposed bogie tourist tram with reversible seating. [F/2335]

The alternative design provided accommodation for 70 passengers seated back-to-back on 14 transverse fixed benches. Both styles were to have glass strengthening bulkheads behind the seats in the driver's compartments.

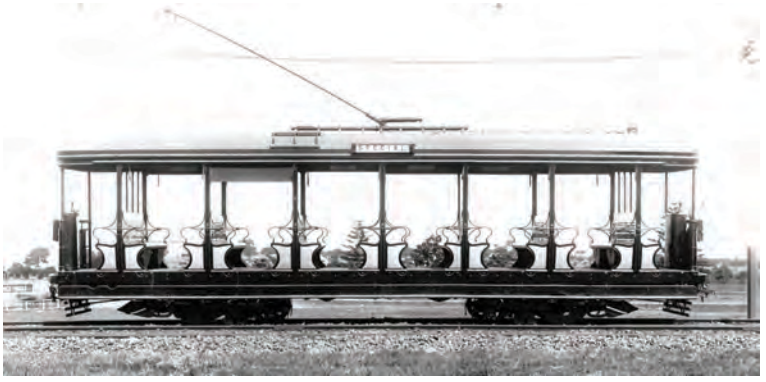
P*roposed bogie tourist tram with fixed back-to-back seating.* [F/2334]



The design depicted in drawing F/2334 was approved. The two cars, 737 and 738, were classified as M class and emerged from Randwick Workshops on 3 November 1906 and 1 February 1907 respectively.



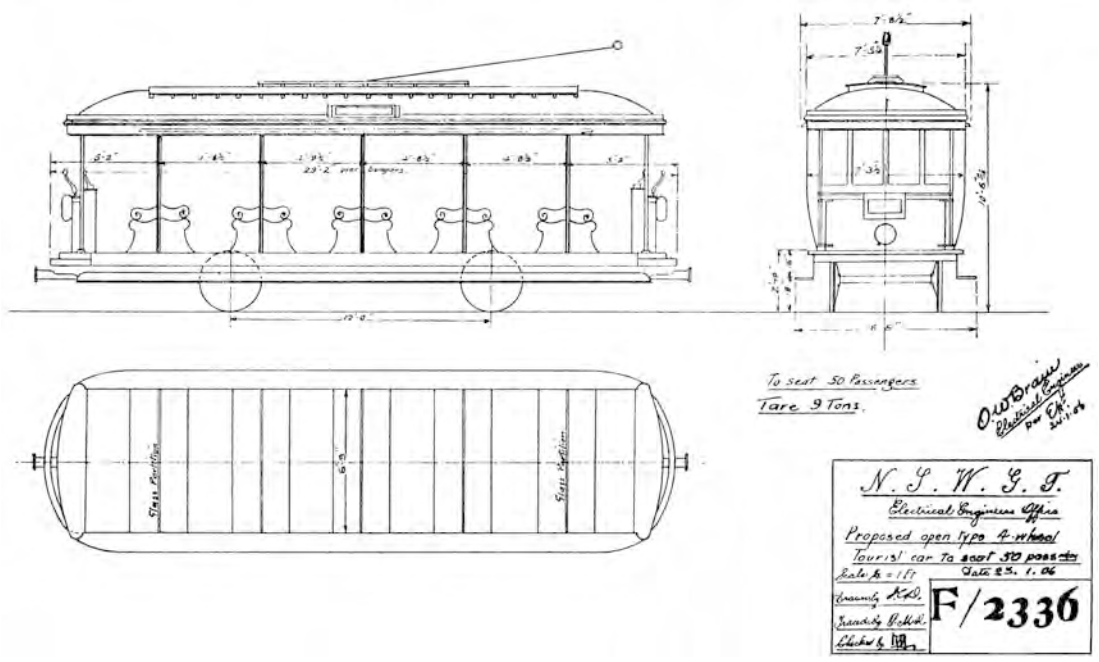
Final version of the M class tourist trams after fitting of drivers windscreens. [F/2506]



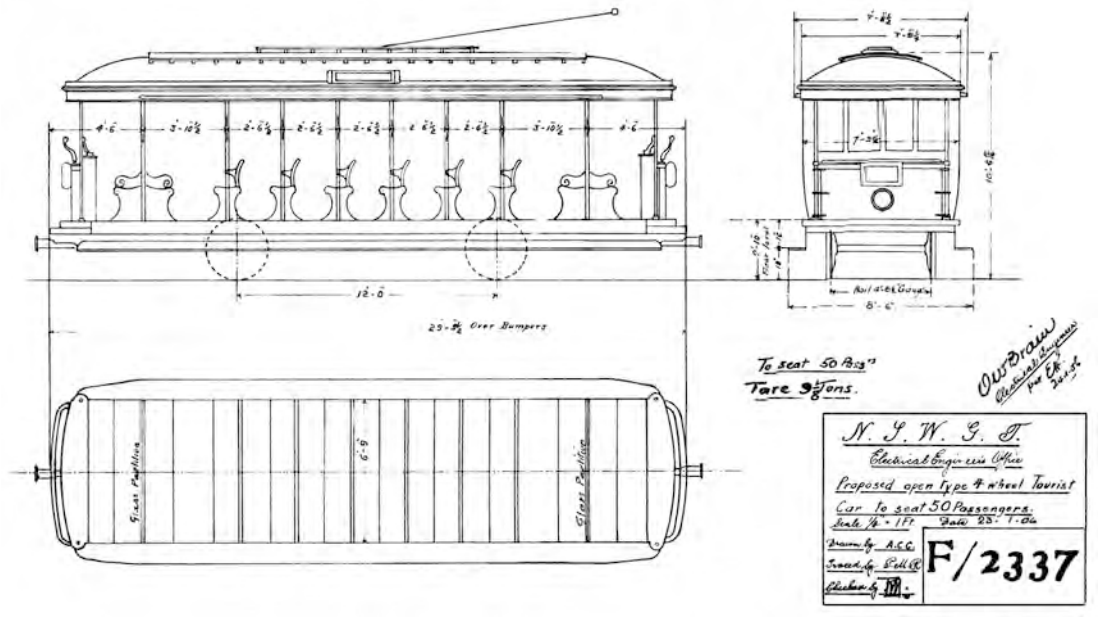
A brand new M class car, possibly 737, at Randwick Workshops.
Govt Printing Office

The first drawing of the single truck tourist vehicles (F/2336) shows a car with fixed back-to-back seating for 50 passengers, and the second (F/2337) shows a car with four fixed and six reversible benches, again seating 50 passengers.

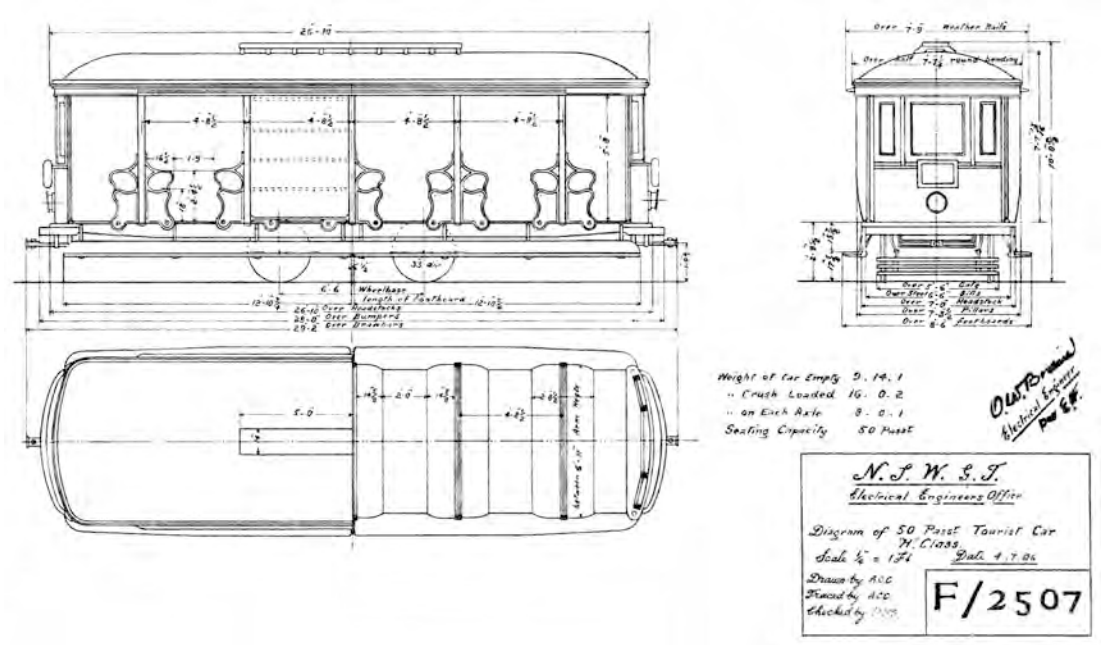
The fixed seating version was selected and two single-truck open crossbench cars emerged from Randwick Workshops on 25 March 1907. They were classified H and numbered 739 and 740.



Proposed design for open four-wheel tourist car with fixed back-to-back seating. [F/2336]



Proposed design for open four-wheel tourist car with reversible seating. [F/2337]



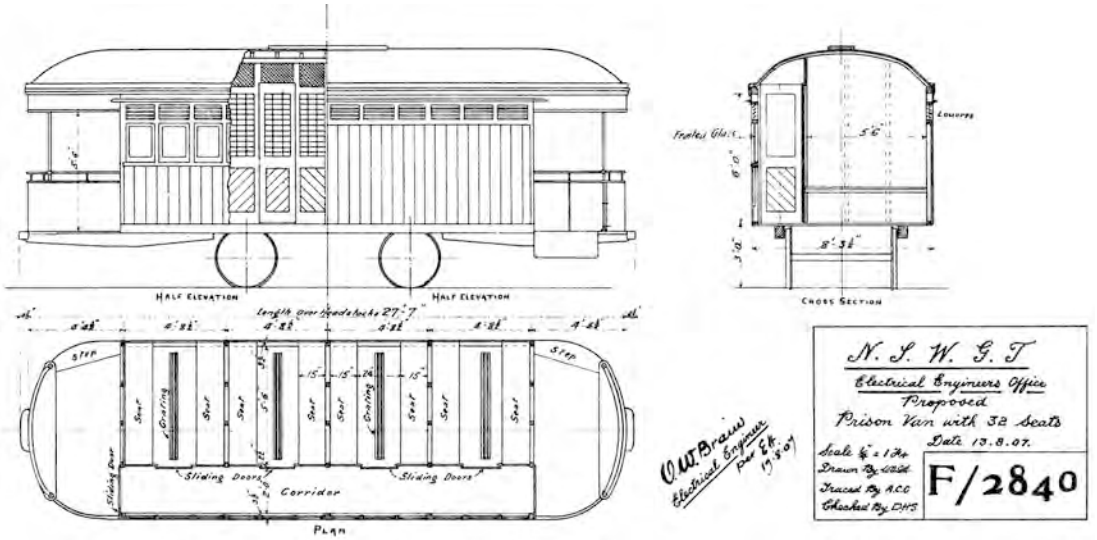
Final version of the single-truck tourist cars after the fitting of driver's windscreens. [F/2507]

A brand new H class car, possibly 739, at Randwick Workshops.
Govt Printing Office

Prison trams

Tramway sidings were constructed at Darlinghurst Courthouse and Long Bay Gaol which terminated within the respective facilities so that prisoners being transferred by tram between the Court and the Gaol would be shielded from public curiosity. Initially C class tramcars were used for this duty.

Drawings for a four-wheel prison van were prepared in 1907. It was 27ft 7in in length and had four cells seating 32 prisoners accessed by a side corridor. There were no windows in the cells but the corridor had 12 small windows in the outer wall. This design was not constructed.



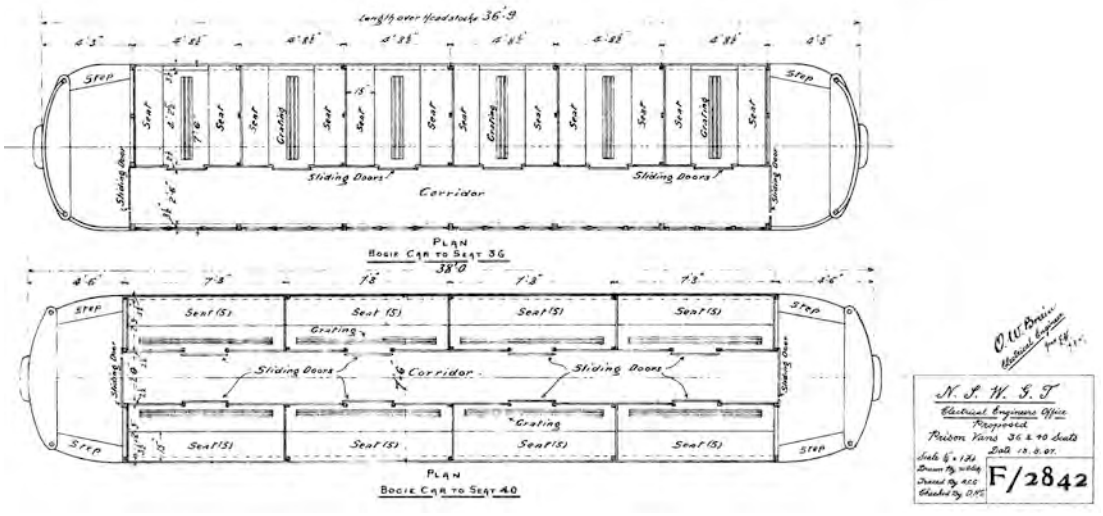
Four-wheel prison van. [F/2840]

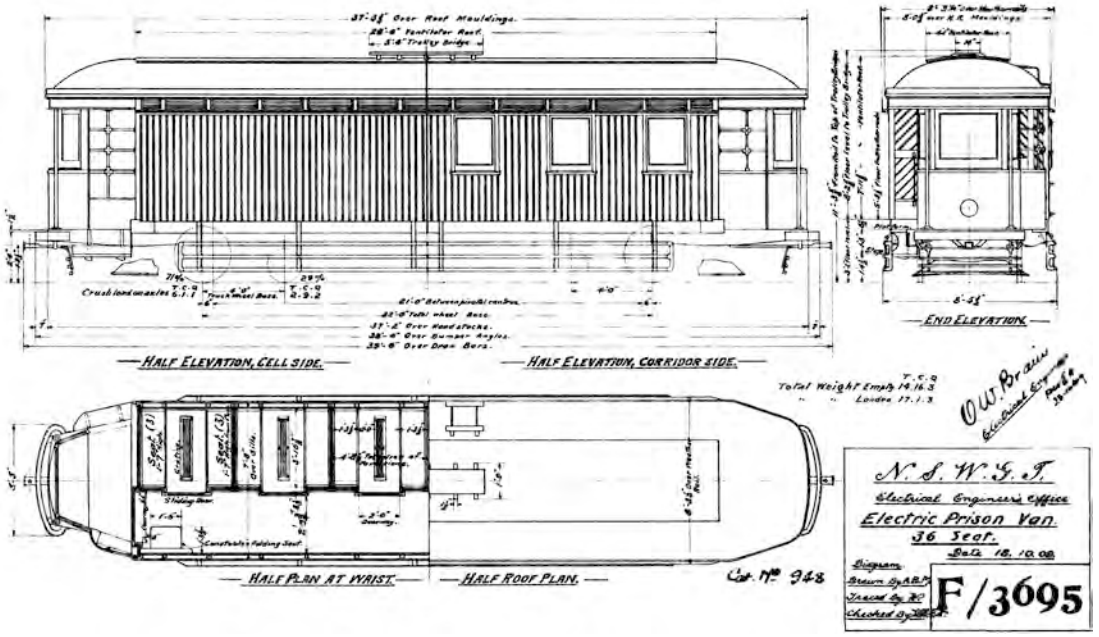
At the same time, a drawing showing suggested floor plans of two bogie prison vans was submitted for approval.

One plan was for a bogie tram 36ft 9in long to carry 36 prisoners in six windowless cells which went across the tram, accessed by a side corridor. The corridor had 18 small windows along the outer wall.

The second was for a bogie tram 38ft long to carry 40 prisoners in eight longitudinal cells accessed by a centre aisle. The body of this tram had no windows.

Proposed bogie prison cars [F/2842]





Prison car as built. [F/3965]

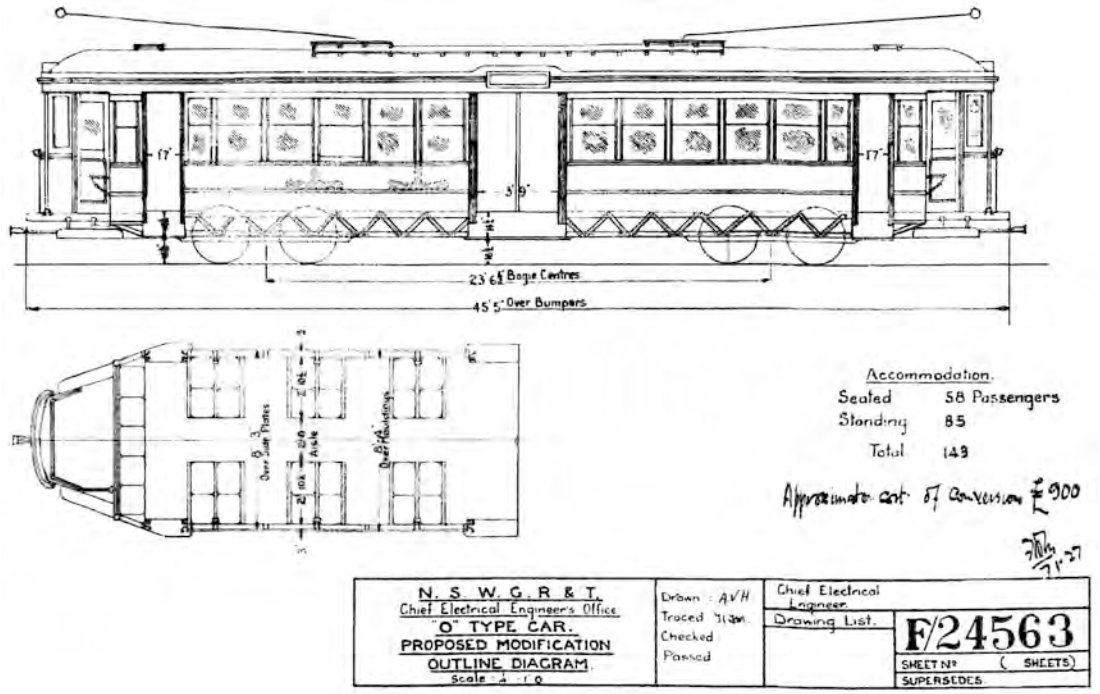
Neither of these designs was adopted. The approved design prison tram, built in September 1909, was a bogie tram 38ft 4in long seating 48 prisoners in six cells accessed by a side corridor. None of the cells had windows, but six windows were fitted on the corridor sidewall. It was originally allocated number 52s, but was given number 948 in the passenger car fleet, possibly due to its revenue earning capacity. It was attached to Waverley Depot and was last used in January 1950.

A proposal for an additional prison tram was considered in 1929. Details were given in an article in the November 2009 issue of *Trolley Wire*. The proposal did not proceed.

Prison car 948 in the yard at Waverley Depot c1946.
E.A. Law

Proposals for fully enclosed O cars

A drawing dated 1927 shows proposed modifications to an O class car to convert it to an enclosed corridor design similar to the future R class cars. It had small end doors 1ft 7in wide and a centre door 3ft 9in wide. It would seat 58 passengers with 85 standing. The conversion was estimated to cost £900. This design may have been an answer to tramway officers' concerns about tram conductors falling off or being knocked off the footboards when collecting fares.



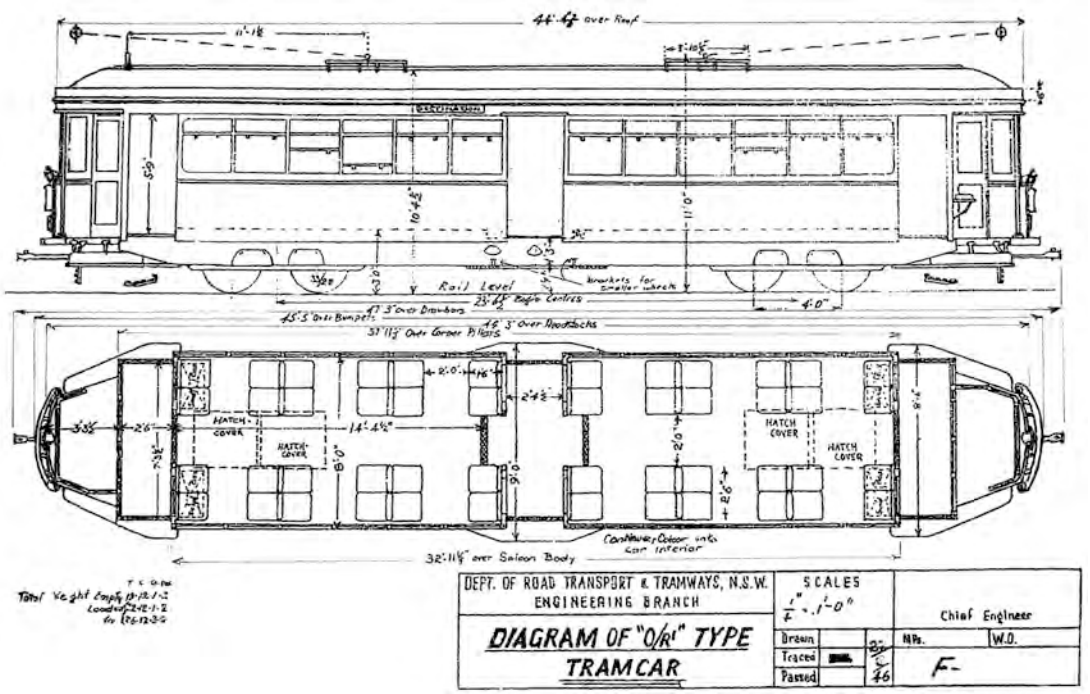
Proposed O car modifications. [F/24563]

An unsigned and unnumbered drawing dated 1946 exists of an O/R1 class tram. The design predates the 1949 PR1 conversions, and like the PR1 the O/R1 was to keep the driver's cabins, roof and floor but the passenger compartments would be replaced by the R1 design saloon. The seating capacity was to have been 48. It appears the wheel diameter was to be reduced from the O class car's 33in to 28in to lower the body.

Other proposed tramcars

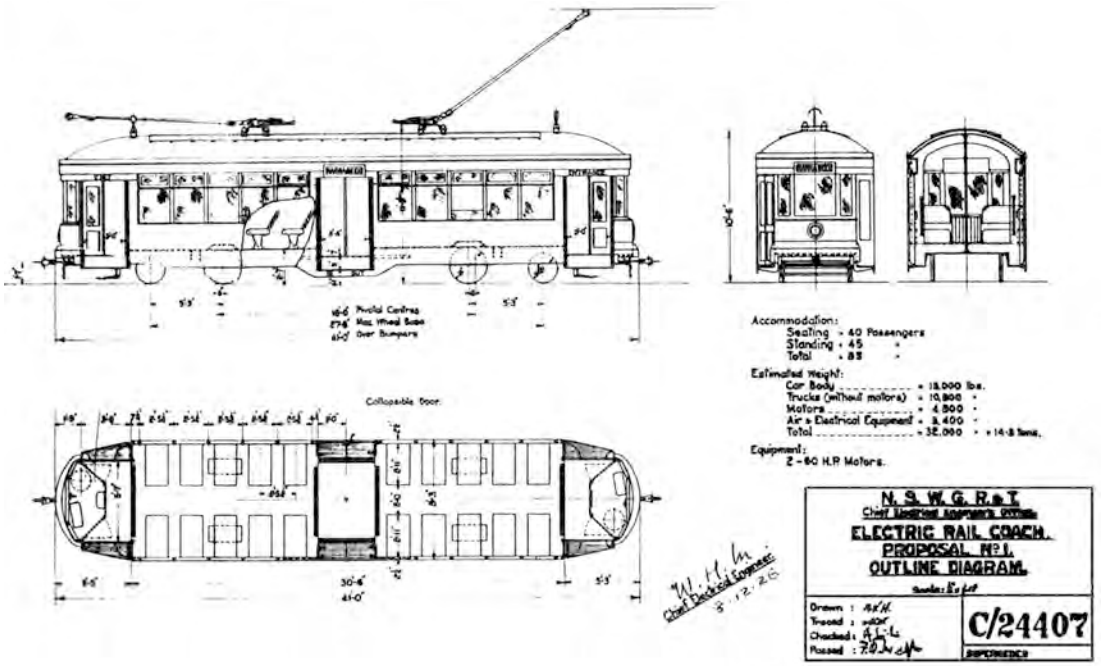
A drawing entitled *Electric Rail Coach – Proposal No. 1* was prepared in December 1926. It shows an enclosed corridor design seating 40 passengers, has maximum traction trucks and is 41ft over bumpers. It may have been based on an L/P class underframe. The rear end doorway is labelled 'Entrance' and the front doorway is labelled 'Exit'. The destination sign over the centre doorway and on the front of the car reads 'Narrabeen'.

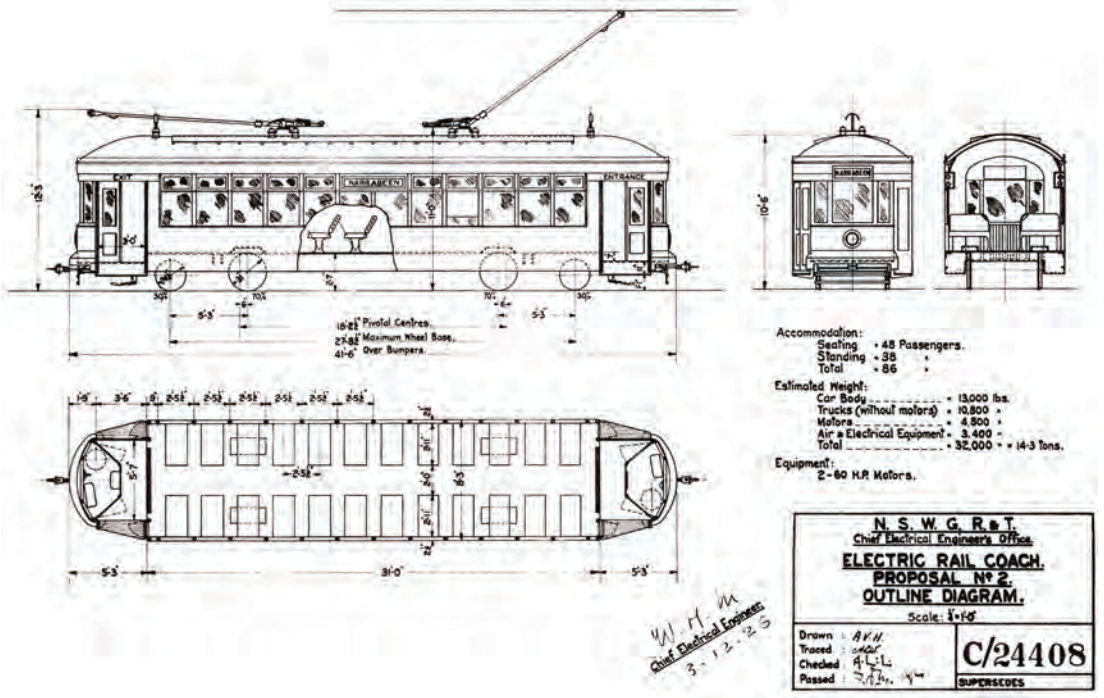
Electric Rail Coach – Proposal No. 2, prepared at the same time, shows an almost identical design with the same overall dimensions but without a centre door. It would have seated 48 passengers, and again had rear entrance/front exit signs.



Proposed O/R1 conversion. [F/xxxxx]

Electric Rail Coach Proposal No. 1. [C/24407]

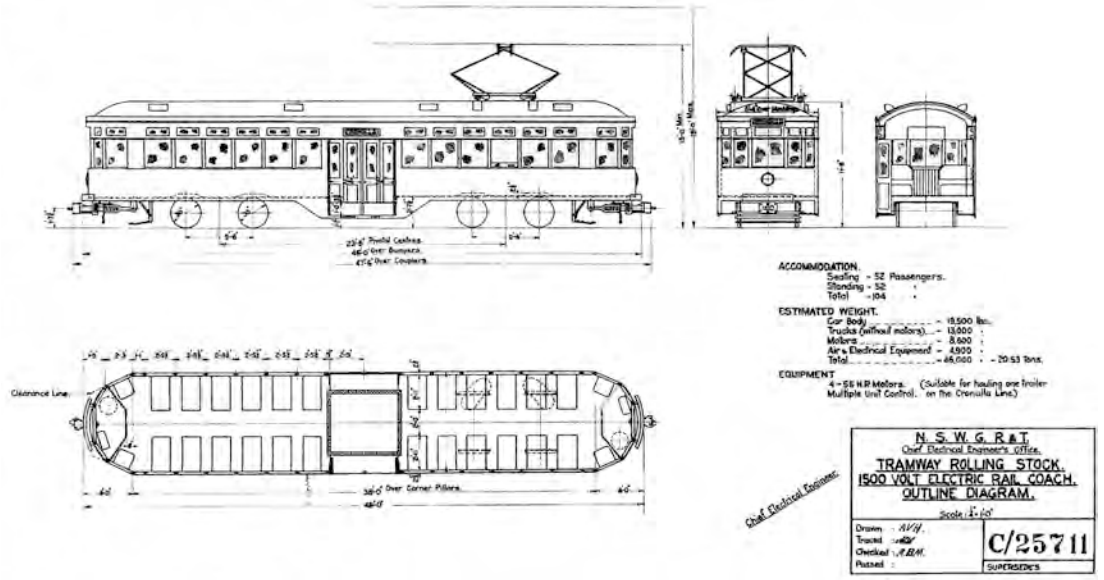




Electric Rail Coach Proposal No. 2. [C/24408]

A undated drawing shows a 1500volt electric rail coach seating 52 passengers with a centre entrance and a length of 46ft over bumpers. It is fitted with a pantograph and Tomlinson multiple unit couplers, and has four 55hp motors with multiple unit control. The drawing shows Cronulla as the car's destination and a notation states that it would be suitable for hauling one trailer on that line. Several documents dated between 1924 and 1927 refer to possible electrification of the Cronulla tramway, and it is thought that this drawing relates to a 1927 proposal.

1500v Electric Rail Coach. [C/25711]

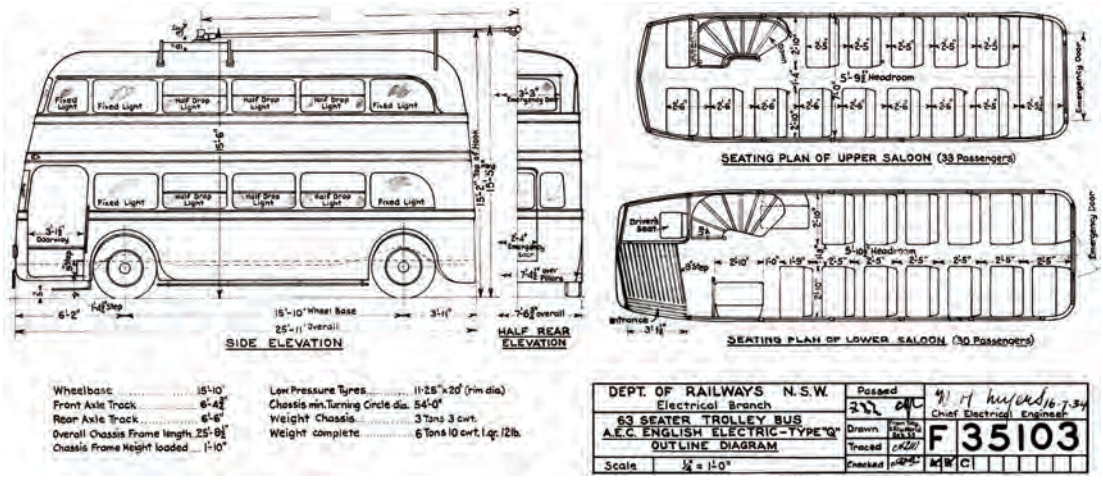


The steam tram service from Sutherland to Cronulla closed on 3 August 1931 and was replaced by the privately owned competing bus service. Agitation for an electric railway bore fruit and the new line from Sutherland to Cronulla opened on 16 December 1939.

Proposed trolleybuses

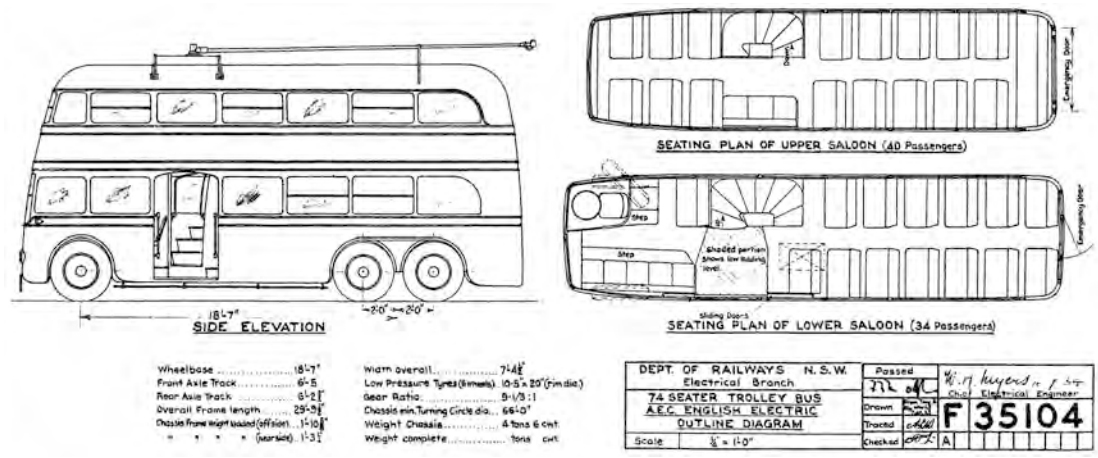
Outline diagrams were prepared in July 1934 showing two versions of AEC English Electric trolleybuses. They were to be used on the extension of the Wylde Street service to Town Hall.

The first diagram was for a 63-seat double-deck trolleybus with a front entrance. It was based on the AEC Q-type chassis and had an overall frame length of 25ft 8½in. It seated 30 passengers in the lower saloon and 33 in the upper saloon.



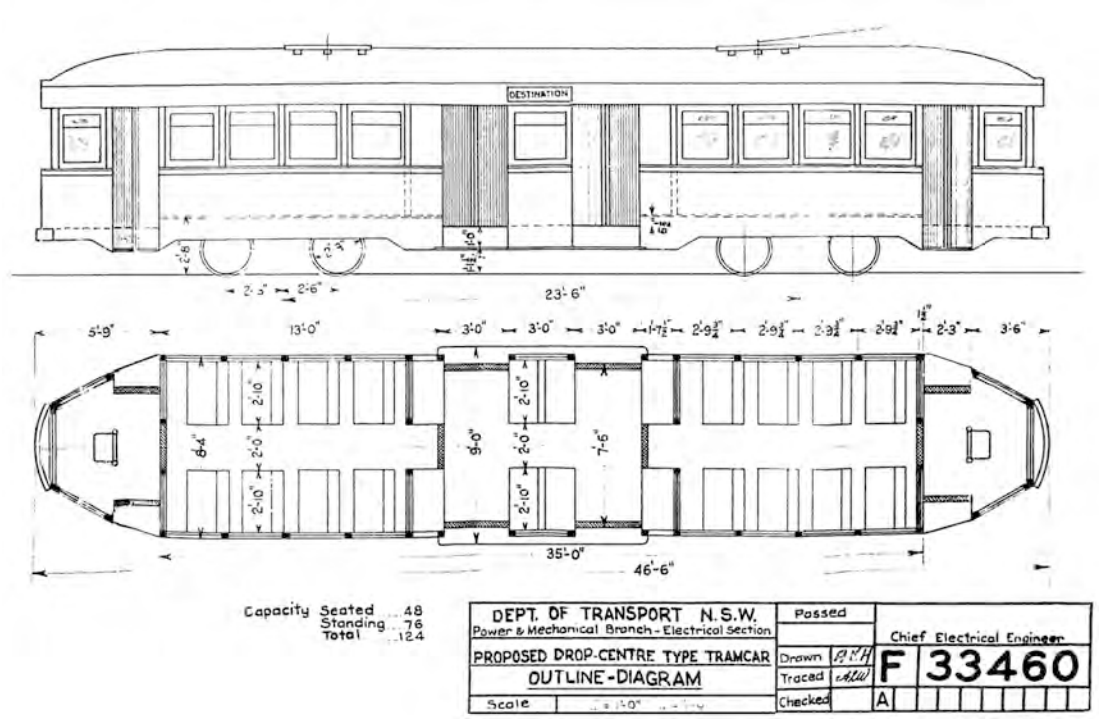
AEC Q type trolleybus. [F/35103]

The second diagram was for a 74-seat double-deck trolleybus with a single off-centre door and duel rear axles. It had an overall frame length of 29 ft 9½in. It seated 34 passengers in the lower saloon and 40 passengers in the upper saloon.



AEC trolleybus dual rear axles. [F35104]

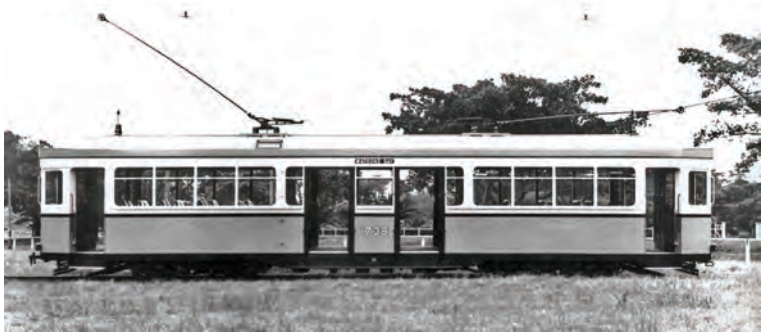
The first diagram was adopted and three experimental buses on Q type chassis were ordered. The first, No. 3, was imported complete from Park Royal in England and arrived in Sydney in September 1934. The other two were imported as chassis and running units only and were assembled by Syd Wood's Motor Body Works at Bankstown, copying the No. 3's bodywork. No. 4 was completed in February 1936 and No. 5 was delivered in October 1936. Sydney also operated three motor buses of the Q type and Syd Wood also bodied these three vehicles in 1934. They were numbered 163-165 in the government bus fleet.



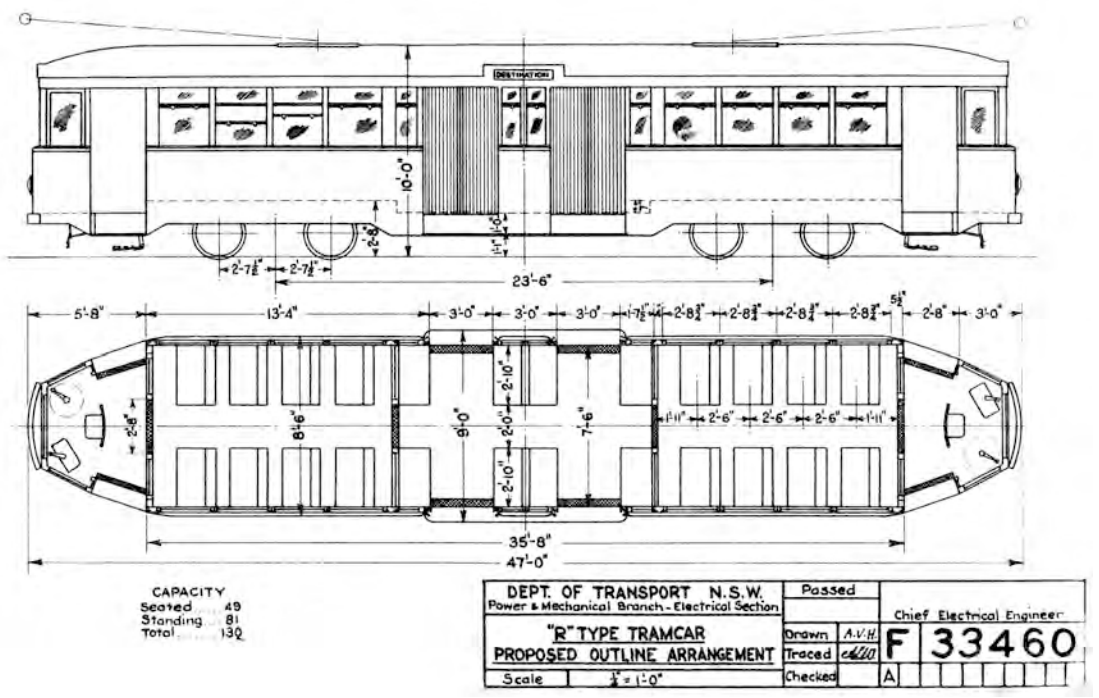
Proposed Drop Centre Type Tramcar, no date. [F33460]

Proposed Drop Centre Type Tramcar

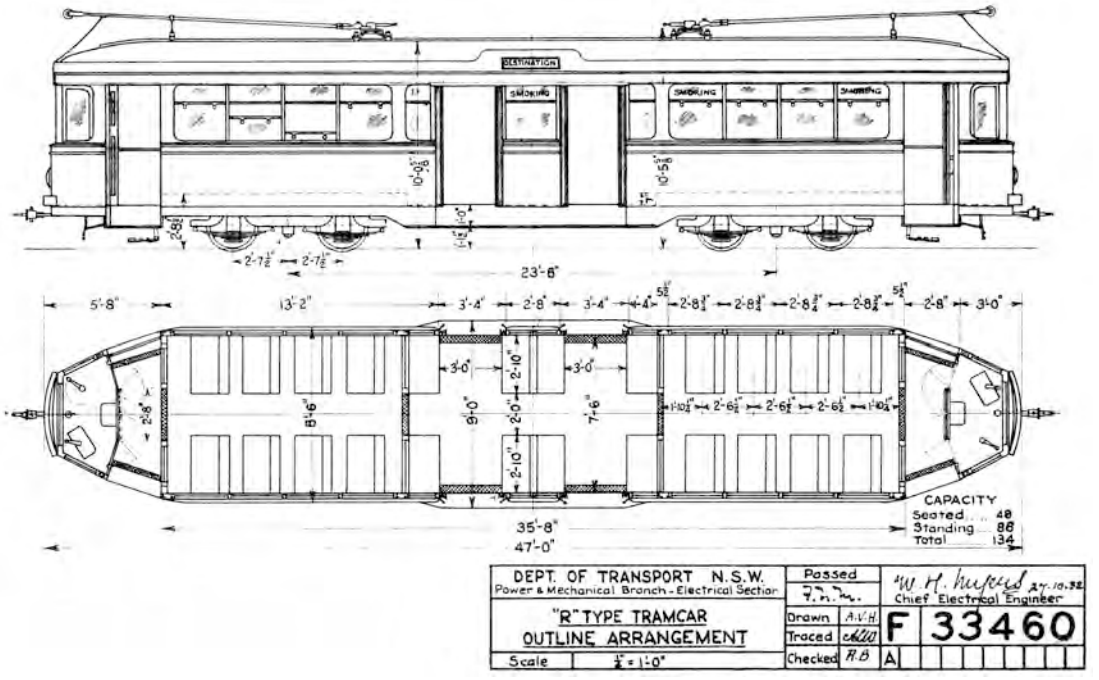
In the early 1930s a diagram for a proposed enclosed drop centre tram with end saloons and centre aisle was drawn up by the Department of Transport's Power & Mechanical Branch, Electrical Section. This diagram underwent refinement and was reissued with the title now showing as "R" Type Tramcar - Proposed Outline Arrangement. Again, this diagram is not dated. The diagram underwent further changes and was approved by the



The first R class car 1738 was taken to Moore Park to have its official photo taken.
Railway P3703



R Type Tramcar – Proposed Outlinre Arangement, no date. [F33460]

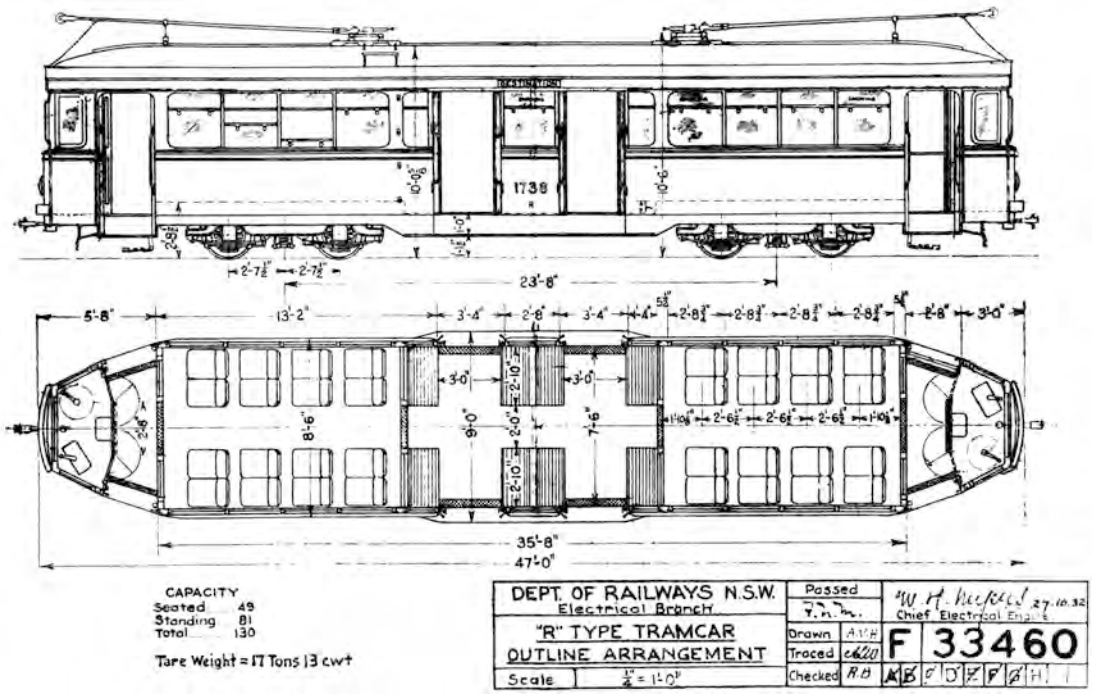


R Type Tramcar – Outlinre Arangement,approved by the Chief Electrical Engineer on 27 October 1932. [F33460]

Chief Electrical Engineer on 27 October 1932. Another seven refinement adjustments were made to the diagram as follows:

A Original issue. Specification No 904, 31 October 1932.
B Altered in accordance with general arrangement, 30 January 1933.
C Grab handles in front of Driver's Protection removed, 3 February 1933.
D Off side barrier up at rear end only, 1 ft 10 1/8 in was 1 ft 10 1/4 in., 28 March 1933.
E Draw bar modified, 18 July 1933.
F Grab handles in front of Driver's Cabin added. Step to bumper added. 6 September 1933.
G Height from R.L. (rail level) to trolley base was 10 ft 5/8 in., 24 October 1933.
H Tare weight added, 1 November 1935.

It was finally issued as the diagram shown below. It is interesting to note that a copy of this diagram was sent to Dunedin Tramways on 21 March 1934.



The final signed-off diagram after the amendments had been made. [F33460]

The design of the R car was based on design trends in Adelaide, Brisbane, and Melbourne as well as the USA. Prior to construction a wooden full size mock-up was constructed at Randwick Workshops with variations in roof fascia and window design when compared with the final design.

A contract was let to Clyde Engineering Co. for 200 R class tramcars. The first car was received on 24 September 1933. R 1738 was officially unveiled at Randwick Workshops and placed on display at Bridge Street yard. entered service on 3 November 1933. The last car, No. 1932, entered service on 6 June 1935. The last five cars of the initial order, Nos 1933-1937, were converted to the R1 design prior to completion. The R type cars introduced the green and cream colour scheme to Sydney.

The author acknowledges with thanks the assistance of Robert Merchant with preparation of diagrams and Dale Budd with checking the text and supplying a diagram not held in the Sydney Tramway Museum's archives.

HERE AND THERE
AUSTRALIAN AND OVERSEAS NEWS

Adelaide tram news

The South Australian Government announced on 15 December 2016 that it will spend $20 million to buy three more trams as well as building a new 200-metre line north along King William Road from North Terrace to the Festival Centre. Funding for the project was allocated in the Government's mid-year budget review.

The short extension will include a new terminus outside Adelaide's Festival Plaza, which is currently undergoing a major revamp. Construction of the extension will coincide with re-laying the turnout at the corner of King William Street and North Terrace to provide for the proposed line along North Terrace East (refer Trolley Wire, August 2016). This extension, estimated to cost $50 million, will extend the tram line one kilometre along North Terrace to the old Royal Adelaide Hospital site, which is earmarked for future development after the new hospital opens in the city's west.The Government said the new section of tram line along King William Road would ensure no interruptions to the busy North Terrace-King William Road intersection, when a future extension to Prospect goes ahead. Plans appear to show a grand union at this junction, replicating the track layout as it was from 1909 to 1958.

Although the northern extension is only a short distance across North Terrace, it is the first stage of a planned northern route to Prospect. It will prove popular with patrons at Adelaide Oval, a short distance further north. This is a similar approach to the North Terrace East extension which is the first stage of an eastern extension to Norwood. The Government has stated that these small extensions show that it is serious about further extensions to the north (Prospect) and to the east (Norwood). It hopes that these proposals may attract Federal funding in the future.

Work on the new Festival Plaza stop is due to start in the first quarter of 2017 and be completed by the end of 2017, in line with the North Terrace East extension. The North Terrace East extension will have stops at the South Australian Museum, University of Adelaide and the old Royal Adelaide Hospital site.

Although timetables have not yet been prepared, it is likely that some trams from Glenelg will terminate at Festival Plaza, while others from the Entertainment Centre will travel to North Terrace East.

Flexity tram 102 about to enter Victoria Square by the southern fountain on 16 October 2016 on its journey to the Entertainment Centre at Hindmarsh. In future it may be heading to Festival Plaza. Steve McNicol

First AdeLINK work goes to market

The South Australian Government has put the first stage of the significant expansion of Adelaide's tram network out to the market.

The $50 million investment announced on 3 December 2016 will extend the existing tram line along North Terrace to Adelaide's East End. The line will form part one of EastLINK,, with future stages planned through Kent Town to the eastern suburbs.

The one kilometre extension will also become the first stage in the CityLINK loop around the CBD. It will have three new stops and will provide a frequent and reliable link between the Riverbank's Educational and Cultural Precinct, Entertainment Precinct and the Health and Biomedical Precinct, according to the South Australian Minister for Transport and Infrastructure, Stephen Mullighan.

"The State Government's investment in revitalising our public transport network is unprecedented," the Minister said. "AdeLINK is an ambitious project that will connect North, South, East and West, ease city congestion and reduce our carbon footprint. It is also an investment in South Australian jobs – we will ensure as many local jobs and contractors as possible are utilised during the project. Expanding our tram network has the potential to attract investment, boost economic growth and encourage urban renewal and jobs, and bring residents and visitors to the city centre. Importantly, it will support and contribute to the growing market demand for residential development in the CBD, inner and middle metropolitan Adelaide," he added.

"We know light rail is a successful public transport option which encourages people to start using public transport. The extension of the Glenelg tram line to the Entertainment Centre has proven to be extremely popular since it was opened, with many commuters making the switch from driving their cars to taking the tram."

Mr Mullighan wants to award the contract soon, with works scheduled to commence in the first quarter of 2017 and be completed by the end of the year, weather permitting.

The State Government is also calling for tenders for improvements to the existing tram network, including a "much needed" upgrade to the City South tram stop, and track upgrading that will provide passengers with a smoother, quieter journey.

Breathing new life into Melbourne's historic W series trams

The Andrews Labor Government will develop Victoria's first comprehensive strategy for the future of Melbourne's historic W-Class trams.

Minister for Public Transport Jacinta Allan announced on 24 October 2016 a W-Class reference group to advise on how best to use the heritage trams, which first started running on Melbourne's streets nearly 100 years ago.

A detailed audit of nearly 200 remaining W-Class trams will determine the condition of each of them and their potential for future refurbishment or use.

The reference group will work with and include representatives from Public Transport Victoria (PTV), VicTrack, the Department of Economic Development, Jobs, Transport and Resources, and Yarra Trams to undertake the audit.

Other stakeholders will be asked to share their knowledge and help shape their future use in the coming weeks and months. A great deal of interest has already been generated about using these W-Class trams, and a PTV survey has proved Victorians recognise and appreciate their value.

Victorians and visitors continue to enjoy these iconic trams through public exhibits, along the City Circle Tram service and Bendigo Tramways, where more than three million people each year ride one of the twelve W-Class trams around the loop.

A number of potential uses have been canvassed, but the condition of the de-commissioned trams, which have been in storage for many years, won't be fully understood until the audit is complete. The group is expected to report back to government with their findings in the second half of next year.

Among the stored trams at Newport are many SW5 cars, including the second series of Transporting Art trams. The trams appear to be on rails, but the tracks visible are broad gauge; the trams were pushed into position with the wheels on one side rolling on concrete or timber. Both photos were taken in December 2011.
Dale Budd

More than 190 trams are stored at the former Newport railway workshops, of which more than 170 are in East Block. They were placed there in 1994 and 1995. In addition, some 18 One Person Operated cars are in the open, having been transferred there in 2014 and 2015.

Dale Budd

HPOTS - Bushfire claims trams

A bushfire in the Cessnock / Aberdare area on Saturday 5 November in the vicinity of the Hunter Plant Operators Training School at Cessnock (HPOTS) came very close to the open area where a number of trams have been stored for many years since they were acquired from the liquidator of the Newcastle Tramway Museum. At this stage the trams were spared and it was thought that they would remain unharmed. However, on Sunday 6 November a change of wind direction occurred re-invigorating the fire. As a consequence, the neglected and derelict bodies of LP 257, N718, O 824 and Melbourne W2 471 were consumed by the flames, along with the remnant body of W5 745 owned by another party. It had been planned to remove a drivers' cabin from 824 as a project for installation at Narrabeen, once works on R 1753 had been completed.

In addition, the remnant underframes of deaccessioned LP cars 298 and 341 which HPOTS had stripped to use for another purpose were also destroyed. The four old heavy duty timber jinker trucks mounted on former locomotive wheel and axle sets and upon which 257 and 718 were sitting were also reduced to a pile of ash and steel. The last cars to vacate the site for storage elsewhere were R 1798 (ex-Waverley Council) and W2 245. Cars previously stored there included W5 792 now being beautifully restored at Haddon after a stint at Glenreagh. R1 1980 (also ex-Waverley) was spared as it was removed in 2015 for storage inside a nearby shed to be restored for use at HPOTS.

On 5 November the bushfire came close to the open area at HPOTS. Ellen Gillespie

All that was left of the trams on 7 November. A change of wind direction on 6 November brought the fire onto HPOTS property and destroyed the derelict bodies of the trams.
Ellen Gillespie

BALLARAT

BALLARAT TRAMWAY MUSEUM

PO Box 632, Ballarat, Victoria 3353 www.btm.org.au

Dave Macartney and Warren Doubleday

Tram services

No. 28 suffered an air tank failure in February 2016, which resulted in the manufacture of a new pair of tanks. These were finally fitted on 19 October 2016 and, following a few adjustments, the tram was decorated for Christmas celebrations. It ran with Santa on 10 and 13 December, then promptly failed again, this time with an electrical fault that has since been rectified. Such are the joys of working with century old vehicles.

The Museum operated the Santa tram twice during December. The first, on Saturday the 10th, had a poor response due to the Ironman event taking place on the

Wedding receptions held at Pipers on the Lake offer the use of the Pipers tram No. 671 as part of their package. A bridal party is getting ready to board at Depot Junction for the run to Pipers. Peter Waugh

same day. That event saw Wendouree Parade closed to all traffic on the following day, which prevented trams from operating. The lack of vehicle access resulted, unfortunately, in only a handful of visitors on the day. The second Santa visit on Tuesday 13th, however, was a great success, with our Facebook page and the Museum's eNews enticing a great crowd.

Cuthberts939, our function tram, has been busy leading up to the Christmas period including a Hens' party. Forward bookings for private events continue to be about two to three per month. It is proving to be a great way for up to twenty-four people to celebrate. Another new venture is providing wedding transport

Happy faces with Santa visiting the Museum on Saturday 10 December. Peter Winspur

Tram No. 28, decorated as the Museum's 2016 Christmas Tram and driven by Santa's elf, is making its way along Wendouree Parade on 10 December 2016.
Peter Winspur

Santa was busy greeting some of the great crowd of visitors during the Tuesday 13 December operation with tram 38 in the background.
Peter Waugh

for bridal parties to *Pipers by the Lake*, using No. 671, our 'Pipers' tram. There are a number of bookings already for 2017.

On Christmas Day, passenger numbers were disappointing, with just 25 passengers being carried in exceptionally hot weather. Since then, daily tallies of over 100 have been the norm, with similar numbers visiting the shed and availing themselves of the sales department's wares.

Restoration work

No. 26 received a partial repaint during October and November. With both red trams out of service on the day of Springfest on 27 October, the annual Tram Pull organised by Rotary Young Ambition used Nos. 13 and 14 instead. The day saw 730 passengers carried in Nos. 661 and 671 in excellent weather – a very pleasing result. This is traditionally a busy day

This photo explains a Tram Pull where two teams tow a tram to see who can get it over the line first. It takes a bit of effort.
Mal Rowe 29-11-2015

when the conductors have to act like 'real' conductors selling a variety of tickets.

No. 18 continues to languish under repair, as further remedial tasks keep appearing. Although the motors have been received back from the local repairers, the

The interior of ESCo 12 is now ready for varnishing and painting. 10 December 2016.
Peter Winspur

Above left:
With all the parts neatly laid out for tram 18's truck, reassembly work is pending the return of the wheels from having the axle journals refurbished.
Warren Doubleday

The Electric Supply Company tram body is now looking like a tram sans a truck. 22 January 2017. Warren Doubleday

Changing over the overhead bracket arm on a replacement pole on the depot access track on 15 November 2016.
Roger Gosney

wheels have been sent to a company in Melbourne to have the axle bearing surfaces rebuilt to give an even surface by metal spraying. After being returned from off-site repairs, No. 18's body had to be relocated to enable the truck to be reassembled This involved temporarily putting the truck back together, lowering the body on to it, pushing it a distance of two metres, then jacking up the body again to release the truck for further work – all very time consuming.

In relation to ESCo No. 12, work on the body of this tram has come to a temporary halt as Adam Stephenson has returned to his normal joinery duties elsewhere. The next step in this project is to begin varnishing and painting the body in order to protect the woodwork.

Overhead and track developments

On 15 November, the bracket arm on the overhead at the king points was relocated onto a replacement pole, due to the lean on the old pole being deemed excessive and the pole itself being in a deteriorated condition.

Ballarat Council has painted a yellow No Standing line west from St. Aidan's Drive to better regulate motor traffic. We occasionally strike a situation where a motor car has parked foul of the tram line – including one that held up the Santa Tram on 10 December for 20 minutes. The photo of the vehicle and the tram went viral on our Facebook page.

Museum displays

At the depot two new display boards titled The Power Behind the Switch have been installed on the 3 road wall. These explain the history of the supply of electricity to Ballarat, including photographs of Ballarat's A and B power stations, the latter being built by the State Electricity Commission of Victoria in the early 1950s.

Funded by a local History Grant, our two new panels interpret the power supply history to Ballarat consumers, including its use by the various tramway operators.
Warren Doubleday

The panel also looks at the development of the power supplies for tramway systems in the 1890s and how these evolved for new tramway systems around the world. In the final part of the panel, mention is made of a new back-up battery system being installed by Powercor to service Buninyong and the Museum's solar panels. These two panels accompany two similar panels installed during mid-2016, which inform visitors about the reconstruction of the Ballaarat Tramway Company horse tram No. 1. Funding for the four panels was provided through the Local History Grants Program that is facilitated by the Public Record Office of Victoria and supported by the Victorian Government.

A new video screen has been placed alongside the new panels. The video screen displays various short programs of tramway and local historical interest. As well, a couple of additional cameras have been added to the security system, giving an even more comprehensive view of what is going on around the shed, including a hair-pulling fistfight between three schoolgirls outside the back door!

BENDIGO

BENDIGO TRAMWAYS

1 Tramways Avenue, Bendigo, Victoria 3550 www.bendigotramways.com

Dan Rutherfurd

City Circle cars

Rebuilding former W6 class cars 981 and 983 as W8 class is continuing.

Electric testing has been carried out on car 981, and further work is taking place on the installation of cabling. Concurrently, our engineering team is ensuring that all the underfloor equipment is properly mounted. Internal fit-out is nearing completion with some seat and ceiling and cover panel installation being deferred until the electrical work has been completed.

After repairing the fibreglass roof of car 983, the pantograph, automatic vehicle monitoring and radio aerials were fitted. This was followed by paintwork preparation, undercoating and the application of two top coats of paint to the body of the tram. By February, internal fit-out will be under way.

Launceston No. 14

Originally built by J & T Gunn to narrow gauge standards for the Launceston system, this tram entered service on 1 June 1912. Although it was part of a fleet intended for use as trailing cars, the tram was never used as such, and did not enter service until being motorised.

Bendigo Tramways has been working with the Sydney Tramway Museum to restore the tram. The first step was to convert the tram to standard gauge, as STM plans to operate it on its own track. We are currently manufacturing new seats for No. 14 as well as recanvassing the roof. It will then be sent to Launceston for completion of the work on its body. Electrical and mechanical work will then be undertaken in Bendigo before the tram is transported in operating condition to the Sydney Tramway Museum.

Bendigo No. 610

In operating our ageing fleet of trams, we are always keen to identify opportunities to use modern technology to improve vehicle standards and reliability.

No. 610, a Melbourne Y1 class, is currently receiving an overhaul of its electrical systems. The work includes a complete rewiring of the 12v systems that operates the turning indicators, audio system and the door actuators. We also plan to install 600v DC to 12v DC static converters, which will assist in keeping the tram batteries charged when in service. The first tram to receive this type of static converter was No. 302 (Birney No. 29) during a major refurbishment five years ago. Soon after, we found the technology helped to minimise low-voltage system defects. We have therefore made the decision to use this type of converter technology in the rest of our running fleet. It will be installed when major electrical overhauls are carried out.

While the electrical overhaul of 610 is occurring, workshop staff are repairing the tram's roof to overcome leaks that have occurred in the past. These proved difficult to fix when the car was in regular service.

The 220 solar panels installed on the depot roof.
Bendigo Tramways

Bendigo No. 7

No. 7 was built by Meadowbank Manufacturing Company in Sydney in 1915 for the Prahran and Malvern Tramways Trust where it entered service as No. 76. It was sold to the Electric Supply Company of Victoria Ltd in the 1930s for use in Ballarat, where it became No. 19. It was later converted to the Ballarat style of one-man configuration. The tram was transferred to Bendigo in 1960 together with Ballarat No. 25 (Bendigo No. 6) in exchange for Bendigo bogie No. 1.

No. 7 is being restored to the livery first used when it arrived in Bendigo. In a bid to raise funds for the project, a crowd-funding campaign went live on 1 December 2016. As of 24 January 2017, we have raised $26,245, only $3,755 short of our $30,000 target.

Crowd funding has therefore proved to be an innovative and highly successful way of raising funds. There are still many privileges on offer. For further information please visit https://www.chuffed.org/project/tram7 for your chance to become part of No. 7's restoration. We plan to have the tram in operating condition by November this year.

Planning for infrastructure upgrades

As with our elderly trams, our ageing infrastructure requires regular attention through maintenance and upgrades. In September 2016 we renewed several curves and minor track joint repairs. These were reported in the November 2016 issue of Trolley Wire.

We are currently developing a detailed plan for the track renewal work to be carried out in the next three years. Because a great deal of planning is required, regular meetings are being held with the City of Greater Bendigo to determine the best way forward.

Santa Tram

The Bendigo Santa Tram was a big hit with both the young and the young at heart. Tickets were sold out in less than two weeks and many people asked to have their names placed on a waiting list.

Over the 16 days of the service, 330.4km were travelled with a total of 2269 passengers walking through our doors specifically for the Santa Tram service. Special mention should be made of Bendigo's Knitting Ninjas, who beautifully festooned the Santa Tram with many crocheted Bells, Snow Flakes and Garlands.

Investment for a sustainable future

Through a partnership with Bendigo Sustainability Group, approximately 220 photovoltaic solar panels have been installed in the valley roof of the Hargreaves Street depot.

The system is capable of generating up to 50 kilowatts of electricity, providing approximately 40% of Bendigo Tramways' power needs, including the tram network as well as the depot and workshop. The system is an investment by the Bendigo Community Foundation, which will receive a return on their investment over the next ten years. At the end of ten years ownership of the system will be transferred to Bendigo Tramways, which should benefit financially for a further ten years.

The Toyworld Santa Tram bringing joy and laughter to the young and young at heart. Bendigo Tramways

SNIPPETS FROM HISTORY

From *The Sydney Morning Herald*,
Thursday 25 October 1888, page 4

THE NORTH SHORE TRAMWAYS BILL.
Mr. Day presented a petition from Messrs. Clement Alban Benbow and Leslie Johnston, asking leave to proceed in the present session with a bill to authorise the construction of a tramway from the northern terminus of the North Shore cable tramway to the Spit at Middle Harbour, together with branch lines therefrom. The petition was received, and the bill was introduced and passed through all its stages.

From *The Sydney Morning Herald*,
Friday 3 January 1896, page 4.

CASH SYSTEM ON THE CABLE TRAMLINES.
Commencing on Monday next, a new system for the collection of fares will be brought into operation on the Ocean-street cable, North Shore cable, and electric tramlines. The sections and fares will remain as at present, but payment will be by cash, and passengers will receive from conductors a ticket representing the amount of the fare paid, which tickets passengers must retain, for the purpose of examination, if required, until the end of their journey, when they are requested to destroy them.

BYLANDS

TRAMWAY MUSEUM SOCIETY OF VICTORIA
38 Piccadilly Crescent, Keysborough, Victoria 3173 www.tramwaymuseum.org.au

From Running Journal

Kilmore rail reserve

At the Society's recent Annual General Meeting, an agenda item called for discussion of our existing lease over the rail reserve between McKerchers Road, Bylands, and Tootle Street, Kilmore.

In 1991, the Society obtained a 20-year lease option over the rail reservation. The original intention was to use the reservation to extend the museum's line from Bylands to Kilmore – a very ambitious and costly project. When the option expired in 2011, the Board chose not to acquire a long-term lease over the former railway alignment. Instead, it opted to extend its rights over the land on a week-to-week basis. In 2014, the Society was approached by a developer who wished to purchase part of the reservation to expand his landholding at Tootle Street. However, nothing eventuated and the Society's current leasing arrangement remains in place. Although we have lodged several applications over the years, the Society has never been able to obtain sufficient government funding for the project to proceed.

Continued residential development at the southern end of Kilmore has bordered the reservation to the extent that any plan to extend the tram line would now meet with much opposition. This would be costly to fight and would very probably place restrictions on what we could do, thereby negating any benefit of running trams to Kilmore. Further, the cost of maintaining the land and any lineside infrastructure would be substantial. Discussion at the AGM concluded that the Society should seek to return the land to the Victorian Government. We are currently in consultation with VicTrack to determine how this can take place as soon as possible.

It is possible that this portion of the former railway reservation will remain. A feasibility study is currently being undertaken on the southward extension of the existing Bendigo – Heathcote Rail Trail to Kilmore and Wallan. If this eventuated, it would include those parts of the rail corridor that have not been sold into private hands.

Around the museum

Minor improvements to the Visitor Entrance Centre have continued, as have plans for the larger area to the rear of the building. Some of our archives have already been relocated to a new area being set up, and

Looking north along the former rail reserve from McKerchers Road towards Kilmore.
Corey Robertson

Getting started: Aaron Davy with our tractor 'Fergi', slashing the south paddock at Bylands.

Corey Robertson

we expect to relocate the remaining items, presently stored in different locations around the site, to this one central location. Member Mal Rowe is assisting by sorting and scanning our archive collection so that we can have a ready base for research purposes.

The recent heavy rains caused some damage around the site. The caretaker's roadway and parts of the carpark adjacent to the Visitors Centre were either washed away in part or affected by large potholes which fill rapidly with water. It is planned to have these areas filled and regraded shortly. In addition, the rail stack will soon be relocated on the reservation at McKerchers Road.

We recently received some very attractive coloured hand drawings of several of our trams. The drawing were done by Graham Lees from Western Australia and they have now been framed and placed in our display area in the Visitor Centre.

Special visitors

Although the museum at Bylands is usually only open to the public on Sundays, we have recently been able to offer several out-of-hours visits by tour groups, subject to the availability of sufficient volunteers. On 1 September we welcomed members of the Combined Probus Clubs of Lara. Our Marketing Manager, William Fedor had great pleasure in showing our guests around our site. In return, he was given a Certificate of Appreciation Award by the group. On 6 December we also welcomed members of the Australian Railway Historical Society (Victorian Division). Once again William and Mal entertained our guests.

W3 667 stored under a tarpaulin, pending its move to undercover storage.

Graham Jordan

FERNY GROVE

BRISBANE TRAMWAY MUSEUM SOCIETY
PO Box 94, Ferny Hills, Queensland 4055 www.brisbanetramwaymuseum.org

Peter Hyde

While summer is always the quietest time of year, this year's extreme heat has significantly reduced visitor numbers with the public seemingly preferring the beach or air-conditioned shopping centres.

On the tram restoration front, the replacement roofing on Dreadnought 136 is finally complete and the tram now awaits the re-installation of the trolley plank

The annual Phil Irving Motorcycle Concours was again held at the Museum in November. While the winner's trophy is being presented a pair of veteran trams wait their turns of duty.

All photos by Peter Hyde

Completed at last - the new roofing on Dreadnought 136.

Ian Brandt at work painting the tower of the tower wagon.

On Sunday 18 December 2016, the Australian Electric Vehicle Association visited the Museum in their electric cars. The Museum became a refuelling station for the occasion!

The P.W.E. wagon about to be moved from the store shed - note the primitive brakes!

and base, which are being painted at bench level. The protective black plastic wrapping has been removed from the car body.

On the trolleybus scene, slow but steady progress is occurring on replacement of rusted steelwork. Repainting of the tower wagon has begun, as well as mechanical repairs to the vehicle.

An interesting artefact acquired many years ago has been moved from the store shed to one of the workshop areas for complete restoration. Commonly known as the 'Pie Wagon', it is a solid-rubber tyred trailer formerly used by the tramways perway section. The precise age of the vehicle is not known but it is thought to have been built in the 1920s. It was retired many years before the tramways closed, and was later acquired by the Scouts, who placed it at the Scouting Headquarters at Baden Powell Park, Samford. Here, it acquired the name 'Pie Wagon' because of the letters P.W.E. painted on it. Presumably this stood for something such as Permanent Way Engineering.

Major renovations to the verandah of the Display/ Archives Building saw new timber bearers added and the entire timber decking re-screwed. Other labour intensive tasks completed have been improvements to drainage, concrete slabs for garden seats and equipment and re-painting of minor items visible to the public.

The exceptionally hot and humid summer greatly accelerated vegetation growth at Ferny Grove with mowing currently being undertaken twice a week and a valiant effort being expended in line trimming and pruning. The ride-on mowers have both required major (and expensive) servicing and the band of 'gardeners' is well and truly occupied.

HADDON
MELBOURNE TRAMCAR PRESERVATION ASSOCIATION
324 Sago Hill Road, Haddon, Victoria 3351 www.mtpa.com.au

Anthony Smith

Restoration of 792

During October, W5 792 was towed out of the workshop building, and the chassis and underfloor cross members were steam cleaned and wire brushed to remove all dirt and grease.

Additional steel has been welded to the longitudinal centre bearers in both saloons to enable us to utilise large sheeting for the floor rather than the traditional tongue and groove boards as originally fitted. The entire underfloor structure has now been metal primed and has received a topcoat of gloss enamel which will make it cleaner and brighter to work on.

The timber sheeting for the saloon floors was obtained during November and the underside area painted gloss white in readiness for installation.

Also in November the new saloon side sill floor beams previously manufactured for us by the Bendigo Tramways were cut to size and fitted to both ends of 792. The flooring has now been installed in both saloon areas with the exception of the motor floor hatches. Another task undertaken recently has been the reinstatement of the cross bracing in the saloon bulkheads. The original cross bracing was removed by the MMTB in the 1980s when the steel panels were replaced with ply inserts and laminex panelling in

Anthony Smith fits a new side sill floor bearer to the No. 1 saloon. Jacqui Smith

Frank Schroeders and Anthony Smith fitting the new flor to the No. 2 end salon of 792. Anthony Smith

Anthony Smith installing replacement cross bracing to the No. 2 end drop-centre bulkhead of 792.
Jacqui Smith

A view of newly constructed shelving in the tower wagon shed. Jacqui Smith

View of newly fitted bumper at the No. 1 end of 792. Daniel Edwards

an attempt to improve the internal appearance of the unmodified three door cars.

Work continues on minor repairs to the bulkhead framing in readiness for the fitting of new steel panels. We have also recently refitted the bumpers to both ends of the tram. They had been previously removed for straightening, and were also sand blasted and primed.

Overhead parts store

In recent times we have been in the fortunate position of being able to acquire a large quantity of serviceable overhead components such as trolley wire ears, section insulators, trolley wire slice ears and frog pans etc., far in excess of what our current storage facility can accommodate. It has therefore been necessary to construct new shelving in the rear area of the tower wagon shed, utilising modified pallet racking and modify the existing shelf layout in the main storage area to create more room. With construction work now complete, sorting and stacking of parts has commenced.

Infrastructure maintenance

During early December the three signal/level crossing power relay cabinets were repainted. As it had been some considerable time since they last received a coat of paint, a considerable amount of scraping and sanding was required in their preparation. With the summer fire season upon us, a number of working days during November and early December were spent preparing the site. This has involved the removal of dead foliage and other combustible material, and the slashing of the lower paddock by a contractor.

Jacqui Smith painting one of the level crossing relay cabinets. Anthony Smith

LOFTUS
SOUTH PACIFIC ELECTRIC RAILWAY CO-OP SOCIETY
PO Box 103, Sutherland, NSW 1499 www.sydneytramwaymuseum.com.au

From SPER News

Restoration of freight car 24s to operational condition

We were informed in early November that the Museum had been successful with a grant application for the return to operational status of freight car 24s. The amount of the NSW 2016 Transport Heritage grant is $9656, and work must be completed within 12 months. Advice was received that to be successful a grant application would require some 25% of additional funding ($2500) from Museum members as donations to the project. The total budget submitted with the application amounted to approximately $21,000 and that included the value of volunteer hours committed to the project.

The new waiting shed under construction at the northern terminus on 19 November.
Martin Pinches

Ballast motor 42u with the proposed replica W class sprinkler car at the northern terminus on 14 December.
Richard Jones

South Shed fire sprinklers

A grant application was lodged in April 2016 with the Department of Industry-Lands for financial assistance through the Public Reserves Management Fund for the provision of fire sprinklers in our new south shed. The amount sought was $26,000, of which the sum of $13,000 was provided and deposited in our Tramway Museum Fund account in November 2016. As with the grant for 24s, works need to be completed within 12 months. Overall costs, including plumbing to connect to mains supply are expected to be at least double the grant amount, so members will be asked to assist with donations towards this project, along with the installation of a security system to deter would-be intruders.

Track and associated work

November and December saw very substantial achievement on the restoration of the track up Army Hill. Notably we received multiple deliveries of concrete.

The concreting of the track up Army Hill reached within three metres of the new Waratah Loop South points in early November and the short infill rails previously left out to avoid expansion problems were cut in and welded on 12 November. Unfortunately two of the welded joints broke after the rails contracted during the cool of the following night; they were re-welded on 7 December.

The mechanism for the new points was made in-house by Mike Giddey and was installed along with a new tread plate cover. A track drain near the gate across the track was welded into place and the check rail installed by CSO welders was lowered to its correct height by using the 'Jim Crowe' rail bender as a giant G clamp.

On 9 November we received five cubic metres of surplus concrete. When we rang Concrite to let them know that we were ready for concrete, we were asked "How much?" Four trucks with loads of up to three cubic metres arrived between 9:15am and 2:00pm.

On Wednesday 16 November over five cubic metres arrived in five truck loads, causing those members on site to call for assistance in handling it.

David Canini was on site on 3 December to complete the breaking up of concrete on part of the eastern track at the northern terminus. This section had been concreted to the incorrect finished levels. The broken concrete did not go to waste as it was taken downhill to partly fill the '4 foot' of the track on Army Hill, making the poured concrete go further.

On Saturday 10 December we re-set some formwork in time for the arrival of 3.6 cubic metres of purchased concrete. This was the final pour to allow trams on the hill to run over the new right hand points and enter the north terminus yard on the western track. Some further surplus concrete was laid on the curve to the eastern track near the gates across the tracks.

Transport for NSW contractors built a new waiting shed at the terminus, a replica of the one originally located in Parriwi Road on The Spit line. Conduits were run to it for lighting and for 240 and 415 volt power outlets, to facilitate further welding work in that area. Some minor finishing works to the shed are still to be completed, such as fixing the seat permanently in position.

On 14 December, Mike Giddey and Dick Jones took ballast motor 42s over the points and into the terminus area. This was the first tram there for over two years.

On Saturday 17 December, we rang Concrite as usual to let them know that we could take any surplus concrete. Before lunchtime the largest truck in Concrite's Kirrawee Depot fleet arrived with a full eight cubic metre load. The driver said that a big project ordered the load and then realised that they had specified the wrong strength concrete. By the time they rang up to modify their order it was on the truck and driving out the gate of the plant. They had to pay for it plus a disposal fee. That was an expensive mistake for someone but a real bonus for us. As before, the members and CSO workers on site called for help, and scrubber 134s arrived with reinforcements. We completed the '6 foot' between the new points and the old concrete crossing in the terminus area and much of the side strip and '4 foot' on the eastern track from the points to the crossing. High strength 40 mpa concrete sets quickly and we struggled to finish before it set.

134s did some track scrubbing whilst there to clean the rail surfaces of crushed concrete and rust.

Two five metre lengths of rail were lifted from the rail stack using the No.3 forklift with jib attached. These were positioned at the northern end of the re-laid 12-metre track panel and the two joints were welded. This marks the first extension of the rails at the terminus beyond the original end of track.

Concreting the 'six foot' at the northern terminus. It was one of five truck-loads of surplus concrete received on Wednesday 16 November.
Martin Pinches

A fire damaged bogie is loaded onto a tilt tray for transport to Brookvale for shot blasting and painting in preparation for being placed under Warringah Council's R class car.
Richard Clarke

Working on the large quantity of concrete which arrived on Saturday 17 December. It was placed on the Waratah Loop track. Martin Pinches

Infrastructure works, and disposals

During this period a stack of pointwork was moved, and two Sydney No. 12 bogies recovered from the old site fire were repositioned. As the frames were distorted it was agreed that they could be sold to Warringah Council to go under their R car for future display at the former Narrabeen tram terminus. They were collected on 18 November and will be shot blasted and painted before being placed under the Council's tram. These bogies were originally purchased in the early 1970s by the museum from Baldwin's of Showground Road, Castle Hill, manufacturers of locomotives for the cane and mining industries. They were collected at that time using a two axle car trailer hauled by a Land Rover.

Our Tuesday night crew work on completing the required alterations to the tower wagon's platform on 3 January.
Danny Adamopoulos

On 19 November double deck bus 2619 was moved from the workshop to allow freight car 24s to be placed in front of it ready for its restoration to begin. Scott Curnow

On 16 November Keith Jones of Dorrigo Steam Railway and Museum loaded the AI&S scrap buggy No.7 with a hired crane onto his semi-trailer for transport to Dorrigo.

Overhead

Six new side arms have been prepared for the replacement poles on the Sutherland line. Work has continued on the platform railing height modifications for our No. 3 tower truck required by the regulator, and the job is close to completion.

Preliminary preparations are under way for erection of trolley wire above the new eastern track at our Sutherland northern terminus.

Workshop and maintenance

In the workshop work on W2 392 has stopped while we find a suitable contractor to repair the rotted timber framing in one of the saloon side panels.

Further to the news of the successful grant application, freight car 24s is to receive a replacement air compressor as the original is incomplete and of a type different from everything else that we have. A floor mounted General Electric CP27 has been stripped down and is being overhauled for the car.

Some problems were encountered with the recently completed AEC double deck bus 2619 which looks immaculate after its extensive overhaul and restoration. A small air leak was found in the fuel tank causing problems. A replacement tank was fitted to correct this problem. It then became apparent the fuel pump was not providing enough fuel for steep climbs. A worn part of the pump was built up with weld and it is now working properly.

Special visits

On 6 November we had two visits by a Heritage Express steam train hauled by 3642. There were 450 passengers on the first trip which arrived just after

Trackwork is being prepared in front of the completed waiting shed at the museum's northern terminus on 7 January. Martin Pinches

10:00am, and 165 on the second trip at around 2:30pm. These numbers were on top of those who visited the Museum directly as it was our normal Sunday operating day. Each train arrival resulted in two trips by our coupled O cars 1111+805 full of passengers to the Royal National Park and return. The travellers also looked through the Display Hall within the 1½ hours allowed for each visit.

On the day we tried to maintain our normal operating schedules to Sutherland and Royal National Park for our other visitors. Such an operation requires a great effort and over 20 members assisted with marshalling the train passengers from Loftus station, in the Display Hall as guides, as traffic crews, and for the bookshop, kiosk and second-hand bookstand. A great effort by all concerned.

The Australian Railway Historical Society (NSW Division) visited the museum on 11 December to celebrate the 90th anniversary of the electrification of the Royal National Park line. They arrived on vintage electric train F1 and spent the afternoon with us.

On 6 November visitors who arrived on the first steam train leave the coupled O cars on their return from the Royal National Park and head into the display hall.
Robert Merchant

ST KILDA

AUSTRALIAN ELECTRIC TRANSPORT MUSEUM (SA) INC

PO Box 213, Salisbury, South Australia 5108 www.trammuseumadelaide.com.au

Colin Seymour

Main tram shed

The second-last concrete pour was carried out by North Eastern Demolitions on 24 October 2016. Concrete was laid between the Road 6 rails from the pit to the rear workshop area. This leaves only one more concrete pour to complete the entire new tram shed project - the section between the concrete laid on 24 October 2016 and the shed wall area.

Car 381

Genesee & Wyoming Australia's engineering workshop at Dry Creek have agreed to re-profile the wheels of car 381. It is hoped that this work can be completed by mid-2017, thus enabling the car to be returned to traffic after 16 years.

As well as carrying out an assessment of the wheels for re-profiling, further inspections have been carried out on 381. It has already been determined that the DH-20 air compressor on 381 will have to be replaced. Fortunately a spare operational compressor of this type is available and will be placed on the tram after it receives attention in the workshops. All controller, brake and door systems will be examined and reconditioned as required before the tram can re-enter service.

The recent concrete pour between the rails on Road 6 can be seen between H1 381 and works car 354 on 23 November 2016. Colin Seymour

'Bib and Bub' cars 14 & 15

The construction of two new driver's cabins at the coupled ends of both cars has commenced. These two driver's cabins will not be used by drivers, as the inner cabins of a 'Bib & Bub' set did not contain a controller or a handbrake. The cabins were occupied by boxes used for the connecting cables between the two cars.

Timber for the new cabs has been delivered and work has commenced to shape and form the components required. New templates as well as some surviving components from the original cabs are being used to form the new cab components.

Track

Over the past few months the small occupation crossing near the start of the tree reserve has been resleepered in addition to further sleepers that have been installed along the lakeside track. Bonding has been checked and where necessary replaced, and a start has been made on tightening and replacing fishplate bolts. Cleaning has also been undertaken in recent months to remove years of accumulated dirt in the flangeways on the concrete track in Shell Street

H1 381 was transferred from Road 9 in the Northern Depot on 20 November 2016 to the Road 6 pit area in the new tram shed to enable wheel profiling work to be determined.
Colin Seymour

A series of new displays were erected in the Northern Depot display area on 20 November 2016. Colin Seymour

and the Playground, thereby improving the drainage of the track and resulting in a quieter and smoother ride for passengers.

Assistance from 'abroad'

Member Martin Gray recently had a 'busman's holiday' in Adelaide, travelling over from Melbourne to volunteer for a few days at St Kilda and to attend the AusRAIL exhibition. During his time at St Kilda he tackled a number of jobs that have been on the waiting list for some time.

One of the more visible was the hanging of various pictures and displays on the remaining two wall panels in Road 10, for which he was ably assisted by Charlie Rodgers. One of the items installed was the former City Depot employee mirror which Martin stood in front of many times when he was a Bus Operator and Motorman based at City in the early 1980s. Other tasks undertaken included cleaning and preparing some enamel signs for installation in E Type No. 118, repairs to the Trolleybus Pavilion entry doors, and cleaning of a number of buses.

National Rail Museum event

The Museum participated in the transport weekend at the National Rail Museum, Port Adelaide, in October 2016, providing Leyland 'Canton' trolleybus No. 488 and AEC Regal IV No. 623 for display at Port Adelaide. Peter Meridew from NRM again assisted with the move, arranging the heavy lift tilt tray trucks to transport both buses.

AEC Regal IV No. 623 and Leyland 'Canton' trolleybus No. 488 on display at the National Rail Museum on 9 October 2016. Bill Edmonds

Several members assisted in the manning of the vehicles while on display, and praise was received from the NRM in relation to our volunteers answering questions and handing out brochures to the public.

The logistics of moving the buses is making participation in this event harder and harder to achieve. Several days were spent preparing the buses for the move, as well as the time spent relocating them there and back.

One of the jobs completed during the reshuffling of buses to extricate 488 and 623 was to relocate the Green Goddess No. 216 to the rear of the Trolley Bus Pavilion where its front axle has now been lifted onto blocks due to the deteriorated condition of its tyres.

WHITEMAN PARK

PERTH ELECTRIC TRAMWAY SOCIETY (INC)

PO Box 257, Mount Lawley, Western Australia 6929 www.pets.org.au

Michael Stukely

Traffic operations and service cars

Patronage levels on the trams were consistently good through the spring months, including the two-week September-October school holiday period when trams operated on seven days per week as usual. Melbourne W2 329 was again the main service car, with Perth E 66 and Fremantle 29 each running on several days.

The air braking system on E 66 was fully upgraded by Noel Blackmore in October, and the air piping in the motorman's cabs was re-configured to give a more original and pleasing appearance.

Melbourne W7 1017 had been withdrawn from regular traffic duties in April 2015 due to worn wheels on one truck requiring replacement. It was decided to exchange the truck with one from sister tram 1018 (which had been stripped for us by Bendigo Tramways). The replacement truck had no problems with wheels but still needed extensive work — just how much only became apparent when the job was under way.

The new carbarn after the roller-doors were installed, seen on 21 November. The main line points leading to the Lindsay Richardson Carbarn (at left) will be relocated behind the photographer's position to make way for the turnouts for the three new carbarn roads.

David Brown

Electricians Colin Spooner (left), Len Pearce and Ian Kelly, watched by Gareth Watts, pressure-hosing accumulated dirt from the points turnouts on the carbarn fan, 9 November.
Lindsay Richardson

Inspection and preparation work on the truck from 1018 commenced on 31 August 2016. The project was a major team effort by many members over many months, with an extensive overhaul of the truck being necessary. Noel Blackmore provided input and organisation for the electrical and mechanical work undertaken by a team of six members.

Further work was also required on 1017, and Noel Blackmore spent many extra hours refurbishing the brake rigging and line breaker and contactors, with the team assisting with work on the controllers, compressor, door engines, trolley poles and bases. After so many months out of service the body of 1017 also required some repairs and repainting as well as a general clean up.

Tram 1017 was returned to regular service on 31 December, following the satisfactory completion of full recommissioning and track tests.

In October, the vigilance of one of our motormen paid dividends in preventing a possible derailment. On the first trip for the day running up to the Village, when trailing through the Triangle North points, he saw that there was a possible small gap between the point blade and the stock rail. Stopping on the return trip the slight gap was confirmed — enough to split the points and cause a derailment if the tram had continued.

The points mechanism, however, seemed to be working properly, and there was no obvious reason for the gap. Closer inspection revealed that a dead goanna was squashed and stuck between the blade and

The new carbarn after the roller-doors were installed, seen on 21 November. The main line points leading to the Lindsay Richardson Carbarn (at left) will be relocated behind the photographer's position to make way for the turnouts for the three new carbarn roads.
David Brown

W7 1017 enters the Village Mall on 6 January after leaving Whiteman Village Junction Station, with the Red Flowering Gums (Corymbia ficifolia) in full bloom.
Michael Stukely

the stock rail, not right at the end of the blade but close enough to cause the gap. It was removed and the points then closed correctly every time when tested, enabling services to continue.

General

Refurbishment works by the Wednesday team on Melbourne SW6 891 and W6 998, as well as Adelaide H 371, have continued in preparation for their recommissioning for regular service at Whiteman Park. Following the completion of work on 1017, the recommissioning of 891 is now the top priority, and the mechanical work along with the installation of air horns is progressing well.

Following the major works on re-profiling the wheels of the Brill 21E truck from Ballarat 31, some repairs to

Relocating the newly-overhauled Melbourne No. 15 truck ready for placement under W7 1017 on 30 November. Noel Blackmore is operating the crane, guided by Colin Spooner (left) and Trevor Dennhardt.
Lindsay Richardson

The body of W7 1017 being lifted for truck change-out with Noel Blackmore operating the lifting gear on 30 November.
Lindsay Richardson

Jordon Blain and Braydon Harders loading failed wooden sleepers onto the tractor for disposal, watched by Nick Tsiaglis and Trevor Dennhardt, at the track work-day on 26 November. Lindsay Richardson

Roy Daley operating the lathe to re-profile the railway wheels of the sleeper exchanger on 30 November, to enable it to negotiate the tramway grooved rail and check-rails. Lindsay Richardson

the truck frame will now be done before final painting. Major work will be required on the motors.

The conversion of W7 1023 to a works car continues. A step-up platform was lifted onto the elevated work platform (previously installed on the tram's roof for overhead line maintenance), using the new diesel-powered fork lift.

For the restoration of WAGT (Perth) A class tram 130, a stocktake of the available seats of the correct type was carried out, and prices are being obtained for the manufacture of the additional seats required.

The intensive program of replacing deteriorating timber sleepers with steel on the main line has continued, again with a focus on the section northwards from the Triangle up the gradient towards the Village. At the track maintenance day on 29 October, four members replaced another ten sleepers. On 26 November another ten sleepers were replaced by six members, with the work finished by 11.30am following an early start to avoid the heat. This completed the main sleeper replacement work from the Triangle up to the cattle grid. Only a very small number of timber sleepers, still in quite good condition, now remain on this section. The annual task of herbicide spraying of the weeds along the main line was carried out on 21 September using the spraying trolley WT 1 propelled by W7 1017. A good result was achieved.

PETS had a stand as usual at the annual 'Railfest' at Rail Heritage WA's Rail Transport Museum at Bassendean on 9 October. Good sales of books and souvenirs were reported.

The step-up platform constructed by carpenter Ian Sidebottom being lifted onto the roof-mounted work platform of Overhead Line Maintenance Tram W7 1023 by Nic Tsiaglis, using the new diesel-powered fork lift. Lindsay Richardson

The Sydney Tramway Museum's D class scrubber car 134s stands in the depot yard on 19 November 2016. It built by Ritchie Bros as a single truck California combination passenger car in 1899. It was converted to a scrubber car in July 1930 and was attached to Randwick Workshops until 1961. Scott Curnow

The Sydney Tramway Museum's F class bogie combination car 393 is the only member of its class not converted to L and LP class. It was built by Clyde Engineering in 1902 and was used as a Drivers' Instruction Car between 1910 and 1952. This tram received limited use in public service until 1927 and was renumbered 127s in that year. Scott Curnow