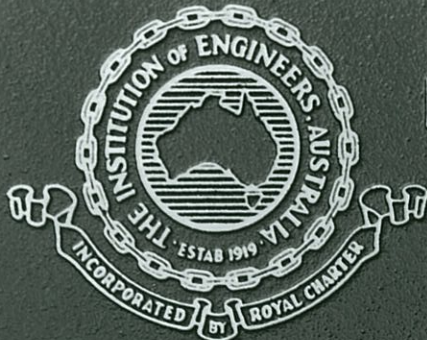


# CEREMONY REPORT

FOR THE

# SYDNEY CITY RAILWAY



## HISTORIC ENGINEERING MARKER

### SYDNEY CITY RAILWAY

THIS IS AUSTRALIA'S FIRST UNDERGROUND CITY RAILWAY, COMPRISING A CITY CIRCLE COMPLETED IN SECTIONS - CENTRAL TO ST JAMES (1926), CIRCULAR QUAY (1956), WYNYARD TO CENTRAL (1932) - AND THE NORTH SHORE LINE THROUGH WYNYARD (1932), WHICH BROUGHT THE SUBURBAN POPULATION TO THE CITY CENTRE. IT WAS BUILT BY THE METROPOLITAN RAILWAY CONSTRUCTION BRANCH UNDER THE DIRECTION OF DR J J C BRADFIELD. THE WORK INCLUDES BRIDGES, TUNNELS, STATIONS AND THE CIRCULAR QUAY VIADUCT. THIS PROJECT HAS CONTRIBUTED SIGNIFICANTLY TO SYDNEY'S GROWTH AS AN INTERNATIONAL CITY.

DEDICATED BY  
THE INSTITUTION OF ENGINEERS, AUSTRALIA,  
AND THE STATE RAIL AUTHORITY, NSW 1997.

13TH OCTOBER 1997  
AT  
ST JAMES RAILWAY STATION, SYDNEY

National Committee on Engineering Heritage  
Institution of Engineers, Australia  
Canberra, ACT.

Don Fraser  
Engineering Heritage Committee  
Sydney Division, I E Aust.

# SYDNEY CITY RAILWAY

COMMEMORATIVE PLAQUING CEREMONY

at  
St James Railway Station  
on  
13th October 1997

## OFFICIAL PARTY

- Kevin Moss MP - Member for Canterbury  
Parliamentary Secretary for Transport
- Col Cowell - Manager, Inner City Sector, CityRail
- Bill Jordan - Chairman, National Committee on Engineering Heritage,  
Institution of Engineers, Australia
- Alan Hammoud - Station Master, St James Railway Station.

## CEREMONY

- 3.30 pm Col Cowell  
*Welcome and City Railway operations*
- Kevin Moss  
*Historical significance and review*
- Bill Jordan  
*I E Aust Plaquing Programme*
- Unveiling the plaque
- Photographs
- Close and refreshments.

## SPECIAL GUESTS

DR 'BILL' BRADFIELD AND MRS BRADFIELD  
PETER AND ALICE BRADFIELD  
ROSS GORDON, SRA COMMISSIONER 1976-1980

The Institution of Engineers, Australia  
and  
CityRail, Inner City Sector

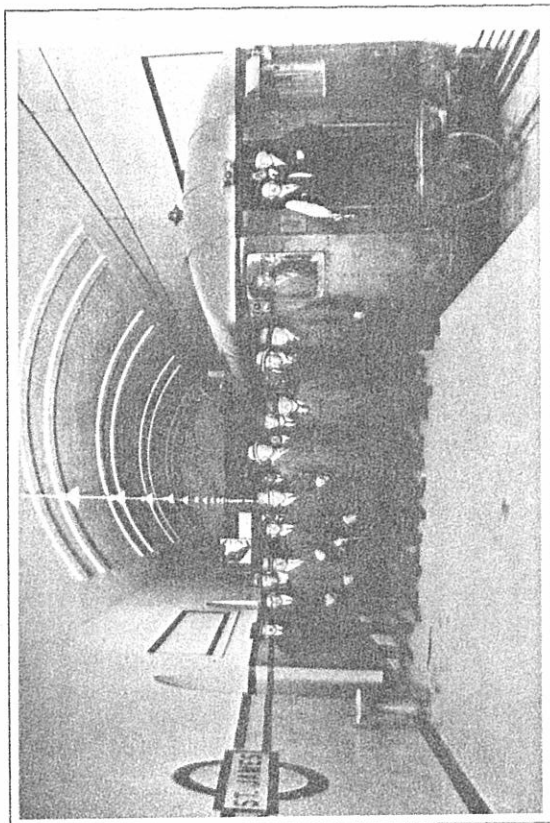
present the Official Ceremony  
for the  
Commemoration  
of the

# SYDNEY CITY RAILWAY

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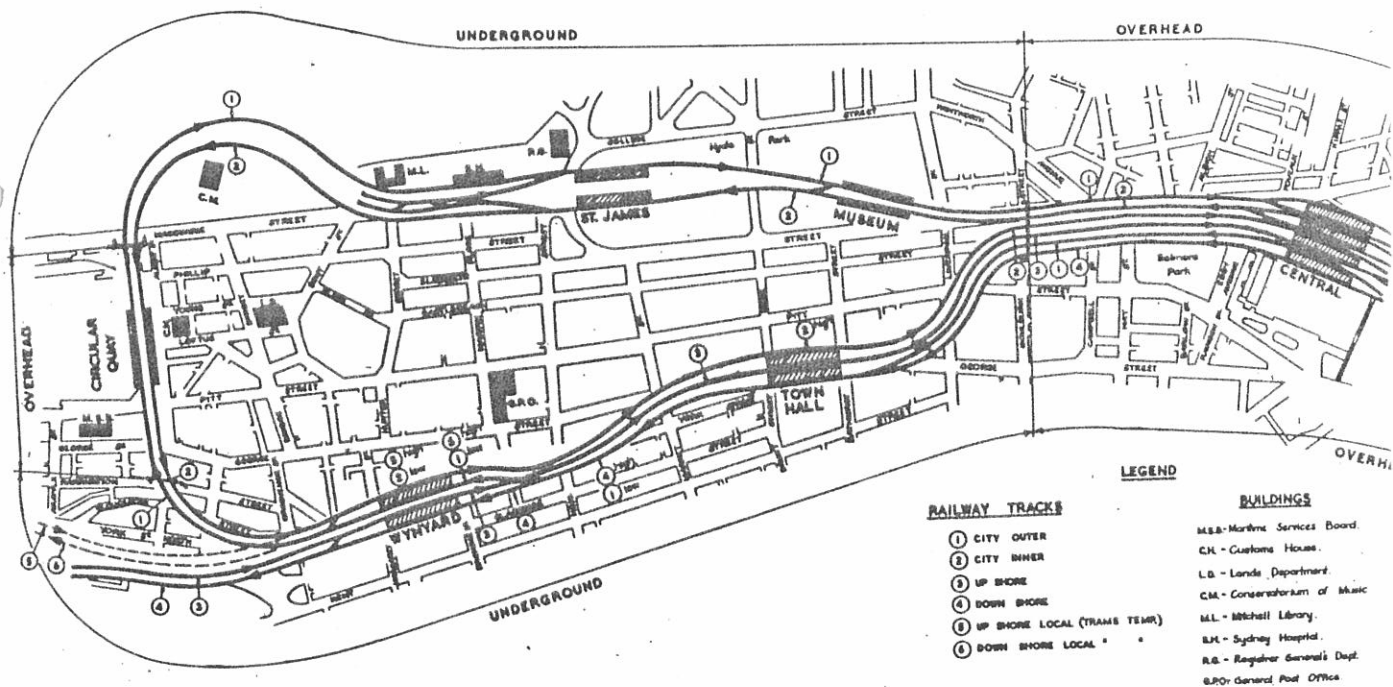
*HISTORIC ENGINEERING MARKER*

MONDAY 13TH OCTOBER 1997



The first section of the City Railway was brought into service on 20th December 1926 without ceremony. This official inspection was made on 9th December, Dr J J C Bradfield is the third member of the group from the platform edge.

## THE CITY RAILWAY DIAGRAMMATIC LAYOUT



## THE SYDNEY CITY RAILWAY FIRST UNDERGROUND RAILWAY IN AUSTRALIA

### **HISTORICAL REVIEW**

As early as 1857 John Whitton, Engineer-in-Chief for the New South Wales Railways 1857-1890, had urged the extension of the fledgling railway into the City, proposing a terminus in Hyde Park. Instead, a horse-drawn tramway along Pitt Street connected the station near Redfern to Circular Quay from 1861 to 1866. But was not a success mainly because the rails were laid above the street level causing inconvenience to cross traffic.

Whitton returned to the theme in 1872 proposing a terminus station in place of the law court next to St James Church. He later modified this to a site between King and Hunter Streets which was the base for an "eastern suburbs" railway proposed by the Metropolitan Extension Committee in 1878.

But the railway emphasis was on access to the Colony's frontiers, not to the suburbs, so the link between the Railway Square region and Circular Quay was eventually provided by the development of an extensive tramway system. This link prevailed for another 50 years.

As with all great public works schemes, the gestation period for the City Railway was long and controversial, highly political and subjected to endless Royal Commissions and Reports. The 1891-92 Royal Commission on City and Suburban Railways reinstated Whitton's plan for a station in Hyde Park, but public uproar followed. The result was that the present Central Terminus was planned on a site that allowed for future railway extensions into the City. By this time, a new graduate from Sydney University, J C Bradfield, had joined the Public Works Department in the Engineering Drawing Office of the Roads, Bridges and Sewerage Branch.

Bradfield's first significant involvement with the City Railway and Harbour Bridge schemes was in preparing preliminary plans and estimates for the 1909 Royal Commission. He prepared the railway scheme for the Chief Engineer for Railway Construction, William Hutchinson. The Commissioner's agreed that the only effective way of relieving congestion in the city streets was a comprehensive system of city and suburban railways, preferably electrified.

In 1912 Bradfield was assigned to the Minister for Works as Engineer-in-Chief of Sydney Harbour Bridge and City Transit to work exclusively on these projects. Two years later he, the Chief Commissioner for Railways and the Minister reached agreement on a city railway scheme and then he proceeded overseas to study long span bridges and underground railways.

The authorising Act for the underground City Railway was passed on 13th October 1915 under the Holman Government and Bradfield found himself in charge of the Sydney Harbour Bridge Branch for the Public Works Department and of the Metropolitan Railway Construction Branch for the Railway Commissioners.

A full description of all aspects of the railway work can be found in the 5 papers by the Branch Chief Engineers in the 1926 issue of the Transactions, Institution of Engineers, Australia.

### **CITY RAILWAY DETAILS**

After the authorising Act was passed, the Government entered into an arrangement whereby the London contractor Norton Griffiths & Company would fund and construct public works to the value of £10,000,000. On the City Railway they excavated the foundations for the Eddy Avenue bridge and the Elizabeth Street retaining wall, did some tunnelling on the eastern side and diverted some tram lines. But the contract proved unworkable and was cancelled in May 1917 with the Railway Department continuing construction until June 1918 when the bridge for Macquarie Street and the portal at East Circular Quay were completed. Then work ceased.

Work was resumed in February 1922 by the Metropolitan Railway Construction Branch under Bradfield's direction and continued through to 1932 by which time the eastern section to St James had come into use on 20th December 1926 and services on the Western section to Wynyard began on 28th February 1932 and were extended across the Harbour Bridge on 20th March. But there was no link across Circular Quay.

Construction at Circular Quay began in 1936 and by 1938 the riveted steel girders had been fabricated, see the maker's plate over George Street. Work stopped during the 1939-45 war period and then foundation work was resumed during 1947-1951. The final construction phase began in earnest in 1953, which included the Cahill Expressway above the railway viaducts and station building. This section of the "loop" was opened on 20 January 1956 by Premier Cahill and regular train services around the completed City Railway, also known as the City Circle, began two days later.

The map overleaf shows the relationship of the City Railway to the city streets and those sections that are underground and above ground. The railway has two main sections, the City Circle comprising the City Inner and Outer tracks, and the North Shore tracks that continue past Wynyard and across the Harbour Bridge.

At Central, the start and finish of the City Circle creates four tracks and the North Shore has two. All proceed north on the elevated section between Elizabeth Street and Belmore Park until the Goulburn Street portals where all enter tunnels. The North Shore tracks and two of the City Circle tracks swing left and head diagonally across to George Street, where an access shaft once occupied the old Plaza Cinema site, and straighten up into Town Hall Station. This station and those at Wynyard, St James and Museum were built in open excavations and then covered over. These western side tracks swing across to York Street under the Commonwealth Bank in Market Street then continue on to Wynyard.

After Wynyard, the two North Shore tracks carry straight on to the Harbour Bridge while the two City Circle tracks swing right and emerge above ground on the Circular Quay viaduct, then into the tunnel on the eastern side and a semi-circular sweep behind the Conservatorium for Music, then a reverse curve past the Mitchell Library and under Macquarie Street to St James Station. Here, additional tunnels had been constructed to accommodate Bradfield's Eastern Suburbs Railway, but they remain unused. Only two tunnels continue under Hyde Park to Museum Station, the only all-concrete station, a reinforced concrete barrel arch spanning the two tracks and their platforms. The City Circle tracks reemerge at the Goulburn Street portals and return to Central on the elevated section parallel to Elizabeth Street. Chief Railway Commissioner James Fraser reported the City Railway cost £7 million which is equivalent to around \$1 billion today.

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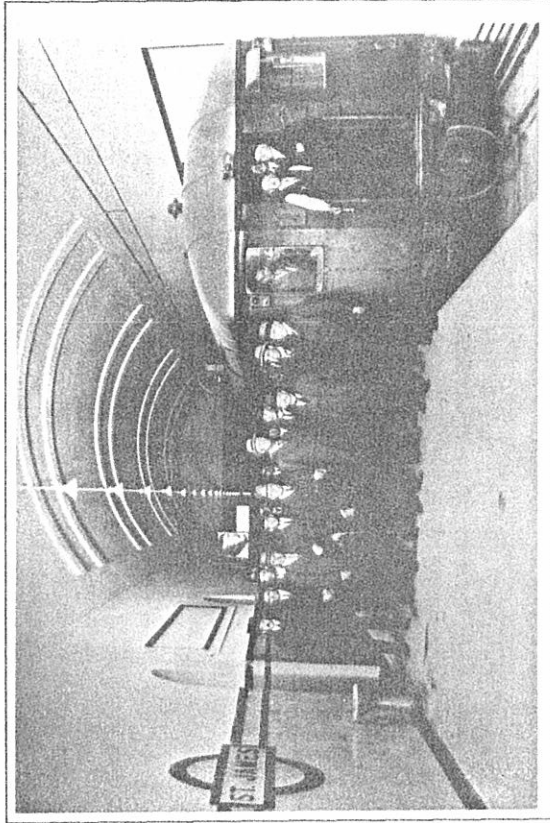
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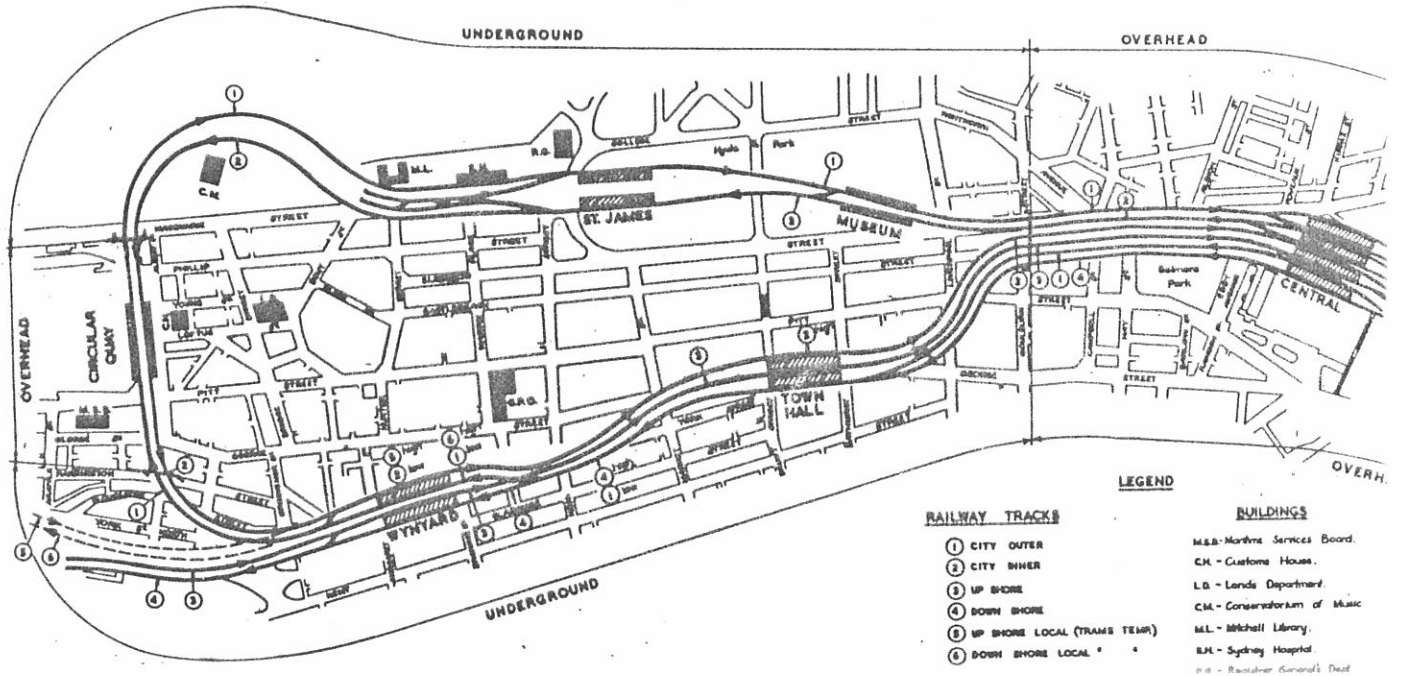
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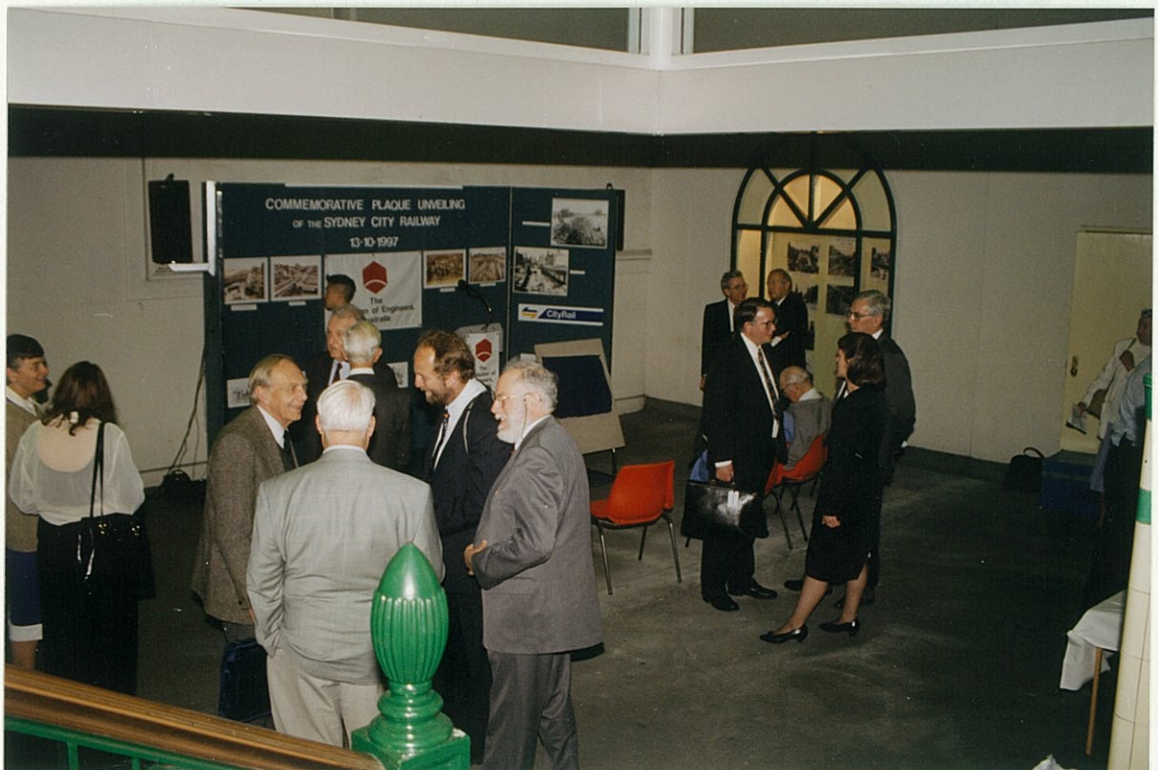
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## THE CITY RAILWAY DIAGRAMMATIC LAYOUT





Top: The ceremony display by the SRA Display Unit.  
Above: Guests assembling at St James Station.



Two display cabinets have been made available at St James Station for photographs of the construction of the Sydney City Railway 1922-32. This display will be for public viewing October 1998. The plaque will be placed in the space in the second cabinet then moved to its permanent place on the wall opposite the ticket office.





Top: Colin Cowell, Manager, Inner City Sector, opened proceedings. To his right is Kevin Moss, Parliamentary Secretary for Transport, then Bill Jordan the Chairman of the National Committee on Engineering Heritage (I E Aust) and the duty Station Master at St James. Above: The special guests, seated, Peter Bradfield grandson of J J C Bradfield, then Bradfield's son Dr Bill Bradfield and Mrs Bradfield, then Ross Gordon, Railway Commissioner 1976-80 and Frank Franklyn retired senior railway engineer.



Official speakers, Top: Kevin Moss, Parliamentary Secretary for Transport, and Below: Bill Jordan, Chairman of the National Committee on Engineering Heritage, I E Aust.



Unveiling the plaque, Bill Jordan left and Kevin Moss right.



Top: Dr Bill Bradfield and Mrs Bradfield, Bill Jordan, Kevin Moss and Peter Bradfield.  
The plaque honours the contribution of Dr J J C Bradfield to the design concept of the City Railway and supervision of its construction.



Right, Ross Gordon, Railway Commissioner 1976-80 and retired senior railway engineer, Frank Franklyn.  
LEFT