

# Beck Exportation: London and Sydney

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**Abstract:** Henry (Harry) Beck's schematic map of the London Underground is the foundation for most 'modern' representations of metropolitan rail systems. From its introduction in the 1930s, it has been the image of the London underground rail transportation system, and, indeed, the image of London itself.

Following the launch of the schematic map in 1933 Londoners adopted his representation of the underground as the favoured transportation navigation tool, but also as a physical affirmation that they were citizens of a modern city, a city of electricity and the avant-garde.

The London Underground map, as well as being the physical image of the underground rail system, became the signature of the modern city itself. It projected order, systematic transportation and commuter convenience. The map reinforced the general belief that a modern transportation system was at the very heart of what made a city a city.

Building upon the success of the map, Beck, and the London Passenger Transport Board, explored how this 'take' on the representation of an urban transportation system might be exported to other European, and Antipodean rail networks.

This paper provides a dialogue on how Beck's concept for the 'metromap' was offered as an alternative navigational diagram to the, then new, Sydney underground system. It then outlines the results of an investigation about how this 'Exportation' of Beck's design resulted in the 1939 Sydney metromap that was a clone of the London Underground map.

**Keywords:** Metromap, Harry Beck

## 1. Introduction - Harry Beck's London Underground Map

In 1931, whilst laid-off from the London Passenger Transport Board (now Transport for London (TfL)) during a time of austerity Electrical Draughtsman, Harry Beck, designed a different way to represent the London Under-

ground. Whilst incorporating the colour coding and basic railway line demarcation, his design did something different to other maps that had been produced to depict the whole London Underground System. It ignored the geography above ground and concentrated on 'mapping' the lines, stations and interchanges. Whilst this had been done before for representing single lines or some multiple lines, it had not been done for the complete system. His map depicted all lines as horizontal, vertical or at 45 degrees. The map simplified the system, and the focus was on the lines, stations and interchanges.

After pressing his employer, and particularly The London Passenger Board's public relations officer, Frank Pick, to publish the map, a trial run was published in 1933 (Figure 1.). The map proved to be highly successful with the general public, and additional print runs were made to satisfy the demand (Garland, 1994). The map was a 'hit' with Londoners.



Figure 1. Beck's first published map - the 1933 'pocket version'. Source: <http://homepage.ntlworld.com/clive.billson/tubemaps/1933.html>

## 2. Exporting the concept - Beck's Paris metromap

In the late 1930s Beck was approached by the Paris Metro (now RATP) to apply his design principles in order to facilitate a new metro rail system diagram for Paris. This was delayed somewhat by the conflict of World War II, and it was finished after the War was over. Following his London map design principles, his design for Paris did away with the geographically-bound representation of the existing Paris Metro map, and applied the design principles of mainly straight lines, 45 degree angles and station/interchange demarcation. The map design, from 1951, is depicted in Figure 2. (A copy of this design is currently in the London Transport Museum.)

His first design was rejected by the Paris Metro operators. Beck then developed a second version of the map.

However, Paris Metro's decision on this second iteration of the map is unknown (Ovenden, 2009). (Only one copy of his initial design survives, in the collection of Ken Garland, author of the book about Beck, *Mr Beck's Map*).

The map that became the 'accepted' representation of the Paris Metro is the 1934 pocket Paris Metro map designed by F. Lagoute. It was in use for almost 40 years (Ovenden, 2009) (Figure 3).

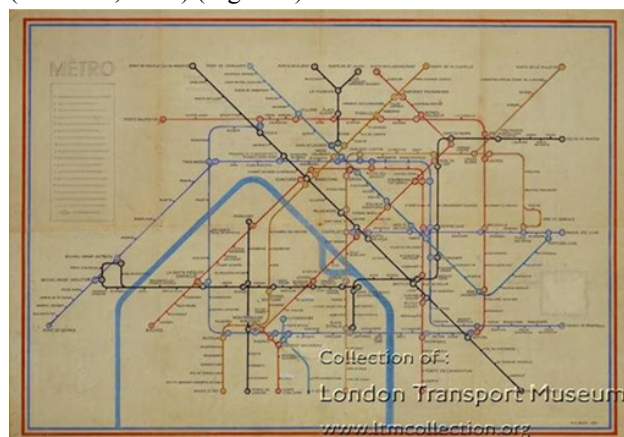


Figure 2. Preparatory drawing for diagrammatic map of the Paris Metro, by Henry C Beck, 1951 Source: London Transport Museum. Persistent link:

[http://www.ltmcollection.org/museum/object/object.html?IXM\\_AXHITS\\_1&\\_IXSR\\_1=qPurEgITsJV&IXsummary=collection/collecti on&IXcollection=tickets%20or%20maps%20or%20timetables &\\_IXFIRST\\_1=77&IXenlarge=i0000kg9](http://www.ltmcollection.org/museum/object/object.html?IXM_AXHITS_1&_IXSR_1=qPurEgITsJV&IXsummary=collection/collecti on&IXcollection=tickets%20or%20maps%20or%20timetables &_IXFIRST_1=77&IXenlarge=i0000kg9)

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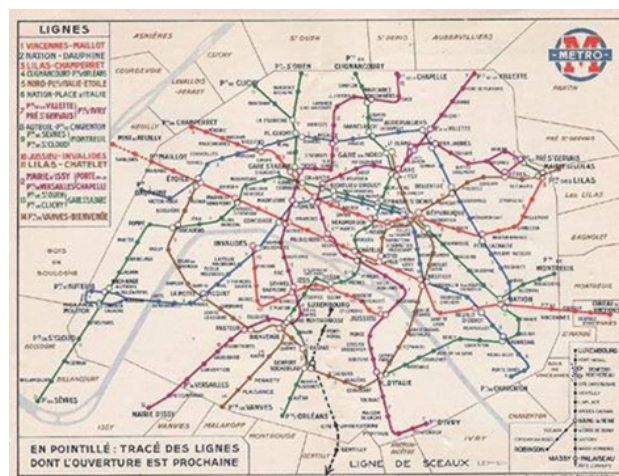


Figure 3. 'Lagoute' pocket map of the Paris Metro, 1936

Source: [http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg\\_id=00005W](http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=00005W) This work is out of copyright. No copyright restrictions apply.

## 3. Sydney Metropolitan railway

The history of Sydney's dates back to 1855, when the line between Sydney (now between Central and Redfern stations) and Parramatta (now Granville) opened, today part of the Western Line. Over the following 70 years, additional lines were built - West from Granville to Penrith and Richmond (the Western Line), South from Granville to Campbelltown (the South Line), North from Strathfield to Hornsby (the Northern Line) and back South to North Sydney (the North Shore Line), South from Sydney to Sutherland (the Illawarra Line), and West from Sydney to Bankstown (the Bankstown Line) (Transport Sydney, 2011).

In the city proper there were grand plans to develop a central rail system. In 1877 plans were developed to make improvements to and to extend the Sydney and suburban rail network (Figure 4). This included a city 'loop', servicing the Central Business District of Sydney (Figure 5).



Figure 4. The city of Sydney and suburban railway extension / as proposed by Mr. John Young.

Inset: enlarged section showing improvements in Darling Harbour.

Source: National Library of Australia. Supplement to "The Illustrated Sydney News", June, 1877. Persistent link: <http://nla.gov.au/nla.obj-230024745>

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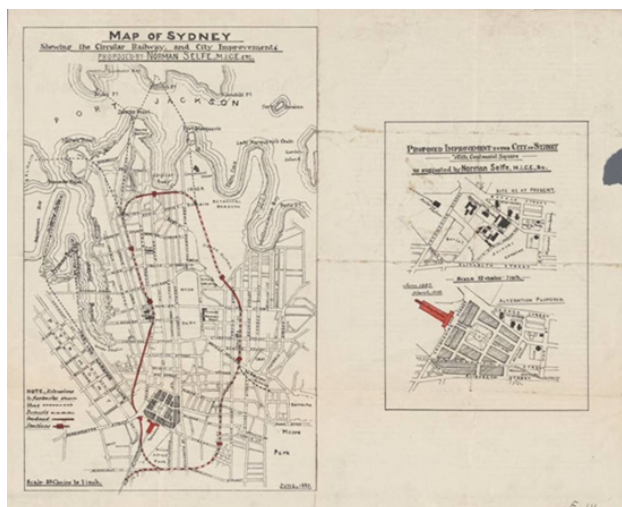


Figure 5. Map of Sydney shewing the Circular railway and city improvements / proposed by Norman Selfe. 1887. Inset: Proposed improvement to the city of Sydney with centennial square.

Source: National Library of Australia.

Persistent link: <http://nla.gov.au/nla.obj-229912651>

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By the turn of the century Sydney had grown to become a large city, with a population of 481,000 (Lambert, 2017). The expansion of the suburbs, and the subsequent provision of public transportation was mainly to the south of the Harbour (Figure 6).



Figure 6. City of Sydney and the adjacent municipalities. John Sands (Publisher) 1903. Inset: Proposed improvement to the city of Sydney with centennial square. Source: National Library of Australia. Persistent link: <http://nla.gov.au/nla.obj-229912651>

In 1912 Dr. John Job Crew Bradfield (1867-1943) proposed a city rail system that would link Central Station (the terminus for country and interstate train services) to a city 'loop', linking new underground stations that would be constructed - Town hall, Wynyard, Circular Quay, St James and Liverpool Street. As well, the city rail network

would link to North Shore suburbs via the proposed Sydney Harbour Bridge. This plan is shown in Figure 7.

Regarding the bridge, Bradfield was making the case for the Sydney Harbour Bridge as early as 1903. In 1912 he appeared before the Parliamentary Joint Standing Committee on Public Works to propose a bridge between the city and North Sydney (The Daily Telegraph (Sydney), 2014a). He was appointed Chief Engineer for the Sydney Harbour Bridge and Metropolitan Railway construction within the Public Works Department of New South Wales (Transport Sydney, 2011).



Figure 7. The city railway with tramway connections : deposited plan. Department of Public Works. New South Wales. 1913 Source: National Library of Australia. Persistent link: <http://trove.nla.gov.au/version/22244332>

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In a paper presented at the first Australian Town Planning Conference and Exhibition, held in Adelaide in 1917, "The transit problems of greater Sydney", Bradfield argued that the development of the metropolitan rail system would open up new land for development and allow quicker transport and cheaper fares (Spearritt, 1979). His vision was published as the thesis for his Doctor of Science Degree in Engineering, 'The city and suburban electric railways and the Sydney Harbour Bridge' (Spearritt, 1979), the first ever awarded at the University of Sydney (The Daily Telegraph (Sydney), 2014b).

He is considered as the father of Sydney's modern rail system (Transport Sydney, 2011).

The building of the Harbour Bridge coincided with the construction of a system of underground - the City Circle,

and the bridge was designed in concert with this (Phoenix Group Co., 2017).

Sydney's public transportation system continued to grow, and by 1923, when excavation for the underground began, it was already a comprehensive network of trains, trams and buses (Figure 8).



Figure 8. General map of Sydney & suburbs, shewing municipalities and shires, also railways, tramways and main roads, etc.

McCarron, Stewart & Co. 1923. Source: National Library of Australia. Persistent link: <http://trove.nla.gov.au/version/23064859> This work is out of copyright. No copyright restrictions apply.

The late 1920s to early 1930s saw Sydney's rail network beginning to be electrified, with electric trains replacing steam engines, allowing them to enter the underground subway tracks. Electrification completed 1932. By 1939 a clear hierarchy of city stations had been established, with Wynyard and Town Hall Stations (both opened in 1932) the key commercial stations (Spearritt, 2000).

So, by the mid 1930s Sydney had an electrified underground rail system that linked its CBD. All it needed now was a good map.

#### 4. Railway Map - Sydney Suburban and City Underground railway, 1939

In 1939 the Department of Railways, New South Wales, issued a map a pocket map for the tourists and visitors to Sydney. The main map shows the location of railways, principal streets, and access points to underground stations in central Sydney. On the reverse, is a map covering the 170 stations in the metropolitan rail system of 1939. It was printed in seven colours and each line was demarcated with a different colour. (The Sun (Sydney) Saturday 4 march

1939, p. 8; Sydney Morning Herald, Saturday 4 March 1939, p. 22).). The maps are shown in figures 9 and 10.

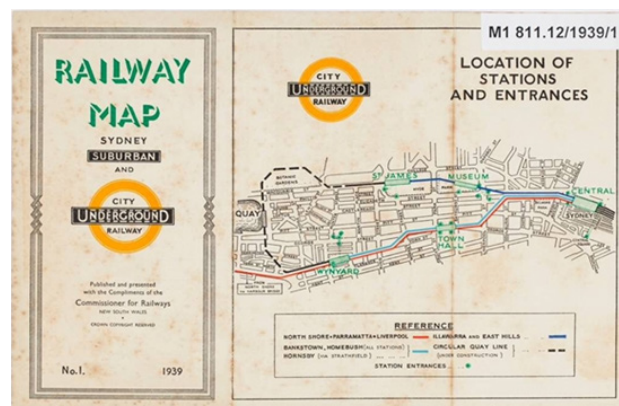


Figure 9. City Underground Railway Location of stations and entrances. Office of the Commissioner for Railways, New South Wales. 1939. Source: State Library of New South Wales.

Persistent link: <http://archival-classic.sl.nsw.gov.au/album/ItemViewer.aspx?itemid=1293135&suppress=N&imgindex=1> This work is out of copyright. No copyright restrictions apply.

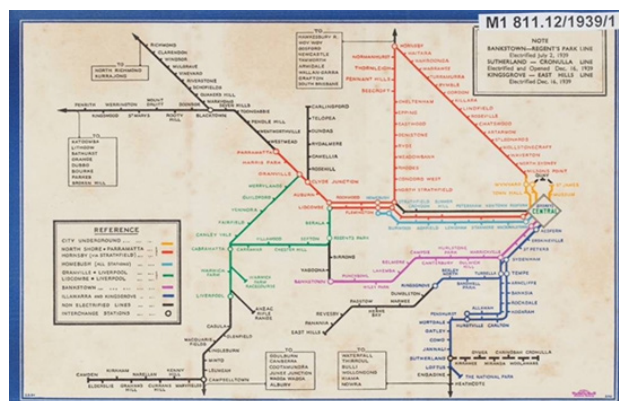


Figure 10. City Underground Railway Location of stations and entrances. Sydney, Waite & Bull for the Office of the Commissioner for Railways, New South Wales. 1939. Source: State Library of New South Wales.

Persistent link: <http://archival-classic.sl.nsw.gov.au/album/ItemViewer.aspx?itemid=1293135&suppress=N&imgindex=2> This work is out of copyright. No copyright restrictions apply.

The map is undeniably based on Harry Beck's London Underground map. Dobbin (2011) noted that this map used similar design principles as Beck's representation. As well, the covers for the folded maps are almost identical -

Sydney's map of 1939 and the London map of 1938 (Figure 11).





Figure 11. Sydney and London map covers.

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## 5. Conclusion - part 1 of 2 (to follow)

The history about how this map came about is still under investigation at the time of uploading this paper into the conference manuscript management system. Archives at a number of New South Wales Government bodies are being investigated:

- Ministry of Transport
- Department of Railways
- Way and Works Branch, Department of railways, NSW

The complete story will be told in the author's conference presentation.

## 6. Acknowledgement

Mike Jones, archivist

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