## **NEWS AND NOTES**

## AS IF IT COULDN'T GET WORSE ...

### **CROSSRAIL PUT FURTHER BACK**

The Sunday Times reported the following on 16 December 2018 –

In February, a bombshell landed on the desk of Mike Brown, the commissioner of Transport for London. It was a letter from Juergen Maier, UK chief executive of the German industrial titan Siemens, warning that trains for the capital's £14.8bn Crossrail mega-project were 18 months behind schedule.

The potential for a domino effect sent a chill through the senior ranks of Transport for London, which runs the capital's trains, buses and roads. Without the trains, Crossrail's grand opening this month – when the Queen was due to cut the ribbon – was in jeopardy. So were the budgets of Crossrail, and TfL.

Their worst fears have materialised. Last Sunday (9 December), that opening date came and went. Hoardings are still up and an army of workers clad in high-vis jackets continues to occupy Crossrail stations that were supposed to be teeming with commuters and Christmas shoppers. It is unclear when the Elizabeth Line, as it has been christened, will now open.

Last week, TfL and the government admitted that an already delayed deadline of December 2019 was unrealistic. They announced the latest bailout for the project, heaping up to another £2.1bn onto its budget, which could hit £17.6bn. That does not include about £600m of lost revenue from fares on the line. Former oil executive Tony Meggs was brought in as chairman to replace the ousted Sir Terry Morgan.

The crisis at Europe's biggest infrastructure project puts it in a big club of schemes that have gone over budget and arrived late, from warships to software systems for the NHS. It raises fears that the £56bn High Speed 2 link, which is due to run from London to Manchester and Leeds, will suffer the same fate. It also undermines the already fragile finances of TfL and raises questions over the capital's mayor, Sadiq Khan, who has repeatedly said he knew very little about delays to the project. He claims he was told only on 29 August (2018) that it would open late.

I was revealed in the Sunday Times last month that Khan was handed briefing papers on 26 July that warned it was "not feasible" for the line to open even partially on time in December. That raises questions over whether TfL should have alerted its bondholders in July that the line was likely to open late — something the Financial Conduct Authority is investigating. The briefing papers contained three scenarios, each with a different probability, indicating when signalling testing would be complete. None was for this year.

As all eyes were on the unfolding Brexit shambles in the Commons on Monday, TfL published a trove of documents, including those damaging briefing papers. It did not, however, publish the Siemens letter.

The letter from Maier is revealing: It shows that fears over the project's opening were voiced about six months before Khan said he knew about any delays. As a subcontractor to the Canadian train maker Bombardier, and also the main contractor responsible for signalling and controls in the tunnels, Siemens was acutely aware of the impact of software problems on the trains. Maier also warned delays to Crossrail's infrastructure was squeezing its window to install and test the signalling. Time was running out.

TfL said Brown met Siemens representatives after the letter "to discuss their concerns and ensure closer collaboration between Crossrail Ltd. senior management and contractors on the project".

The revelations leave Khan, who is preparing to fight the 2020 mayoral election, in an uncomfortable position. Budget blow-ups and delays on big infrastructure projects are not uncommon. Yet Khan's entrenched position calls into question how much he was being told by his officials at TfL and whether he, or the capital's transport body, had a grip on the project. Khan is due to appear before members of the London Assembly on Friday to face a grilling.

The Crossrail deficit will be funded through extra costs on business via a levy – cash meant to pay for another new line, Crossrail 2. Other projects in the capital are being sacrificed for the scheme, including a signalling upgrade on the Piccadilly Line. The date by which TfL planned to break even

has had to be pushed back by a year, to 2022. All that leaves the mayor's fares freeze on buses, trams, Underground trains, the Docklands Light Railway and London Overground – pledged until 2020 – looking precarious.

London Assembly members are baffled by Khan's continued claims of ignorance. Caroline Pidgeon, who chairs the assembly's transport committee, said: "Any lay person reading the papers given to the mayor and his team in July would have been in no doubt that Crossrail would not be opening this year".

Gareth Bacon, who chairs the budget and performance committee, said: "The handling of Crossrail has been a complete shambles. There's grave doubt about the account of events that has been given by TfL, the mayor and Crossrail in terms of who knew what and when".

Conceived in 1974, Crossrail was meant to ease pressure on the crowded Underground network, particularly the Central Line. Work started in 2009 under then mayor Boris Johnson. At first, the project went swimmingly. Politicians such as former chancellor George Osborne clamoured to be seen in hard hats in one of its cavernous tunnels.

When it finally opens, the line will carry more than 200m passengers a year between Reading in the west and Shenfield and Abbey Wood in the east. It will dramatically speed up journeys across the capital and allow seamless travel between Heathrow and Canary Wharf.

It was all going to plan – at least publicly – until November 2017, when engineers at a sub-station in east London flicked a switch. Instead of powering up the newest Underground line to begin testing trains, the Pudding Mill Lane sub-station exploded. That stopped Crossrail starting so-called dynamic testing – running trains on the tracks – until February this year.

Bombardier said: "We will continue to work closely with TfL, Crossrail's new leadership team and all other parties in order to open the railway for passengers as quickly as possible".

Staff on the project have long said that the final 10% of Crossrail was going to be the trickiest part, as it involves knitting together interlocking and inter-dependent systems and technologies. The trains, for example, must pass through three different signalling systems along the route.

Yet up until very recently, no one – not TfL, the mayor, the Department for Transport (DfT) or Crossrail – has been transparent about the extent to which the project has gone off the rails.

The Pudding Mill Lane explosion was followed by obfuscation and buck-passing. TfL is responsible for buying the trains and a depot via a £1.1bn contract with Bombardier, yet it has not admitted to delays to the trains. Instead, TfL continues to repeat the line that the trains are ready and operating in the east and west of the capital, and that Crossrail's delays to infrastructure are to blame – particularly the fit-out of stations and tunnels.

The Greater London Authority, which oversees TfL, said the trains' procurement "has had no bearing on the fact that the completion of the line – including tunnel fit-out, the new stations and a range of safety-critical railway systems – was not completed in time by Crossrail Ltd. for a December opening".

Yet this ignores the fact that the trains cannot operate to their full potential, in part because of software problems. Instead of running 24 trains an hour on the line – made possible via train-to-train signalling – sources said that only two are allowed in the tunnels at once.

This is only one part of a sequence of unfortunate events that has derailed Crossrail and left it haemorrhaging cash. An army of staff has had to be redeployed as the opening date stretches away. The trains are piling up at a new depot in Old Oak Common in west London.

Then there are issues with the engineering and construction companies that won huge packages of work. The fit-out of several stations, particularly Bond Street and Paddington, is believed to be months behind schedule. The contractor at both stations is a joint venture between Costain and Skanska — which has also won a large volume of work on HS2.

The relationship between Crossrail and the joint venture is described by sources as tense. Costain insisted it is not in contractual dispute with Crossrail and declined to comment further. Getting that work completed, and contractors demobilised, is vital to stem the huge flows of cash bleeding from the project.

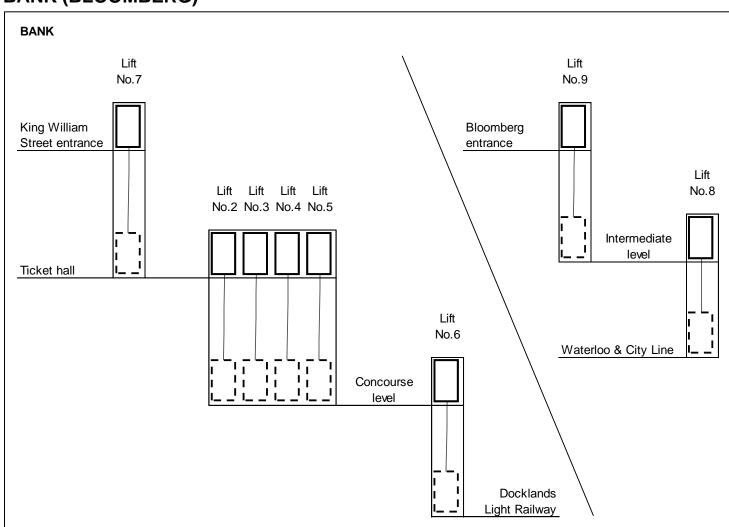
Crossrail must do so while reeling from a string of high-profile departures. Its chief executive, Andrew Wolstenholme, left to join the defence giant BAE in May. In November, his successor, Simon Wright, a project management expert, was replaced by Mark Wild, who used to run London Underground. Other big departures have included directors for delivery finance, programme controls, commercial arrangements and HR.

One thing is clear: London and the mayor must go it alone on funding the project. Politics are at play: transport secretary Chris Grayling and other Tories resent Khan's fares freeze, while they have just been forced to pile a 3.1% rail fares increase on UK commuters. Grayling has refused, in part, to support Crossrail, insisting that the capital must find the funding from its own budget.

A £1.3bn loan from the DfT to the Greater London Authority will be repaid via levies on business rates and planning permissions. Crucially, this is cash that was meant to fund Crossrail 2, a new railway that would have run from southwest London to the capital's northeast.

It will be a long time before the capital can reap the rewards of its most expensive venture in years.

# **BANK (BLOOMBERG)**



A new entrance opened at Bank Underground station at 10.15 on 30 November 2018, which has made the Waterloo & City Line considerably easier to use, and reducing congestion in the ticket hall. The bronze and stone of the enormous Bloomberg Building has gained the familiar Underground roundel on one side to indicate the new way down into the station. Hitherto, access to the Waterloo & City Line was through the main ticket hall, then via a sloping travolator or long subway staircase down to the platforms.

Within the new entrance underneath the new Bloomberg building, two pairs of escalators lead directly down to the Underground platforms (see photographs, centre pages, this issue), offering a quicker route down to the Waterloo & City Line, and thus diverting some traffic away from the ticket hall. For some passengers it will also offer an alternative route to the other lines via the tunnel from the Waterloo & City Line platforms. Following the 'soft' opening on 30 November, an official opening

took place on 12 December 2018 with Mayor of London, Sadiq Khan, and Michael R. Bloomberg, Founder, Bloomberg L.P. and Bloomberg Philanthropies and the 108th Mayor of New York City visiting the new part of the station.

The station entrance was built by Bloomberg for Transport for London as part of the development of the company's European headquarters and was fitted out by London Underground.

Notwithstanding this, the new entrance was late in being delivered, having originally been expected to open in late-2015. The opening was pushed back to late-2017 due to delays in completing the concrete box which was in consequence of thanks to the discovery impressive archaeological discoveries. Although the box was eventually completed by the construction of the Bloomberg building, there has been a long list of delays to work being carried out by London Underground to turn the concrete box into a functioning Underground station entrance.

Inside the modest entrance, there is inside is a surprisingly large space, with the usual ticket machines and barriers, but no ticket office of course. A bank of two escalators (Nos.16 and 17) take passengers down to a middle landing, and here a backlit set of graphics has been provided showing the Roman heritage of the site.

A second bank of two escalators (Nos.18 and 19) then take passengers down to Waterloo & City Line platform level, with a patterned ceiling above and adding some decoration to the otherwise fairly bland space. Two new lifts have also been provided – No.9 takes passengers between the street/ticket hall and intermediate level, and No.8 from the intermediate level to the Waterloo & City Line.

#### MORE WORK AT BANK

Also underway, a set of huge new tunnels are being dug next to the Northern Line that will transform the amount of space deep underground. When completed in two/three years' time, the narrow Northern Line platforms will be much wider, a fast travolator will link with the Central Line and banks of new escalators will replace narrow stairs linking them to the Docklands Light Railway.

When completed in 2022, the station will be much faster to get in and out of, will have a brand new entrance on Cannon Street and will have a lot more space to wait for trains on the Northern Line platforms – the southbound line is being diverted via a newly-built tunnel and the present southbound trackbed and platform will create a much wider platform, such has been done at London Bridge, Angel and Euston (City).

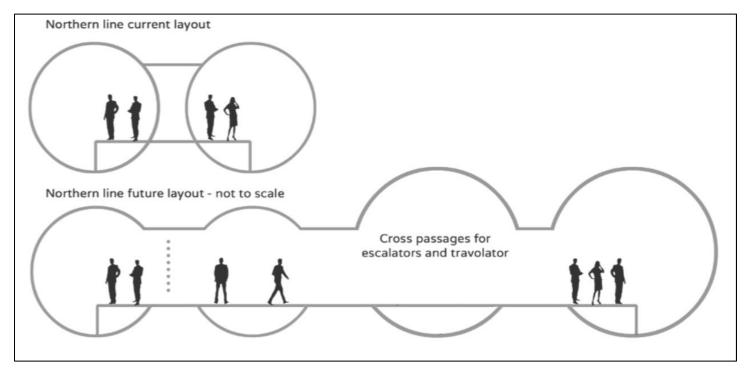
Expected to be in the summer of 2021, a section of the Bank branch of the Northern Line will close for roughly 3 months, while the new tunnels are drilled into the sides of the old tunnels, following which the tracks can be linked up. When completed, some 1,213 metres of new tunnels will have been dug deep to turn Bank Underground station upgrade project into reality.





**Previous Page**: Artists' impressions of how the Northern Line area of Bank station will look at project completion. The illustration (Left) shows the northbound platform on the right and the wide pedestrian area the former trackbed of the to be diverted) southbound line.

**Below**: The Northern Line area of Bank, showing the present and future facilities.





**Above**: Artist's impression of the two proposed travolators at Bank which will link the Northern and Central lines.



**Above**: Outside the front door of the new Bloomberg Building is an unmarked stone tower which is a ventilation shaft.

Photo: LURS Collection

All illustrations: Transport for London

## TfL's 2019/20 TO 2023/24 BUSINESS PLAN

The updated TfL Business Plan 2018/19 to 2023/24 shows that a lot of new developments continue despite a tight financial position. Annual fare rises are presumed to resume after the current Mayoral term. However, the Government's comprehensive spending review planned during 2019 means there is uncertainty over funding beyond 2020, and the Piccadilly Line resignalling project has been put on hold. The Bakerloo Line upgrade and extension, referred to as a single project, will also require central support, as will Crossrail 2. This is also true for major station projects, including work to transform Camden Town station.

However, work continues on Holborn station expansion, which is shown as commencing in 2023/24. Elephant & Castle reconstruction project continues with commercial support, with a new ticket hall, two banks of three escalators, and step-free access to the Northern Line planned for 2023/24. This could also incorporate access to a new Bakerloo Line station on the planned Lewisham extension.

The Jubilee Line will move to 32tph from late 2021. The Northern Line upgrade now promises only 31tph from Morden, formerly 'at least 31tph', from 2020 with Battersea opening. Does if still justify the title 'world class capacity' project with 24tph on most branches? The Investment Programme Report – Quarter 2, 2018/19 – stated: We have completed the Northern Line speed improvement and track works. The design and build contract has been awarded for the Northern Line power works. An additional wheel lathe and lifting facility is required at Morden Depot to increase train availability to peak service frequencies on the Northern Line once the extension has opened.

New trains for London Overground and DLR are expected, the Barking Riverside extension will be built, and there is still talk of DLR to Thamesmead, a new West London Orbital rail link, and trams to Sutton one day.

#### **IN SHORT**

The new Piccadilly Line trains will be it for now, then! Into service 2024-26, then upgrade to 27tph with current signalling. I don't suppose it's economic to do much to that, but perhaps an extra home signal at one or two platforms? Such a service was trialled some years back and was given up as it always ran late. I suppose with all new trains, better acceleration and braking, and higher capacity all double-doors they hope to cut dwell times.

I presume Piccadilly Line to Ealing Broadway will await more frequent service with new signalling before District to Richmond/Wimbledon can be boosted and all day stopping at Turnham Green introduced. How long will the 1972 Tube Stock hold out on the Bakerloo Line? It is presumed the add-on order price requires continuing production after Piccadilly, which is unlikely without funding for Piccadilly signalling, or Bakerloo upgrade. I don't see how Crossrail was expected to be on time until three months out, when it suddenly needs another year, or two!

#### John Hawkins

(Editor's Note: The commissioning of the computerised signaling system at the east end of the Piccadilly Line in 1982 soon led to a reduction of trains through the central area to 24 trains per hour because the system couldn't cope with 30 tph [the new computer system was nicknamed Metal Mickey and Evil Edna by the staff who had to work it – it still goes by those names]. The opportunity was taken to implement 24 tph with the service reductions of 6 December 1982. But from 7 April 1986 the peak service, eastbound morning and westbound evening, was increased to 30 tph and ten years later from 22 July 1996 the opposite direction peak service was also increased, westbound morning and eastbound evening, to 27 tph. This peak service continued until 29 September 2002 when defeat was admitted, and the peak services were reduced back down to 24 tph and remain so to this day).

# **GREAT NORTHERN (& CITY) SIGNAGE**

In early-December 2018 it was noted that the station name signage on Great Northern was in the process of being changed to reflect the image of the present operator. The previous signage was installed just after Network SouthEast was launched in 1986 and has survived 24 years after NSE's demise in 1994.

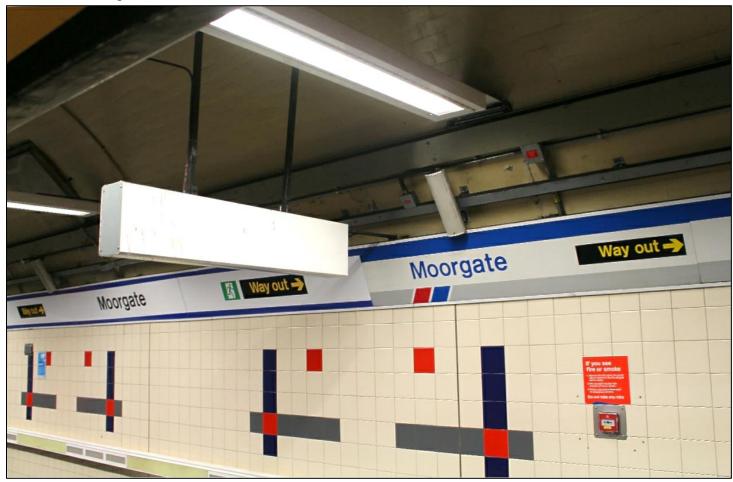




The old order at Highbury & Islington on 23 March 2011 (Left) with Network SouthEast signs at frieze level and on 13 December 2018 (Above) with the far more bland Great Northern frieze station names, which are believed to be stuck on over the NSE.

Despite the recent replacement, the NSE signs have seen three further operators – West Anglia & Great Northern (WAGN) from 1994 to 2006, First Capital Connect (FCC) from 2007 to 2014 and then Great Northern from 2014.

**Below**: On Thursday 13 December, only the north end of platform 9 at Moorgate was outstanding to be resigned by Great Northern. This is how far it had progressed at the 'join' line. By the time you read this, all 'tunnel' platforms (Moorgate, Old Street, Essex Road and Highbury & Islington) will have been re-signed.









**Above**: Drayton Park still has its First Capital Connect station name signs and although now covered over, the former operator is still visible.

**Below**: Whilst platform name friezes have been replaced, on 13 December 2018 the trackside names still displayed the erstwhile Network SouthEast signage – light blue lettering and the Network SouthEast blue and red 'flash'.

All Great Northern photos: Brian Hardy



## THE RAT RETURNS

The Central Line's east end Rail Adhesion Train returned to Ruislip Depot at the end of the season on 21 December 2018, seen passing through Holland Park on the westbound with DM 1406 leading.

Photo: Tim Easter



## **COLINDALE**

Plans are afoot for significant improvements to Colindale station, including a new ticket hall, a new lift providing step free access to the platforms as a result of new homes planned around the station. The population in Colindale is expected to increase significantly between 2017 and 2032, meaning that the station will continue to get busier, with more passengers entering and exiting the station each year. The station thus needs increased space to cater for this growth in passenger numbers.





**Above**: Artists' impressions of the new ticket hall at Colindale (Left) and the exterior of the new station entrance (Right).

Illustrations: Transport for London

The proposals for Colindale include:

- Improved access to the station through a new ticket hall.
- · Nine ticket gates to reduce crowding.
- A lift to provide step-free access to platform level.
- Wider paving areas around the station.
- New commercial space within the ticket hall.
- New housing around the station a car-free development with an aim of 50 per cent affordable housing.

As with all improvements, there will be an element of disruption as part of process of building a new station and new homes and the station will require closure for a limited period whilst the work takes place.

If agreed, work could begin on site in 2021 with completion in 2022.

# **CROSSRAIL IN WEST LONDON ...**



Above: Crossrail class 345 unit 345.016, complete with TfL Rail roundels, passes through Hanwell on 20 December 2018 heading east towards Paddington. The station has been grade II listed by English Heritage but it appears not to be in the best condition – recent work has possibly diminished some of its vintage features? Nevertheless it is still quite nice, with its old GWR canopies, station sign and lighting columns. So much so that it is almost surreal to have the likes of Crossrail trains whizzing past its platforms. In saying that, it is surely one of the worst-served stations now on the TfL network with only one stopping train every 30 minutes and that is to and from Heathrow Terminal 4 using former Heathrow Connect class 360 units. Crossrail class 345 units are only used on the Hayes & Harlington – Paddington service as the signalling issues with them on the Heathrow branch have yet to be resolved (they should have started on that service back in May 2018) and these are scheduled to non-stop Hanwell Mondays to Saturdays (it is closed on Sundays). When all the issues

with Crossrail will be resolved is as yet anyone's guess – for example, in the issue of "Rail" (19 December 2018 to 1 January 2019) the headline on the front cover reads: "Crossrail suffers indefinite delay". We will see ...

Photo: Colin Stannard

**Opposite**: On Thursday 20 December 2018, two new escalators were commissioned on the DLR at Limehouse, between the street and westbound (Bank/Tower Gateway-bound platform) with views looking up (Left) and down (Right).

Both photos: Courtesy lanVisits

## LIMEHOUSE DLR

