

50 YEARS OF ELECTRIC TRAINS IN SYDNEY

SATURDAY, FEBRUARY 28, 1976

- 8.00am - 8.30pm Display of models, photographs and equipment tracing the developments in electric passenger trains in Sydney since March 1, 1926.
- 8.00am - 8.00pm Display of modern passenger carriages - walk through and inspect - a real insight into rail travel - Platform 10.
- 8.00am - 3.30pm Inspect a modern 8-car double-deck suburban electric train - Platform 9.
- 11.00am - 3.15pm Exterior inspection of world famous Indian-Pacific express train - Platform 1.
- 2.47pm - 8.00pm Steam train with locomotive 3203 - Platform 8.
- 2.50pm - 8.00pm 1926 style electric train - Platform 11.

SUNDAY, FEBRUARY 29 to FRIDAY, MARCH 5, 1976.

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DISPLAY OF MODERN PASSENGER CARRIAGES – Platform 10 (SATURDAY, FEBRUARY 28 ONLY)

A selection of modern passenger carriages has been assembled at platform 10 for your inspection. Commencing from the barrier end of the platform they are: an air-conditioned 'Day-niter' sitting car, an air-conditioned twinette sleeping car, double-deck interurbans (2), double-deck suburbans (2), and single-deck interurbans (2).

DOUBLE-DECK INTERURBAN CARS

These units were the first fully air-conditioned carriages to operate on an interurban service in Australia. A feature of these carriages is the wide vision windows which make them a delight to travel in on the scenic routes to Gosford and into the Blue Mountains. With two passengers seated on either side of the aisle, as against the three-and-two arrangement on the metropolitan double-deck carriages, eye-pleasing colour schemes, and toilets, the comfort of interurban travellers is vastly improved. Six of these Carriages seat 572 passengers, compared with 464 in the eight-car single-deck trains.

DOUBLE-DECK SUBURBAN CARS

Over 260 double-deck carriages are now running in Sydney, and there are more to come. There are more seats on the new trains - 964 on an eight-car double-deck train compared with the 560 available on a single-deck train, an increase of 72%. They ride on a smooth air cushion, their anti-glare windows are heat absorbing, and they have a special extractor ventilating system. Every 60 seconds the air is completely changed on both decks.

SINGLE-DECK INTERURBAN CARS

These were the first stainless steel electric passenger carriages to operate in Australia. Eighty carriages were purchased with the first operating in 1958. These cars are used on services operating to Gosford and the Blue Mountains.

'DAY-NITER' SITTING CAR

This is one of the first six carriages which have been completely refurbished. They highlight window to window floor carpeting, modern toilet facilities, individual lights, air-conditioned comfort, plus new-style reclining 'day-niter' seats which provide a standard of comfort and appearance unsurpassed in competitive modes of transport. These cars are in use on the "Gold Coast MotoRail", "Brisbane Limited" and the "North Coast Daylight" Expresses.

This is one of ten air-conditioned sleeping cars purchased by the Commission for use on the "Gold Coast MotoRail Express". Each car accommodates 18 passengers for day and night travel in nine 2-berth cabins. Each cabin has en suite toilet and shower facilities.

1926 STYLE ELECTRIC TRAIN – Platform 11

Commencing from the barrier end of the platform car No. C 3102 was part of the consist of the original train which ran from Oatley on March 1, 1926. The following cars T 4312, C 3107, T 4302, T 4305 and C 3104 were all in service in 1926. These steel cars have a greater operating life than the wooden type which have been phased out of service in recent years.

STEAM TRAIN – Platform 8

Locomotive 3203:

The first of its class, 3203 was constructed by Beyer-Peacock, Manchester, England, to a design prepared by the Chief Mechanical Engineer of the N.S.W.G.R. It was delivered on the 3rd February, 1892 and up until the time it ceased regular service in 1967 it travelled over 2 million miles. It is now cared for by the Rail Transport Museum at Thirlmere.

Passenger Carriages:

Car No. BX 1142 was constructed in 1907 and the balance of the cars were introduced into service during 1911/12 and were typical of the suburban cars used prior to electrification.

'INDIAN-PACIFIC' – Platform 1

The carriages on the train are:

BRAKEVAN	Housing the braking equipment, parcels, luggage and guard.
CARS 3 & 5	These first class 'twinette' cars provide day and night accommodation for 18 passengers in 9 two-berth cabins, which have an adjoining compartment with full shower and toilet facilities.
CARS 2 & 4	First class 'roomette' sleeping cars accommodate 18 passengers in single cabins, each with full toilet and wash basin facilities. Showers are located at each end of the car.
CAR 1	Similar accommodation as Car 5 but it also contains a deluxe cabin with pelmet lighting, a double bed, comfortable lounge chairs, table, wardrobes, vanity unit and shower and toilet en suite.
LOUNGE CAR	The first class Lounge Car seats 53 passengers in two lounge sections. The smaller section contains a bar where drinks and light refreshments can be purchased and the larger section has a piano.
DINING CAR	The Dining Car accommodates 48 passengers at a sitting. Meals are prepared in the kitchen and are served by courteous and efficient waiters.
CAFETERIA/ CLUB CAR	This car has been designed to function as a club/lounge car for both first and economy class passengers. Light meals and a liquor service is available. The dining area seats 24 and the remaining area provides for 37 passengers in a lounge section.
CARS 11 & 12	These economy class 'twinette' cars have 16 compartments each accommodating two passengers. Sleeping berths convert during the day to form armchair type seats. Showers and toilets are located at each end of the car.
DORMITORY CAR	This car provides sleeping accommodation for the crew of the train. It has showers, tables and chairs and cooking facilities.
POWER VAN	This van provides the power for air-conditioning, lighting and the 240 volt power supply.



Half a century of

The start of an era

Sydney's first electric train service commenced operation on the Illawarra Line between Oatley and Central on 1st March, 1926. The first train consisted of 6 carriages numbered C3001, C3101, C3102, D4001, T4105 and T4106.

By the end of 1926 with over 30 complete trains in operation electric services had been extended to Sutherland, Bankstown, St. James and National Park. Electrification of the Sydney Suburban area between 1926 and 1932 was carried out in conjunction with construction of the City Underground Railway and the Sydney Harbour Bridge in order to provide an improved means of transport between the central business district and outlying areas.

Progress.

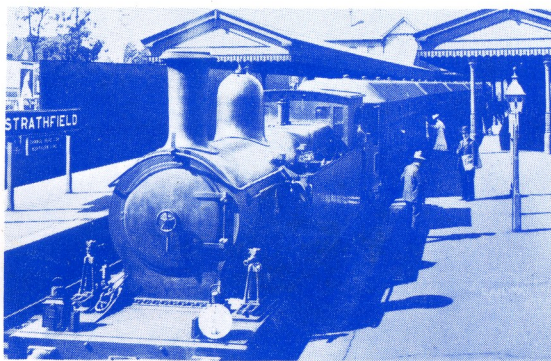
From a modest 18 kilometres of electrified route distance between Oatley and Central and six electric carriages in 1926, the NSW electric rail network has expanded into a giant complex, providing electric rail services throughout much of the metropolitan area, with interurban services extending to Lithgow 154 km and to Gosford 80 km from Sydney. Today, the Public Transport Commission has 1214 electric suburban and interurban carriages forming 1422 "train runs" on an average working day over an electrified route distance of 446 kilometres.

During one year electric trains travel over 16 million kilometres on this network — passenger journeys total over 500,000 each working day.

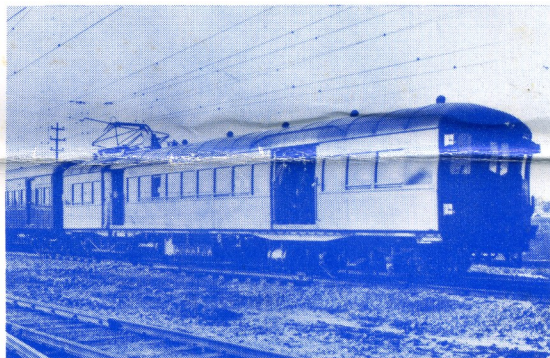
Advantages

Electric traction provides for a cleaner, faster, and more economical operation of trains, allowing greater track capacity with the ability to move large numbers of people and heavy freight loads quickly and efficiently.

With a constant supply of power available from the overhead wiring to the traction motors, electric trains can accelerate more rapidly and haul greater loads up steep inclines far more effectively than the former steam locomotive trains.



A typical suburban steam train of the early 1920's.



Early suburban electric train with "standard" and "wooden" cars.



Single-deck stainless steel interurban train

Opening dates of Electric Services.

Oatley	1.	3.26	Waverton	20.	3.32
Sutherland	16.	8.26	Bankstown via Regents Pk.	2.	7.39
Bankstown	24.	10.26	Cronulla	16.	12.39
St. James	20.	12.26	East Hills	17.	12.39
National Park	24.	12.26	Blacktown	27.	2.55
Milsons Pt/Hornsby	15.	8.27	Penrith		9.10.55
Homebush	27.	8.28	Circular Quay (loop)	22.	1.56
Parramatta	27.	5.29	Lithgow	18.	6.57
Liverpool via Granville	23.	9.29	Ropes Creek	6.	11.57
Hornsby via Strathfield	21.	1.29	Carlingford	9.	8.59
Liverpool via Regents Pk.	2.	12.29	Gosford	23.	1.60
Kingsgrove	21.	9.31	Campbelltown	5.	5.68
Wynyard	28.	2.32	Riverstone	18.	5.75

Electric traction

Power source

The power source for electric trains is supplied to the Public Transport Commission by The Electricity Commission of NSW. Supply is taken in the Metropolitan Area mainly at 33,000 volts via connections with Electricity Commission installations. The Gosford and Lithgow interurban lines receive 66,000 volts.

Power received from the Electricity Commission is three phase alternating current supplied at a frequency of 50 cycles per second. This power is converted to 1,500 volt direct current at 35 Public Transport Commission owned traction substations situated throughout the system.

1,500 volt D.C. is collected by pantographs mounted on the driving cars. The rail line is used as a return for the current to substations to complete the circuit.

Signalling

The signalling system used in the Sydney Suburban Area has continuous track circuiting. The presence or absence of a train in the section controls the operation of signals and a "trip" device situated on the rail line is used to apply the brakes if an electric train should pass a stop signal. Through the use of this system and other safety facilities NSW has an enviable safety record throughout the world.

Tenders were recently called to provide for a new and improved signalling control system in the Sydney area. The new equipment will use computer based information to allow control staff to immediately locate train difficulties and take fast remedial action.

Double-deck trains to world standard

Double-deck carriages, first introduced in 1964, have proved very popular with commuters because of their increased seating capacity, improved fluorescent interior lighting, and smoother riding qualities from an 'air-cushioned' suspension. NSW was the first railway system in the world to successfully use double-deck "motor" carriages and is the only system in Australia to use double-deck trains.

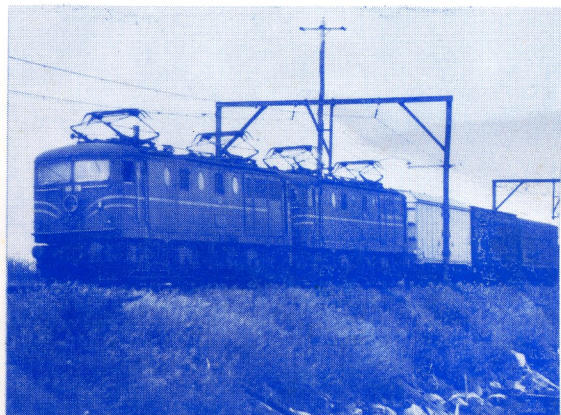
Design of the NSW double-deck carriages has received world acclaim, and a visit by French railway engineers recently led to a request to supply design expertise to the Cie Industrielle de Material de Transport, which is one of the largest rolling stock manufacturers in Europe.

The P.T.C. has placed a high priority on the rolling stock modernisation programme and today 1 in 4 suburban cars are of double-deck design with additional carriages being brought into service at the rate of about one each week.

Eastern Suburbs Railway.

The Eastern Suburbs Railway, one of the largest engineering projects undertaken by the NSW Government in recent times, will expand the operations of the existing electric suburban rail network to serve the densely populated eastern suburbs of Sydney. The line will be electrified by the same method as the present suburban network with the overhead wiring supplying 1,500 volts D.C.

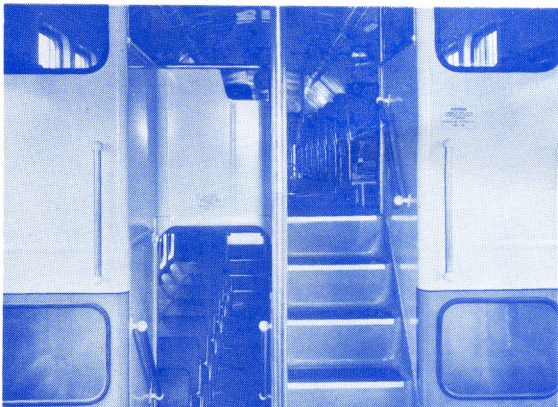
The new railway will extend to Bondi Junction via Redfern, Central, Town Hall, Martin Place, Kings Cross, Edgecliff and Woollahra, a total distance of 10 kilometres and will be completely underground except for the Woolloomooloo and Rushcutters Bay Viaducts.



Powerful 46 class electric locomotives hauling freight train.



Modern signal control room overlooking Campbelltown rail yards.



Interior of double-deck carriage showing both decks



The Woolloomooloo Viaduct — Eastern Suburbs Railway.