

REPORT OF SOCIETY MEETING

The Railways of London Docklands

by Jonathan Willis

**A report of the presentation given to the Society
at the Gallery at Alan Baxter, Cowcross Street, London, E.C.1
on Tuesday 1 July 2025**

Across his long career, Jon worked as an Engineer/Transport Planner for London Underground (LU), the Greater London Council (GLC), London Transport (LT) and Transport for London (TfL). He was closely involved in the planning stages for the Docklands Light Railway (DLR), the Jubilee Line Extension (JLE) and Croydon Tramlink. He retired in 2002 from his final role as Head of Planning of Crossrail.

Although his talk would touch on the history of Docklands, he will concentrate upon developments over the last 50 years.

Jon summarised the stages of the Engineer Process as follows with his role as a transport planner essentially covering the first five.

- Identify the problem(s).
- Seek solutions to rectify.
- Cost & Benefits analysis.
- Initial design work.
- Obtaining permissions for works, at local, regional and national levels, as appropriate.
- Detailed design work.
- Issuing of Tenders and assessment of the responses.
- Contracts and Build;
- Operations.
- Review: whether the original problem(s) have been solved.

Docklands is the area on the north bank of the Thames, east of Tower Bridge stretching for 12 kilometres (or about 7.5 miles). The first enclosed dock was the West India opened in 1802 and the final one to open was the Royal Dock: George V opened in 1919. All the docks were operated by separate companies until they were brought together into the Port of London Authority (PLA) in 1906.

The first railway was the London & Greenwich, but this served the South Bank of the Thames. North Bank was first served from 1840 by the London & Blackwall Railway between Fenchurch Street/Minories and Blackwall. This line saw the first use anywhere of an electric signal and one of its main aims was to provide a link to the steamer boats which took people on day trips to places such as Southend.

Over the next 40 years (1840 to 1880) railways flooded into the area of Docklands to take goods away, but also to bring coal and exports in. So much so that the Royal Docks of 1850s accommodated links to the railway into their design.

In 1843, the Thames Tunnel opened for pedestrians only but was not a success and so it was bought in 1865 by the East London Railway Company and went on to form part of the East London Line; and subsequently became part of the Overground (Windrush Line).

London Docks reached their height in the 1950s and 1960s but as ships got bigger and shipping moved to transporting good inside containers, the old docks could not cope as they were too small and shallow. The final dock closed in 1981.

So, what to do with such an expanse of land? The five boroughs (Greenwich, Lewisham, Newham, Southwark and Tower Hamlets) together with the GLC spent over 10 years undertaking many studies and proposals. In 1976 the "Docklands Master Plan" was published. Recommendations included filling in most of the docks and building a new underground line from Central London. Works commenced on this at Cannon Street and Fenchurch Street stations, but there was not yet enough development to the east of the City to warrant the expense of a new line. Many years later it was redesigned and became the Jubilee Line Extension. However, the GLC did commission refurbishment works to many of the stations on the East London Line: such as supplementing the 90 steps at Shadwell with lifts. Also, the Woolwich section of the North London Line was electrified, refurbished and extended to Camden Road, works which paved the way for the Overground of today.

When the Conservatives won the General Election of 1979, the new Secretary of State for the Environment: Michael Heseltine decided that, after 10 years of inactivity, something must be done. He established the London Docklands Development Corporation (LDDC – a non-democratic Quango) to streamline planning controls and offer inducements to developers such as low rates and grants. With this potential for development, a better transport system would be required to connect to the Isle of Dogs.

Suggestions included buses running along the Commercial Road or a guided Busway from Aldgate to Beckton, and street running trams. However, buses would both have limitations on passenger numbers and the LDDC's Architect (Ted Hollamby) did not want overhead wires above streets. He was an advocate for an elevated transit system. It was argued that although a system of Light Railways would cost more, it would be more effective and attract more jobs to the area.

A Planning Team of just four officers (David Catling, Ben Harding, Roger Jones and Jon) were assembled to, amongst other tasks: evaluate the locations and station access and designs; forecast usage (Jon's main responsibility); design trains and negotiate land ownership. At an early stage, British Rail agreed to release two of their tracks from Limehouse Viaduct almost to Fenchurch Street station (which had been the route of the London & Blackwall Railway). At the foot of the Isle of Dogs it was also decided to make use of the Millwall Viaduct which had last seen trains in the 1920s, along with the former freight line from Poplar to Bow Road. Today, over 50% of the DLR operates over Rights of Way from former heavy rail routes, and Crossrail even uses part of the NLL near Custom House, the Connaught Tunnel. The DLR Bill was passed by Parliament in 1982 and the system opened in 1987 at a cost of £77M.

As the office developments of Canary Wharf expanded, proposals were made for an extension to Bank station. This ended up costing more than the 1987 system; as one of the major problems was how the line would reach Bank at a level lower than the Northern Line, to avoid going directly under the Mansion House, due to fear of collapse due to its poor foundations. Another major issue with this extension was that the original eleven trains were not suitable for underground operation. Therefore, new rolling stock had to be purchased, and the opportunity was taken to also extend, and strengthen, all platforms to accommodate two car trains. The signalling system was also upgraded. The LDDC also wanted to extend the DLR east to Beckton, financed via the sale of land for development, but then a Recession hit. Now, some 35 years later development of the Royal Docks is taking place.

By the 1990s, the growth of Docklands was indicating the need to increase capacity again. The developers were very much in favour of a direct underground link to the City of London or Waterloo with trains running fast from there to Greenwich. However, LT wanted more stations and to especially open up the South Bank area to tourism. After much discussion, the JLE won out. Jon explained some of the engineering feats which this Line required:

- Westminster station had to be hyper-secure as above it would be built the new Parliament Offices (Portcullis House). Also, there were concerns about damage to the Clock Tower (home to Big Ben) from the tunnelling: Professor John Burland developed a system of grout injections which minimised the amount of movement: so successfully that he later worked on stabilising the Leaning Tower of Pisa.
- Southwark Station which was justified due to the fact that it provided a link to Waterloo East.
- Canary Wharf station box had to be twice as deep as all the other stations due to the line having to pass under the Thames at either end. Jon explained that underneath the escalators is a massive emergency staircase.
- The new Platform Edge Doors were not only an anti-suicide measure, but also reduced the level of wind turbulence in stations.
- Jon pointed out that the decision for the JLE to reach North Greenwich came before the Millennium Dome (aka: The O2).

At the turn of the Millennium, new Greater London Authority (GLA) started thinking again about a whole new link to the east of London. Previous ideas for "Crossrail" had been proposed in the 1940s and 1970s but other projects were advanced instead. Many options were considered, such as termini at Watford, Ebbsfleet, Maidenhead and Kingston Upon Thames, but a route through Central London was always guaranteed. Jon retired in 2002 and (the late) Keith Berryman led the planning process through Parliament over the next six years.

Jonathan ended his talk with an “advert” for his book: “The Railways of London Docklands: their history and development” which is available from the London Transport Museum and other good retailers. After a short question and answer session, the meeting thanked Jon heartily in the usual manner.

Amanda Griffiths