

CROSSRAIL – MOVING FORWARD TOWARDS OPERATION

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**A report of the LURS meeting at All Souls Club House
on Tuesday 8 September 2015**

Our speaker began by outlining his career from the operational side of British Rail, via the Channel Tunnel and DLR to London Rail, Overground and now Crossrail.

BACKGROUND TO CROSSRAIL

The ambition of Crossrail is for a unique railway which is fully integrated within the TfL transport network. Oyster and standard TfL ticketing will apply throughout the line. Costing almost £15 billion, there are currently some 10,000 people working on Europe's largest construction project. £13 billion is required for the new central area route, which is only a small part of the whole Crossrail line.

A 24tph peak service is planned through the trunk section, which is of course far less than that on some conventional underground lines, although the new trains will be twice as long. Trains will come alternately from Shenfield and Abbey Wood. Only 10tph are planned to continue west of the Paddington reversing facility, four to Heathrow, four to Maidenhead/Reading and two to West Drayton.

Crossrail will be an unusual railway, although the accompanying picture of the Wuppertaler Schwebebahn was perhaps misleading! It will be the UK's first in the style of Paris RER line A. To the west it will share tracks with freight and main line trains and work to a timetable, but in the central area a constant headway will be important. To the east it will generally retain its own right of way, although there are a few freight trains crossing and empty coaching stock to Ilford. So Crossrail will be a cross between a Network Rail service and an Underground line.

To the east all trains will call at all stations – This wouldn't materially slow commuters as the minutes gained in non-stopping some peak services at Manor Park, Forest Gate and Maryland is largely dissipated in extra minutes inserted to avoid catching up the train in front, but will greatly improve frequencies at other stations. To the west there will be some station non-stopping, but the Reading services will not compete with fast services. They should prove useful for the developing reverse commuting out to Reading. To cope with possible delays of returning Crossrail trains, additional spare trains and crews will be held at Old Oak Common depot and Westbourne Park reversing facility to slot into any gaps.

The Crossrail construction project is currently around its peak, and will now be working towards completion. At the same time rail operations have commenced under the temporary branding of TfL Rail, and will work towards full Crossrail operation. Civils and tunnelling are drawing to a close, National Rail surface works continue, station works, rolling stock and depot construction are underway and railway systems are being installed. This will all lead towards testing and commissioning, and trial operations before the new sections see public service in a staged approach.

PROJECT

All running tunnels were completed earlier in 2015. Photos showed the fitting out of stations with their impressive platforms over twice the length of traditional underground ones. Track laying is underway starting from Abbey Wood. A French track-laying train will operate through the tunnel sections from Plumstead. A diagram indicated the complex requirements for power and systems of a typical underground station and installation will continue over the next few years.

A diagram of train control showed that a moving block system will be used from the Paddington turnback roads to the Pudding Mill tunnel mouth and also to Abbey Wood, an area known as the Central Operating Section controlled from Romford. To the east of the tunnel mouth the conventional Network Rail signalling will apply to Shenfield, controlled from Liverpool Street. Signalling to the west is still to be renewed with a modern system controlled from Didcot.

“On Network” works include station upgrades, trackworks, turnbacks, stabling, and the Heathrow branch flyover. Views of the new Abbey Wood terminus, under construction alongside the current Network Rail lines, were also shown. The public and media seem more interested in the skeletons unearthed from the Bedlam Burial Ground in the City during excavation work.

OPERATION

Operation commenced between Shenfield and Liverpool Street in May 2015 with takeover of the existing service by the Crossrail operator under interim branding of TfL Rail, to avoid misleading passengers. Immediate benefits were similar to those with Overground, including all staffed stations throughout the traffic day, more police patrols, high standards for cleaning and maintenance, and new signage, with a focus on service reliability. New ticket machines and gatelines are to be installed within a year, with station refurbishment and rebuilding over the years to 2019. The new Crossrail trains will arrive from May 2017 along with Crossrail branding. Ilford and Romford stations will be rebuilt, and all Crossrail stations will become step-free accessible from street to platform. New CCTV, public address and customer information screens will be installed at all stations.

The operating contract was awarded to MTR Crossrail in July 2014. Based in Hong Kong, they also operate services in Melbourne and Stockholm and are 50% of LOROL that runs London Overground. TfL specifies service levels, quality, timetable and fares as they do for Overground, and the contractor is paid by performance, principally upon reliability. Around 1,000 staff will be employed directly on the service. There were around 5,000 applicants for the first 58 drivers' positions!

The multiple contracted service operators at places like Liverpool Street have resulted in disjointed station operation over recent years, but a special effort has been made to bring the managers together for a daily briefing to coordinate things, with promising success. Bus operators and police have also been keen to be included. This has also been extended to Stratford station.

A new staff uniform was launched from day one. Passengers may have been more impressed with on-time performance, which showed a step-change improvement in the first period, and continuing improvement over the following periods to present. In fact, a range of performance measures showed significant improvement over levels at takeover. The contract encourages discipline and attention to detail, with crews always available and a special effort on fleet maintenance. There was a significant reduction in persons under trains, perhaps due to station staffing throughout the day.

The 65 new trains from May 2017 are being built by Bombardier at Derby. They will be 200 metres long with nine inter-connected walk-through air-conditioned carriages. They have nominal capacity of 1,500 with 450 seats, both longitudinal and bay seats, on-board Wi-Fi and real-time information systems. Ten multi-use spaces will be available for bicycles, pushchairs, large luggage or additional wheelchairs. The trains will be based at Old Oak Common where the new depot is currently under construction. The first bodyshell showed a three-door a side design to cut platform dwell times, which will be essential for train throughput. Toilet accommodation is not provided on trains, where it would restrict passenger capacity, but will be provided at all surface stations. In Central London there are considered to be sufficient public facilities, and new ones have not been provided.

PHASED OPENING

Crossrail will first offer public services in stage one with the introduction of the new trains on the current Shenfield to Liverpool Street service in May 2017. Stage two is then the takeover of Heathrow Connect services at 4tph to Paddington with the new trains in May 2018, although the stations will have been transferred to TfL in December 2017. In December 2018, stage three, public services commence in the new tunnelled route with new trains running between Abbey Wood and Paddington reversing facility. This will involve opening the new central London stations such as Tottenham Court Road. Crossrail will then be operating three unconnected services. Stage four in May 2019 will bring the trains from Shenfield into the tunnel section to Paddington, crossing the signalling system divide. The final stage five in December 2019 will see trains operating through the central area tunnel across another signalling system divide and on to Heathrow, Maidenhead and Reading.

QUESTIONS & ANSWERS

The first question asked about the planned linkage of services between east and west branches. A condition of Canary Wharf funding was that at least half of Heathrow trains serve that branch. With peak schedules providing an even interval service to each branch, this means that all Heathrow trains will serve Abbey Wood at those times, with the Reading/Maidenhead service linking with Shenfield. Heathrow Express will likely lose some of its competitive edge with Crossrail offering through trains across the Capital.

Some have suggested that the line may prove too successful, and soon need an upgrade. The stations are designed to meet demand for 60 years in theory. Platforms have been built to accept longer trains, although it is still debatable whether two extra coaches should be added rather than moving to 30tph, which could also be accommodated.

Some points raised by the audience have been incorporated into the appropriate section of the meeting report.

John Hawkins