

MEETING REPORT

Underground Maps After Beck

by Dr. Maxwell J. Roberts

(author of the book of the same name)

A report of the LURS meeting at Toynbee Hall on 11 July 2006

To provide a background for his talk, our speaker started with a 1928 map of the Metropolitan Railway that attempted to show a geographic layout including major roads, but became both crowded and misleading through distortions to fit the page. A Stingemore map of the mid-1920s showed only railways, but suffered similarly.

Beck's line diagram was the first to include the whole system in a simplified layout of horizontal, vertical and 45° lines, with distinctive line colours. The central area was enlarged, whilst the suburbs were compressed to ease legibility, and stations were simple tick marks except for interchanges. The balance between simplicity and detail led to an attractive and usable end product. It has been claimed that Beck's inspiration was electrical circuit diagrams, although these did not use 45° lines.

In fact, a straightened-line map appeared in 1917, and Thomas Cook's map for the Wembley Empire Exhibition of 1924-25 was non-geographic. Car line diagrams had been forced to distort lines to the available space from the early-1920s. In 1929 George Dow commenced his rail line diagrams, fitted within the page size. All of these influences existed at the time of Beck's 1933 system diagram.

The use of 45° lines makes the placement of interchange station names difficult in the resultant angles. Beck tried 60° lines in a wartime map designed to fit the many planned extensions, but diagonal lines make the future incorporation of developments difficult, and Beck reverted to the avoidance of such lines.

Pressure for a new diagram to incorporate the planned Victoria Line led to Harold Hutchison's 1960 angular design, which was hard on the eye. Different versions were used for card folders and station posters, the latter making use of its additional space. But unpopularity of this design led to the adoption of a new one from Paul Garbutt that returned to the principles of Beck. However, the Victoria Line was not fully accommodated until a 1972 revision. This marked the end of the era of amateur designers.

All subsequent designs were contracted to professional firms, with many changes of supplier. In 1973 the Circle Line was opened up to accommodate the planned Jubilee Line stage two through to the City. Station names became upper case, rather than a mixture of both, and this required a smaller typeface. Consequently, a diary version was produced to maintain legibility in a smaller format.

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The GLC, having subsidised the North London Line, pressed for its incorporation in the map. The line from Richmond to Broad Street could be accommodated, but the planned extension to North Woolwich required a major revision. It was not until 1982 that a version by Tim Demuth appeared in the British Rail timetable, but by then the new fare zones had to be incorporated and did not apply to the NLL. Tim Demuth's redesign was therefore abandoned and the NLL was subsequently removed.

A revision by contractor FWT cleaned up the design, and showed the new reduced service levels on some sections of line. Station names became lower case. Computerised design was introduced in 1988, when the DLR and Thameslink were included and new 'corporate blue' lettering was used. Signage standards were developed, to apply also to the map, so that symbols were standardised across car line diagrams and enamel platform line maps. A review of line colours resulted in the East London Line becoming orange. In 1993 a design manual was produced for the Underground map.

The map layout was again revised to incorporate the Jubilee Line extension route. With a computer based map, amendment to incorporate temporary service changes was easy, although these were generally restricted to station posters where timely distribution was better controlled. A smaller typeface allowed the central area to be contracted, reducing crowding in the suburbs. A couple of editions omitted the British Rail lines, but they were reinstated under pressure.

With the 2001 station poster version, inclusion of the fare zones disrupts the positioning of station names. The card folder map was compressed to allow additional information to be included in the key, but subsequent revisions moved this to a fourth panel. A diary version did not include the fare zones. A large folding version of the diagram was produced to incorporate station access information, but it was not practical to include these details in the standard version, which was adapted with a wheelchair symbol for step-free access.

A current concern is to incorporate Silverlink Metro services when TfL absorbs them next year. These will include the Euston-Watford, West London Line, and Gospel Oak-Barking services. Should other high-frequency National Rail lines be incorporated? How will Crossrail, with its double-ended stations, be fitted into the diagram?

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Comparing a current map with early system diagrams, the balance between simplicity and detail seems to have been lost. Current design priorities are unclear with the untidy layout; a situation of information overload may have been reached. Certainly, consideration of those with poor eyesight has been overlooked! However, good design takes time and therefore costs money – is there any public pressure for improvement?

John Hawkins