

CROSSRAIL VIA THE CIRCLE LINE?

by John Hawkins

Back in 1999 the privatisation of LT underground assets was under consideration. Railtrack were interested in acquiring the sub-surface lines for integration with their suburban rail network, promising better journey flexibility, greater capacity and easier interchange at key locations. Railtrack, a listed private company, were at that time responsible for most infrastructure of the national rail network and LT were keen to link the East London Line at both ends, eventually achieved in 2010. However, Treasury was anxious to find a low-cost alternative to the proposed Crossrail scheme, at that time only intended to link Paddington and Liverpool Street with deep tunnels. Services from Shenfield in Essex would have reached Heathrow, Reading and also Aylesbury via a link from Old Oak Common to Neasden. Main line services had once linked into the northern part of the Circle Line from Paddington. Proposed resignalling was expected to provide additional train paths which could perhaps accommodate Railtrack services. Recent Internet postings by insiders to the Railtrack proposals have added insight into the original concept.

In early 1999 Railtrack proposed two new cross-London services, one of which would have linked the Paddington and Liverpool Street suburban services using the north side of the Circle Line. This would have presumably reused the original tunnel route of the Metropolitan Railway into platforms 1 and 2 of the then new Great Eastern Railway station. It was only used by Metropolitan passengers for five months in 1875 until the Company's own Bishopsgate (now Liverpool Street) station became available. This connection was the reason for the main line station being constructed at a low level, and these two platforms remained linked by an overbridge until the main line station reconstruction was undertaken from 1985.

The Railtrack proposal would have introduced another flat junction to the Circle Line, whose short platforms would have restricted train lengths. Shenfield services currently leave from the eastern side of Liverpool Street station to provide cross-platform interchange with the Central Line at Stratford. However, at that time a Crossrail alignment had also been safeguarded from Stratford to the Lea Valley Line, and another alignment to be considered in the light of changing demand was the North Thames line. The second Railtrack link proposed was between Fenchurch Street services and the District Line to Wimbledon.

With the aim of undercutting the Crossrail project budget, an ambitious £5 billion scheme was suggested by Railtrack involving the lengthening of Circle Line platforms for 10- or 12-car trains, possible conversion to 25kV overhead power with the fitting of moving-block signalling for 36 trains per hour, and the elimination of flat junctions by grade separation or the withdrawal of Circle Line and Metropolitan Line Aldgate services. Metropolitan Line trains terminated in the four platforms at Baker Street except during peak hours until 14 May 1990, but through passengers would have put great pressure on interchange routes there if such services had been totally withdrawn. Unsurprisingly, London Transport did not support the proposed changes.

Perhaps the Hammersmith branch receives more trains than it needs now that the Circle Line also ends up there. A few of those paths could have been diverted at Paddington onto Heathrow together with any frequency increase on the north side of the Circle Line. This could perhaps have provided 8tph through to Heathrow and still have permitted an increase in Metropolitan Line trains east of Baker Street. Half of the Heathrow trains would have had to terminate at Aldgate with the diverted Hammersmith trains continuing on to their Barking terminus. The current SSR resignalling promises 32tph, so the Railtrack scheme would have allowed an additional 4tph to 36tph east of Aldgate East to benefit the District Line or former Fenchurch Street services.

Abolition of Circle Line services has been considered from time to time and yet it remains an operational difficulty, transferring delays between all SSR lines with its six flat junctions. A considerable number of travellers rely on this service, and alternative interchange at Aldgate East and Earl's Court remains inconvenient during service disruptions. Paths vacated by withdrawal of the Circle Line could not easily be filled by additional District Line trains, as they are already filled by Hammersmith & City trains east from Aldgate East and by Wimbledon trains west of Gloucester Road.

A simple Circle Line replacement scheme might be to double the Wimbledon-Edgware Road and Hammersmith & City services, and to cover the south side of the Circle Line with additional Tower

Hill reversing services. This would give an improved service on the heavily pressed Wimbledon branch, but would require the curtailment of some current District Line trains at Tower Hill to leave paths for the additional Hammersmith trains to Barking. A better scheme might operate the Circle Line as a Hammersmith to Aldgate shuttle, and extend Tower Hill reversers to the outer platforms at Aldgate for interchange. This would prevent contamination of the District Line service by the Circle Line, but would replace the conflicting moves at Minories Junction by those of reversing District Line trains. The withdrawal of Circle Line services from the Gloucester Road and High Street Kensington flat junctions would provide an improvement, which would be partly offset by a doubling of the Edgware Road service with double the conflicting moves on the eastbound at Earls Court.

Current plans will rely on the new computer signalling system to improve junction working by adjusting junction approaches for parallel running, so minimising conflicting routes. This will depend on compliant passengers at closely adjoining stations such as at Baker Street, Aldgate and Aldgate East.

The Fenchurch Street line looked like a good match for the District Line, but insufficient new paths were planned to accommodate the current 19tph National Rail service and also provide some District Line service increase east of Bow Road. A flat junction at Campbell Road where the two lines split might have only offered 7tph. By transferring National Rail trains onto the District Line at the grade separated Barking, some 14 paths may have been available but these would have been slowed through four additional stations. They would have also left insufficient District Line trains for services east of Barking which would have required Hammersmith trains to be extended at least as far as Dagenham East. At the Wimbledon end, where another flat junction would probably have been used by through trains, most of the branch service would have been operated by National Rail trains leaving the Edgware Road service to operate perhaps to Ealing Broadway, moving Earls Court conflicting moves from the eastbound to the westbound lines. The current solution of lengthening Fenchurch Street services to 12-coach trains appears to be a more desirable outcome, although the poorly connected terminus remains.

When bids were invited for PPP contracts for the deep tube lines in June 1999, it was announced that Railtrack were considering taking on the sub-surface lines contract. By this time there was only talk of Railtrack extending their Heathrow Express service over the north side of the Circle Line and perhaps on to Barking. With dual-voltage stock this would have required no extension of existing electrification. It would have provided a direct airport link from the City stations of Liverpool Street, Moorgate, Barbican and Farringdon as proposed by Crossrail, although it would not have relieved Liverpool Street suburban services.

However, in September 1999 Chiltern Railways came up with a proposal to extend four-rail electrification to Aylesbury and to operate dual-voltage stock from there through Baker Street and on to a Liverpool Street link out onto the suburban services. This latter connection was soon dropped from Chiltern's proposal, but the whole thing again came to nothing. Whilst the current Crossrail project avoids the need for alternative routes linking to Shenfield and Heathrow, Aylesbury remains an unsolved problem with a former Metropolitan Railway connection. The current diesel trains arrive at the poorly connected Marylebone terminus. A boost to 36tph services beyond the current SSR resignalling to 32tph would allow paths for the Aylesbury peak 4tph to reach Baker Street, or Aldgate, if 23 miles of line were electrified north of Amersham. This might leave 22tph reversing in the two platforms at Aldgate compared with the current 14tph there, and 33tph being achieved at Brixton.

It was not until late November 1999 that Railtrack gave up on their plans and that bidders were invited for the SSL InfraCo. Metronet finally signed a 30-year contract in April 2003 which led to the current SSR line upgrades. In 2001 TfL and the Department of Transport formed a joint venture to pursue the original 1991 Crossrail plans, rejected back in 1994, which eventually led to the 2008 approval of the line under construction today. Railtrack talked of operating 36tph which probably appeared high compared with the current SSR peak services of 26tph, and Metronet later promised 32tph which remains the current target. However, there are already plans to stretch the current Victoria and Jubilee Line services to 36tph, and Crossrail 2 consultation papers reveal a similar ambition for the District Line at least.