

HISTORY OF THE EAST LONDON LINE – FROM BRUNEL’S THAMES TUNNEL TO THE LONDON OVERGROUND

by Oliver Green

A report of the LURS meeting at All Souls Club House on 11 October 2011

Oliver worked at the London Transport Museum for many years and was one of the team who set up the Covent Garden museum in 1980. He left in 1989 to continue his museum career in Colchester, Poole and Buckinghamshire before returning to LTM in 2001 to work on its recent major refurbishment and redisplay in the role of Head Curator. He retired from this post in 2009 but has been granted an honorary Research Fellowship and continues to assist the museum in various projects. He is currently working with LTM colleagues on a new history of the Underground which will be published by Penguin in October 2012 as part of LU’s 150th anniversary celebrations for the opening of the Met [Bishops Road to Farringdon Street 10 January 1863.]

The early 1800s saw various schemes to tunnel under the River Thames, including one begun in 1807 by Richard Trevithick which was abandoned two years later when the workings were flooded. This was started at Rotherhithe, close to the site later chosen by Marc Isambard Brunel for his Thames Tunnel. In 1818, inspired by the boring technique of shipworms he had studied while working at Chatham Dockyard, Brunel patented a revolutionary method of digging through soft ground using a rectangular shield. His giant iron shield was divided into 12 independently moveable protective frames, each large enough for a miner to work in. As the face was dug out, the individual compartments or the whole frame could be jacked forward, and the tunnel behind was lined by a team of bricklayers.

Construction of the Thames Tunnel started in 1825 with the sinking of a shaft at Rotherhithe. The shield was assembled at the bottom to dig the tunnel under the river to Wapping on the north bank. Unfortunately it was impossible to calculate how close the roof of the tunnel was to the uneven bed of the Thames above. This was to prove a major issue and the greatest threat to the whole project, which took 18 years to complete.

Brunel’s tunnel was planned as a route between the rapidly expanding docks on either side of the river at a time when there was no bridge downstream of London Bridge. Marc Brunel planned the project with his son Isambard as site engineer and manager. Progress was slow, and the project was beset with accidents, injuries and river break-throughs which led to work being suspended. On one occasion six men were drowned and Isambard himself was seriously injured after being swept away by an in-rush from the Thames. He was sent to Bristol to convalesce, and became involved with the development of the Great Western Railway, leaving his father to complete the tunnel in London.

The Thames Tunnel was eventually completed and opened in 1843. It was much admired as an engineering achievement but it was a commercial disaster, with the company unable to repay the government loan that had made construction possible. There were insufficient funds available to build the spiral road ramps needed at either end and, as the main purpose of the tunnel had been to provide vehicle access under the river, this critical objective was never met. Stairs were installed instead (still to be seen at the south end of Wapping station platforms) and the pedestrian tunnel found some extra use by accommodating shops, market stalls and even fairs. Queen Victoria and Prince Albert visited, Brunel was knighted and the tunnel became quite a tourist attraction but it never made any money.

Conversion to railway use eventually provided a proper role for Brunel’s white elephant. In 1865 the East London Railway company [ELR] was created to purchase the nearly bankrupt tunnel and run trains through it. This was to be in partnership with other operators as the ELR never owned its own rolling stock. A through rail route was created to link the East End with the London, Brighton and South Coast Railway (LBSCR) at New Cross and New Cross Gate. By 1895, the East London Railway was also linked via the St. Mary’s curve to the underground’s Inner Circle (jointly operated from its completion in 1884 by the Metropolitan and District Railways), and with the Great Eastern Railway’s terminus at Liverpool Street via Bishopsgate junction, just beyond Shoreditch station. The ELR was used for both goods and passenger services, and at the turn of the century even began marketing directly to the large local Jewish immigrant population of the Whitechapel and Shoreditch area with posters in Hebrew advertising excursion trains to the Crystal Palace.

In 1913 the Metropolitan Railway, which along with the District had abandoned its ELR operations when the Inner Circle and Hammersmith & City lines were electrified in 1905/06, bought out the ELR and electrified the line. It was now possible to run through electric services from the Inner Circle and even the Met. main line beyond Baker Street, but in practice this rarely happened and the East London Line was operated as an isolated branch of the underground system. The majority of services (up to 150 per day) were continued to link the East End and the London Docks, even advertising them as a tourist attraction. The separate operation of the East London Line continued after London Transport assumed control in 1933.

The Line was badly affected by World War II bombing with, amongst other damage, Wapping station receiving a direct hit in the Blitz and having to be completely rebuilt in the 1950s. During the 1980s and 1990s some modernisation of the badly run down line took place, such as introduction of D Stock, CCTV systems, and decorative enamelled wall panels to brighten up the grim, damp station platforms. Surrey Docks station was resited and renamed Surrey Quays as the old docks were redeveloped with housing and business parks. The tunnel itself, listed as a historic structure by English Heritage, had to be carefully restored and partly relined by London Underground, requiring a lengthy closure of the line. In 1999 the ELL gained a new station, Canada Water, which linked it to the Jubilee Line Extension below and an integrated bus station above.

The most dramatic development has taken place at the start of the 21st century when the ELL has formed part of an ambitious Transport for London scheme to create an orbital rail network for the capital. Shoreditch station, the former northern terminus of the ELL, closed permanently in 2006 to allow construction of a new link to join the ELL to the North London Line [NLL] via part of the former Broad Street viaduct. The ELL and NLL have been rebranded and now form the north and east side of the "outer circle" of London Overground. By the end of 2012, once the line between Croydon and Clapham Junction has been upgraded it will, once again, be possible to travel all the way around outer London by train; and get from west to east, or north to south without having to enter/travel through the central area. This is a major change in passenger rail planning for London, which throughout the 20th century has always concentrated on the development of radial routes.

Over the years the NLL had become very run-down with old rolling-stock, low staff levels and morale. The stations were depressing and threatening environments for passengers and some of the buildings had been badly damaged in arson attacks. Under BR management in the 1970s and 1980s the line was neglected and in a spiral of decline, with the section through Hackney from Dalston Junction to Broad Street finally closing completely in 1986.

Following its transfer to Transport for London [TfL], and considerable investment, the whole look of the line is now modern, clean and safe. A fleet of new class 378 trains built by Bombardier in Derby feature various improvements including 'walk through' carriages which give passengers a greater sense of security, more comfortable longitudinal seats and full air conditioning. Stations have been refurbished, or in a number of cases, rebuilt and staff appear to be very proud of their new working environments. The service now operates on a metro-style 'turn up and go' basis all day, with short intervals between trains like LU, unlike the patchy off-peak operation of most London suburban lines. Since the ELL became part of London Overground it has seen a 50% increase in passenger usage, and although technically Hackney is still not 'on the Tube' it feels as though it is.

The new link has also supported the ongoing regeneration of parts of Hackney, Hoxton and Dalston. The Geffrye Museum, for example, is now much easier to get to, with the new Hoxton station practically in its back garden and next door to Dalston Junction station is a brand new library and local history and archive accommodation for Hackney in the ground floor of a new apartment building. The ELL has also recreated a link between these parts of the East End and the edge of the City at Shoreditch (lost when Broad Street station closed in 1986) and, perhaps more significantly, established a new one with Docklands and Croydon south of the river. The West End can also now be more easily accessed by rail from Hackney, with just one change, instead of the only public transport link being a lengthy bus journey.

The East London Line has come a long way, and as a key part of London Overground's orbital rail network is providing a completely new public transport service for Greater London at a fraction of the cost of building a new tube line or a huge project like Crossrail.

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