

UNDERGROUND ITEMS FROM THE TELEVISION AN OCCASIONAL SERIES “THE UNDERGROUND MAP OF BRITAIN” by Paul Raven-Hill

This is part of a new Channel 5 series about various types of maps of Great Britain, aired on Friday evenings at 20.00.

The first episode of the series was about the “**Railway Map of Britain**”, from the Stockton & Darlington and Liverpool & Manchester Railways of the 1830s, through the Great Western, the ECML, the WCML, Great Central, British Railways/Rail, to HS1 and HS2. This was really far too sketchy to be covered in a one-hour programme (less advert breaks, so around 45-50 minutes), so only covered some of the major railway lines.

This episode was broadcast on Friday 5 April 2024 and was about the development of the London Underground and its maps, from its early geographical and largely unreadable incarnations to the latest digital versions, all based on the famous 1933 Harry Beck ‘map’, which was really a route diagram, but much easier to read and understand.

As we know, the London Underground was the first in the world, with the Metropolitan Railway opening in January 1863 between Paddington and Farringdon (then Farringdon Street), largely using the disruptive “cut and cover” construction method, usually following existing roads. Around 9.4m passengers were carried in the first year.

There was a subsequent scramble to construct new lines and the network greatly expanded over the latter years of the 19th century and early to mid-20th century, with a total of 272 stations and some 3.5bn passengers per year.

The sub-surface lines were steam powered until 1905, when wholesale electrification took place, largely paid for by American financiers, including one Charles Tyson Yerkes, who was subsequently found to be less than honest in his financial dealings, although he had died rather suddenly in 1905. His “Underground Group” comprised the Metropolitan District Railway and no less than three deep-level ‘tube’ lines – The Great Northern Piccadilly & Brompton Railway (from Hammersmith to Finsbury Park); The Baker Street & Waterloo Railway (now the Bakerloo) between those stations, but later extended; and the Charing Cross Euston & Hampstead Railway (now part of the Northern Line). The Central London Railway was taken over in 1913.

Met. Railway 4-4-0T No.23 in the LTM Museum at Covent Garden was shown, as well as various LTM pre-1905 archive engravings and photographs.

The confusion over ticketing and operation of the Circle Line (Inner and Outer Rail, each operated by a different company – The Met. and the District) cried out for rationalisation, which eventually came about.

As sub-surface lines could not enter the central area of London (effectively inside the Circle Line), the only option was to construct deep-level ‘tube’ lines to expand the network. These could not be constructed in the same way as sub-surface lines. They had to be bored out extremely laboriously by hand. Early tunnels were built using a tunnelling shield designed originally by Peter Barlow, and significantly improved by James Greathead. This was used to construct the City & South London Railway in 1890 and Central London Railway in 1900. These eventually led to the Tunnel Boring Machines (TBMs) that we know today on HS1 and HS2.

Steam power could not be used in deep level tunnels and the solution was electric trains, although cable haulage had been considered. A C&SLR electric loco and “padded cell” carriage of 1890 (in the LTM Covent Garden) were shown.

The Central London Railway (now the Central Line) opened in 1900 and ran between Shepherd’s Bush and City (Bank), but was later extended both eastwards and westwards. Separate electric locomotives and carriages were initially used, but replaced by electric multiple units within a few years.

It was the different geology of underlying rock strata both north and south of the River Thames that determined a greater number of tube lines to the north of the river. To the north it was largely London Clay, very easy to tunnel through, but mostly sand and gravel to the south of the river. The Underground network spread out far to the north with suburban expansion into “Metroland” in the late 19th and the first half of the 20th Century, including extensions to the Central, Northern, and Piccadilly lines. Archive footage of 1938 Tube Stock was shown. All lines, including the Metropolitan, were amalgamated in 1933 under “London Transport”.

Pre-1933 maps were mostly unreadable and difficult to understand. This was solved by Harry Beck and his famous ‘map’ (really based on an electrical circuit diagram) which was much easier to understand.

Design of posters, stations, maps, etc, leapt forward under LT General Manager Frank Pick (who sadly died in 1941), who largely created the “Underground” image we know so well.

The disused terminus station at Aldwych, closed in April 1994, was shown, as an example of the Leslie Green design, which was now something of a time capsule, with its original lifts and decoration. It was used as an air raid shelter in WW2 and subsequently as a film set.

Reference was made to the deep level tubes under the Northern Line, e.g. at Clapham Common, which were used as deep level air raid shelters and later for immigrants of the Windrush Generation.

London Transport was nationalised in 1948, along with main line railways. In the late 1960s the Victoria Line was constructed in stages, eventually running from Walthamstow, via King’s Cross St. Pancras, Euston, and Victoria, to Brixton. 1967 Tube Stock DM 3052 was shown on the formal opening train, “driven” by Her Late Majesty Queen Elizabeth II. This car is preserved at the LTM Acton Depot. The replacement 2009 Tube Stock was said to be the top-performing trains on the London Underground.

The Piccadilly Line was extended to Hatton Cross and Heathrow in 1975-1977, as well as the Jubilee Line opening in 1979 from Charing Cross to Stanmore, taking over that branch from the Bakerloo.

London Underground's Control Centre was shown dealing with a PTI (Platform Train Interface) incident at Cannon Street (District Line) where a passenger had partially fallen through the gap between train and a sharply curved platform.

The programme concluded with the highly-automated Elizabeth Line, with its Class 345 "Aventra" EMUs, which had an "auto-reverse" facility for trains terminating at Paddington. The speed and frequency of Elizabeth Line trains could mean that Reading was almost part of London (*really??*).

There had been over 160 years of pioneering invention, innovation, and development of the London Underground, as the foundation of modern London, with the system we have today.

Not a bad programme, but it seemed to be more about the London Underground, than the development of the Underground "map".

"THE TUBE: KEEP LONDON MOVING"

This new six part Channel 5 series commenced on Sunday 17 March at 20.00. The title implied that it would be about London Underground, but having watched the first episode, it was more about TfL's bus and Underground operations and incident management above and below ground.

EPISODE 1: INCIDENT RESPONSE, THE ERU AND A STRAY DOG

In the introduction, it was stated that there were some 3 billion passenger journeys every year, with over 800 Overground and Underground trains and around 9,000 buses in operation on a daily basis. Travel patterns had changed during and after the Covid pandemic, with much more 'Working From Home' than had been the case before the pandemic. Travel was more concentrated on the Tuesday to Thursday period, rather than over five weekdays pre-pandemic, although the total number of journeys on bus and tube was now exceeding pre-pandemic levels, especially leisure travel in the evenings and at weekends. King's Cross St. Pancras was one of the busiest stations on the LU network in the peak hours (*as your writer can testify!*), with two main line National Rail routes from the Midlands and the North, 'Eurostar' international services, and six Underground lines (Met., H&C, Circle, Northern, Piccadilly, and Victoria).

Routine engineering work had to be squeezed into the few non-traffic hours between (roughly) midnight and 04:30, when the first trains of the day would be due to run. Tunnel cleaning to remove accumulated dust and other rather nasty material was a never-ending task, most of which now had to be performed manually, rather than mechanically. *So, whatever happened to the much-vaunted tunnel cleaning train? Long since scrapped and not replaced.* Similarly, it was said that bus shelters were cleaned every night.

Highgate, East Finchley, Stockwell, Tottenham Court Road, and White City stations were featured, in relation to incident management by LU staff, especially the Emergency Response Units (ERUs).

Incidents ranged from escalator failures, platform and ticket hall overcrowding; erratic passenger behaviour towards staff and on platforms, resulting in BTP attending; passengers unwell or falling over on trains, platforms, escalators and stairs, needing First Aid treatment, some mainly due to the high temperatures in 2023; to a stray dog (a very frightened 'rescue' German Shepherd) seen entering a Northern Line tunnel in the Highgate area. Customer Service and Station staff were trained in First Aid treatment, until paramedics could attend, if required.

This particular incident resulted in a complete service suspension and discharge of traction current whilst the ERU tried to find the poor animal, causing at least one northbound train of 1996 Tube Stock to become stranded in the running tunnel, without ventilation, around 500 metres from Highgate station, with some 200 passengers on board. This was a major incident, but was well handled by the ERU and the Train Operator. Because of the stand time whilst searching for the dog, there was a problem with recharging the air brake system to release the brakes, which could only be done once traction current had been restored. The overall delay approached two hours, so one felt for the poor and very hot passengers. The train was eventually moved to the platform to allow passengers to alight and it then proceeded on its journey, but was again held up by the stray dog, which has been seen in the Finchley area, but was later found in a garden, well away from any running lines, and eventually reunited with its owner. Incident cleared!

As a consequence of the Northern Line service suspension, bus services in various locations were very much busier than usual, resulting in overcrowding, Stockwell being an example. This was handled very well by a number of Bus Enforcement Officers, who not only had to control crowds at certain bus stops, instructing bus drivers accordingly, but also detecting fare evaders, of which there were several, as well as removing them from buses.

I won't dwell on the bus aspects of the programme, but it was said that there were some 8 million bus journeys each day over some 700 routes, using around 9000 buses. A Bus Control Centre was featured (RATP London) and various incidents and delays were featured. It was claimed that TfL lost some £20m each year as a result of fare evasion, by the use of expired or invalid passes or tickets, failure to "tap in", etc. Penalty Charge Notices of £40.00 or more were handed out and were intended to be a deterrent.

EPISODE 2: THE CORONATION, A MISSING PERSON AND THE 1938 TUBE STOCK UNIT

Following the introduction, the programme centred around the management of travel into and out of London on the occasion of the Coronation of King Charles III on 6 May 2023, the first in 70 years. Detailed planning had been taking place for over six months. The principal stations involved were Green Park (for Buckingham Palace) and Westminster (for the Abbey) and how huge crowds of onlookers would be managed. It was expected that millions of passengers would be using the Underground network on Coronation Day to see "a once in a lifetime event". The RATP Bus Control Centre was featured showing how bus services could be regulated when delays occurred, with the "Diversion Team" managing many changes to bus routes, and were able to be in direct contact with individual bus drivers. The TfL Control Centre could also vary the sequence of traffic lights to allow more time for pedestrians to cross roads. TfL had also removed several sets of traffic lights

on the procession route, as well as imposing a total traffic exclusion area around the Green Park and Westminster areas for most of the day. Westminster station was made “exit only” from 06.30 and later closed until the Coronation had concluded, due to excessive crowds. Similarly, Green Park had been made “exit only”, and also closed for a time. All of the Coronation viewing areas in Westminster and Green Park were full, then being closed for further entrants, who were directed to Hyde Park. Both stations were later reopened as “entrance only” after the Coronation in order to allow huge crowds of onlookers to disperse and return home. It was the largest public event handled by TfL and LU for many years.

On top of this, there was a points failure on the Victoria Line at Brixton, with a stalled train, causing the service south of Victoria to be suspended, until a temporary repair had been made to allow services to resume.

A Route 44 electric bus (it looked like a Wrightbus ‘Electroliner’) had broken down outside Victoria Bus Station and blocked the road for some time until it could be recovered.

Several of the 70 ‘Elizabeth Line’ Class 345 ‘Aventra’ EMUs being prepared for service at Old Oak Common were also shown. An intensive service was being operated on Coronation Day.

The “missing person” on the District Line had been a very confused elderly lady, who had become separated from her family at Dagenham Heathway, having got on a train by herself. A “Distress Message” had been issued to all District Line staff in the area to look for her. After a lot of searching trains and stations and viewing of CCTV, she was eventually located by staff at Upney and later reunited with her family.

There were a few words from TfL Commissioner, Andy Lord.

The engineering unit at Ruislip Depot was featured, showing an engineering train being loaded with 60 tons of flat bottom rail, which would be welded on site to form 90 metre lengths for rerailing and reballasting work at Belsize Park on the Northern Line.

The highlight of the episode was the operation of the LTM’s preserved 1938 Tube Stock Unit from Acton Town to Heathrow, following a test run to Uxbridge and back. The unit was shown being propelled out of the Depot by a fork lift truck to gain traction power in Ealing Common Depot, before a test run out to Uxbridge. The actual runs took place over a weekend in May 2023. Two of the LTM Heritage Team engineers were briefly interviewed, as well as views of the train on route. The runs were hampered by a points failure at Northfields, as well as some degree of overcrowding, due to passengers boarding the wrong cars. Passengers were limited to a maximum of 160 on each trip, with NO standing passengers permitted. Several passengers had to move to other cars, delaying departure from Acton Town, although time was recovered out to Heathrow T5 and back. There were a lot of very happy passengers on board, delighted to be travelling in this art-deco train.

EPISODE 3: FARE EVASION, NOTTING HILL CARNIVAL AND INCIDENTS AT KINGS CROSS ST PANCRAS

Even over the August Bank Holiday, one of the busiest of the year, routine and emergency engineering work still has to carry on regardless. At Charing Cross, several teams were installing co-axial cables as part of the 7-year long scheme to implement wi-fi and mobile phone coverage over the entire LU network, involving 7000km of cabling, much of which has to be installed in tunnels or under platforms, usually about 1km per night, during the short period of nighttime non-traffic hours. The teams had to be aware of any potential asbestos contamination, which would be hazardous and had to be left undisturbed. This involved many thousands of night shifts and hundreds of thousands of man-hours.

The August Bank Holiday weekend saw the Annual “Notting Hill Carnival”, with the Children’s Day on the Sunday and the Adults Day on the Monday. Over 750,000 people were expected to descend on Notting Hill Gate and Westbourne Park stations over both days, with a massive security and crowd management operation by LU/TfL and BTP staff, planned well in advance, but using up a lot of staff resources. Events and Incidents on the LU Network were handled by the London Underground Control Centre. Incidents involved malicious use of the escalator emergency stop buttons, requiring stations to be closed and engineers called, as well as fare evasion.

One major issue was Fare Evasion, with vast amounts of revenue being lost annually, enough to buy 200 new electric buses, and the programme showed how two of over 400 Revenue Protection Officers used digital data and “footprints” from tap-ins and tap-outs to detect specific and persistent fare evaders, over 90 offences in several cases, such as invalid use of Senior Citizen Over 60 travel passes, or avoiding correct payment on cross-London journeys. Locations were as diverse as Stratford, East Acton, St. John’s Wood, and London Bridge. Fare evaders were stopped, interviewed, and cautioned, with either a Fixed Penalty Notice being issued or the offender being reported for prosecution in the most serious cases. Whilst it was interesting to see how fare evaders were targeted, it did seem that this was rather “playing to the cameras” rather than how it was done in practice.

EPISODE 4: TRAIN STRIKE ON FA CUP DAY, POINTS FAILURE AT BAKER STREET AND BILLY JOEL FANS DESCENDING ON HYDE PARK

There was the usual summary introduction. Since the Covid-19 pandemic, there had been significant changes in travel patterns, with more commuters travelling on Tuesdays, Wednesdays, and Thursdays with more leisure travel at weekends, and with longer morning and evening peak periods. TfL operated over 9,000 buses on some 700 routes, with much overnight preparation, as well as over 800 Underground and Overground trains daily from 18 depots around London. The “Night Tube” on Fridays and Saturdays introduced from 2016 was an added complication. Most rail engineering and cleaning work had to be undertaken in non-traffic hours, approximately between midnight and 04:00, before the first trains started. Many bus shelters, etc, were also cleaned overnight, when road traffic was lighter.

Over the summer of 2023, longer spells of hot weather, busier weekends, and unpredictable and anti-social behaviour of a minority of passengers, had put the LU bus and tube network under increasing pressure. London Underground Control Centre (LUCC) Incident Management Desk had to deal with all sorts of incidents. from passengers being unwell because of the heat; illness; equipment, point, train, and bus failures.

The FA Cup Final between Manchester City and Manchester United, at Wembley Stadium, with around 90,000 fans, many of whom were arriving at, mainly, Wembley Park (Met. and Jubilee lines) for the match. To add to this, there was also a National Rail Strike over the same weekend! To add insult to injury, there was also a points failure at Baker Street, suspending service south of Wembley Park, where all trains terminated South to North, as well as a local power outage, taking out the tickets gates and CCTV cameras, so staff had to be deployed at all gates to regulate the 50,000 or so fans travelling to and from the Cup Final.

Crowd control and management was a major issue and a large number of LU staff had to be deployed to regulate passenger flow through the station, both before and after the match, putting cordons around fans and across entrances. Not only that, MU and MC fans had to be kept separated to try and avoid fights breaking out, but those that did were swiftly dealt with by trained LU staff and BTP officers. Fans were still leaving the stadium and passing through the station as the last Jubilee Line trains were departing (the Met. ran somewhat later). As it happened, Manchester City won the FA Cup.

The episode also looked at the operations of the Emergency Response Unit (ERU) at the Camden base (one of four around London) and the sort of incidents that they had to deal with. There were 120 staff, with 16 per shift. Equipment had to be checked at the start of each shift to ensure everything was in working order. The ERU had access to over 80,000 CCTV cameras around the LU network. On this occasion, it was another loose dog at Golders Green (Northern Line), which had strayed through the station onto the line and went under a passing train (a "Category 1 Incident") causing a temporary part suspension of service, with traction current being discharged at Golders Green. With the MOM and team on site, the dog was eventually retrieved alive from under the train and taken to a local vet to be checked and reunited with its very relieved owner. They also received a report of track damage at Leicester Square (southbound Northern Line). Train Operators had been instructed to approach at a slower than normal speed. The ERU arrived quickly and carried out a visual inspection, which was found to be some broken/split concrete under one of the running rails, but was not a safety issue. The minor damage would be reported and repaired by engineers during non-traffic hours.

The Royal Parks, and Hyde Park in particular, were very popular for music events during the summer months. A Billy Joel concert, bringing in over 65,000 fans, put added pressure on Hyde Park Corner station, constructed in the early 20th century with lifts, but modernised with escalators in the early 1930s. The lift shafts (with spiral staircase still in situ) were located under what is now "The Wellesley Hotel", which incorporates the original Leslie Green station ticket hall, the former lift shafts being used for ventilation of the station tunnels, which could become very hot at times. When crowds exiting the station reached a certain level, a "Special Event Mode" was implemented, to make the station "exit only" in the hours leading up to the concert and "entry only" afterwards, passengers being diverted to adjoining stations at Knightsbridge and Green Park. Added to this, there was a ticket gate failure, which was swiftly repaired by engineers. The Incident Management Team also received a report of an aggressive male at Oxford Circus station who had been threatening passengers. BTP and LU Tactical Support and Enforcement Officers were deployed and the suspect was apprehended and removed from the train, which had been held at the station.

With the "Night Tube" from 2016, there had been an increase in fare evasion and alcohol-related incidents, with on attacks and assaults on station staff. A hot and very busy Piccadilly Circus was given as an example. Suspects/perpetrators were routinely spotted, identified, and traced by CCTV and Oyster/Contactless tap-ins, resulting in arrests and prosecutions. TfL/LU were stated to be losing over £100m per year from fare evasion, money which could be "ploughed back into investment in the LU network", a view with which many of us would agree.

EPISODE 5: LOST CHILDREN, LONDON PRIDE MARCH, A 'BLUR' POP CONCERT IN HYDE PARK AND A SUSPECTED OFFENDER

A report was received by the Incident Management Team of a 12-year-old girl who had become separated from her 13 year old sister at Tottenham Hale (Victoria Line) whilst travelling to Euston. Staff were alerted along the route and trains were checked. The young girl was found safe and sound at Euston and was able to be reunited with her sister, who was more scared of what her parents would say to them, rather than the actual accidental separation.

The annual London Pride March, centred around the Oxford Circus, Leicester Square, and Piccadilly Circus areas, drew crowds of up to 1.5m onlookers. This meant significantly increased pressure on those stations, many of which had to be "exit only" in the run up to the parade. At one stage, Piccadilly Circus station had to be closed and evacuated due to excessive overcrowding, which later spread to Leicester Square and Tottenham Court Road, which had to take similar crowd control measures.

The stations reopened after the London Pride Parade, but was hampered by the malicious misuse/stopping of escalators, which had to be restarted by station staff.

The ERU and LU staff had to deal with a fire alert at King's Cross St. Pancras.

The Blur Concert at Hyde Park had all the hallmarks of the Billy Joel concert mentioned earlier, with some 80,000 fans descending on the venue via Hyde Park Corner. The LU staff were well practised in event crowd control, so that passengers could move safely in and out of the station.

The seemingly never-ending situation of anti-social behaviour and sometimes violent assaults on staff was a persistent problem, which had to be dealt with by regular "swoops" by BTP and LU Tactical Support and Enforcement Officers at known "hot-spots". The example shown was at Stratford. Staff had been threatened with assaults, mainly arising from fare evasion. Over 850 assaults had taken place between June 2022 and June 2023. The perpetrators had, in many cases, been identified by CCTV and Oyster/contactless 'tap-ins', with the suspects being apprehended and arrested for the offences. Plain clothes BTP officers, who obviously could not be identified, frequently travelled around the LU network on the lookout for potential offenders, using intelligence-led data, resulting in arrests and prosecutions.

Finally, there was a look at London Trams' Therapia Lane depot, whose Fleet Maintenance staff maintained the 35 trams on the present network. A Stadler 'Variobahn' tram was in the depot following damage. The damage to the tram was stated to be with the "rollers" (*by which I assume he meant the wheels!*), arising from metal objects lodged in the running rail grooves

on the on-street track sections. The “rollers” had to be reprofiled and car levels adjusted on all wheels of the tram concerned, before it could be passed as safe to re-enter service.

EPISODE 6: TRACK FIRES, PASSENGER INCIDENTS, END OF SEASON FA CUP MATCHES AND TFL PRIVATE HIRE VEHICLE ENFORCEMENT

A track fire in the West Ham/Stratford area had been reported to the Incident Management Team and an ERU team and London Fire Brigade attended, with traction current being temporarily discharged. It was found to be a smouldering wooden sleeper, which was quickly extinguished using water fire extinguishers. Services then resumed. Later, there was a report of a passenger partially falling between a train and the platform edge on the eastbound District Line at Fulham Broadway, but the passenger had managed to extricate himself before LU staff arrived.

There had been a report of an aggressive male at Baker Street, threatening to push passengers onto the track. BTP Officers responded quickly and the offender was arrested and removed from the station. There were over 3,000 TSE and BTP staff, including plain clothes officers, on the Underground network, dealing with over 1,000 sex-related offences each year. Often offenders were traced through CCTV and Oyster/Contactless tap-ins, and would be arrested and prosecuted. Occasionally, it might not be possible to trace and search an offender.

Usually, kick off times at London Football Clubs were staggered to prevent overcrowding, but at the end of the 2022-2023 season, 13 football clubs were having their final matches, of which four had simultaneous kick-off times, attracting some 200,000 fans! All of the fans attending the games, including Chelsea, Fulham, and Crystal Palace, needed to be managed, as many were in a rowdy mood, mainly from alcohol. Chelsea and Fulham grounds were close to LU stations, but Crystal Palace was an Overground/Southern affair, either at Selhurst or Norwood Junction stations, the latter becoming dangerously overcrowded after the match there, resulting in the station being closed until the platforms had been cleared. On occasions, two spare trains would be made available to move crowds, but this time, there weren't any!

The DLR also came under scrutiny, with an “Abba Voyage” virtual concert at a pop-up venue opposite Pudding Mill Lane station, which could be very busy at weekends, as some 3,000 Abba fans were expected. The DLR had opened in 1987 to link the City with Canary Wharf and now had 45 stations.

There was a brief segment relating to track maintenance, usually carried out in nighttime non-traffic hours, with up to a ½ km section being tamped and lined each night by tamping machines, which were seen in operation.

On top of this, the “Ride London” cycle event was also taking place in Central London, resulting in many road closures and bus route diversions. Bus breakdowns also had to be handled to keep roads as clear as possible, and a road traffic collision involving Abellio London (now Transport UK) single deck bus 8788, where a car had collided with the rear offside corner of the bus. After being checked by engineers, it was deemed safe to be driven back to Southall Garage for repairs to the engine and body panels, which would take several days. Definitely an insurance claim job, which would run into thousands of pounds, just because of a careless car driver!

TfL's Special Operations Section also had to deal with enforcement of regulations relating to taxis and private hire vehicles, e.g. Uber, where there were over 300,000 journeys each year, carrying out frequent roadside checks, both north and south of the River Thames, looking for illegal or unroadworthy vehicles, which could be impounded immediately.

COMMENTS

The series seemed to me to be something of TfL “self-congratulatory back-slapping” and more about its Operations and Management from the various Control Centres and on the ground, rather than being about the Underground/Overground and its trains. Perhaps that was a somewhat misleading title? Maybe it should have been “Keeping London's Transport Moving”?

A contributor to the “London Underground Enthusiasts” Facebook Group page said: *“The Tube on Channel 5 seems like the worst Underground documentary to date. Unrealistic, dramatic and inaccurate. Seemed to focus more on above ground than underground. Where is the interesting stuff like drivers, new signalling systems, Central Line new motors and refurbishments? Channel 5 usually make good documentaries, so I wonder what's gone wrong?”*. Those things don't necessarily interest most viewers, and there may possibly have been different producers from other similar documentaries.

Not only that, quite a few of our members who used to work for LU knew many of the staff and “personalities” featured in the series!

“SECRETS OF THE LONDON UNDERGROUND” Series 4 – Yesterday Channel (now “U & Yesterday”)

This is the fourth 10-part series, presented by Tim Dunn and Siddy Holloway, who visit parts of the London Underground that are off-limits to the general public, see how the modern Underground functions, while at the LT Museum's Acton Depot, they look at various railway vehicles and root through the archives, unveiling documents, photographs, films, and artefacts that may have never been seen before. The first episode was broadcast on Tuesday 2 July 2024 at 20.00, with repeats on Friday and Sunday evenings, as well as one hour later on Yesterday+1. (U & Yesterday+1 from 16 July).

EPISODE 1 – EARL'S COURT AND ALPERTON

EARL'S COURT

After usual introduction, it was stated that Earl's Court was first opened in 1871 by the then District Railway, very much in open fields at the time. It was named after the 17th century manor house that existed nearby. The station trainshed was designed by the District Railway's architect, John Woolfe Barry, which still stands today, despite modernisation. The Piccadilly Line arrived in 1906, when the (District Railway) station was rebuilt into its current four platform layout with two island platforms – eastbound and westbound. It has junctions at each end of the station - at the west end is the divergence

of the Richmond/Ealing Broadway and Wimbledon branches, and at the east end, the divergence of the main line towards Victoria and points east and the branch to High Street Kensington and Edgware Road.

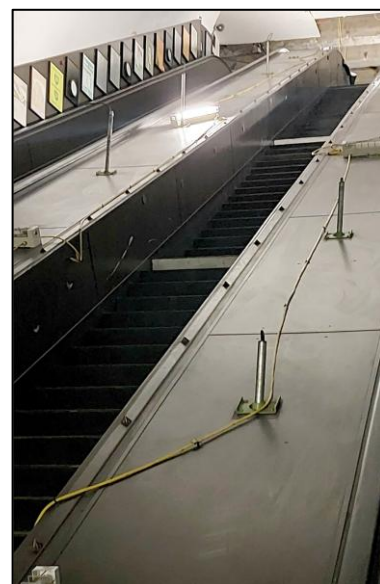
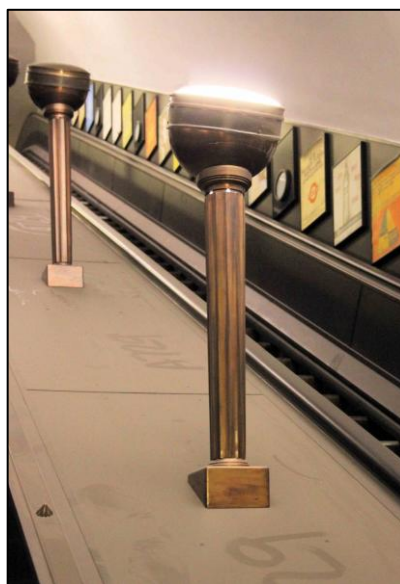
Earl's Court's claim to fame is that it was the first Underground station to be fitted with escalators, in addition to lifts, from the District Railway to the GNP&BR (Piccadilly Line). The escalators were of a side step off style supplied by the Otis Elevator Company in the USA, which had been a pioneer of lifts and escalators, and were opened on 4 October 1911. There were reports in the then Pall Mall Gazette of "9 dresses torn and a finger pinched", which led to guard rails being fitted. There is the apocryphal story of a certain "Bumper" Harris, who had a wooden leg after an amputation, being employed to ride up and down the escalators to show that they were safe. This was only partly true, but he did ride the escalators on opening day. The London Underground now has 576 escalators around its network. Earl's Court is an example of 19th Century heritage meeting the 21st Century. There are modern digital train destination indicators complementing the listed early 20th Century train describers, installed on electrification in 1905, and which are still in full working order after recent restorations. The whole of the station has a Grade II listing since 1984, including the period train indicators, as has been referred to in earlier issues of *Underground News*, reflecting the evolution of the Underground. There are other heritage features, such as the Ferris Wheel motifs on the station entrance canopies, harking back to fairs that used to be held nearby.

The nearby exhibition centre opened in 1937, with its own entrances from the station on Warwick Road, but closed in 2003 and demolished in 2015 to make way for new residential and commercial development above the railway lines to the west of the station. The disused passageways leading from the station towards the site of the exhibition centre are still in situ and are something of a time capsule. These were used as "spare time factories" during WW2, where small aircraft and other components were manufactured for the war effort. A comparison, using archive film, was made with the wartime munitions, etc, factories constructed in the newly-built Central Line tunnels on the eastern extensions, which were not opened until after the war.

The escalators with their bronze panels and Waygood Otis manufacturers' plates, ticket gates, and ticket hall were still very much in situ, more or less left as they had been abandoned in 2003, when the exhibition centre closed. There was even a 1990s Tube Map predating the Jubilee Line extension, as well as period adverts! A hand-written sign stated that "Even Ghosts have to buy Tickets to Travel on the Tube"!

Above the circular Charles Holden-designed Warwick Road entrance is a rotunda, which it transpires contains the "Earl's Court Control Room" which controlled all of the District Line¹ until the recent TBTC/CBTC resignalling scheme and now only controls the Fulham Broadway to Putney Bridge, including the stabling sidings Parson's Green. A new control room was established at Hammersmith, which now oversees most of the District Line².

Tim Dunn ended this part with a brain-teaser. Which London Underground station has the most escalators. The answer he gave was Waterloo with 23 ...



Above: The classic uplighters (Above, Left) in the Earl's Court Exhibition escalator shaft. This type can now only be seen at Southgate, St. John's Wood and Swiss Cottage although some stations at the south end of the Northern Line have modern imitations. By the end of 2022, it was noted that the uplighters in the Exhibition shaft had been removed (Above, Right) but by whom and to where still remains a mystery.

Photos: Kim Rennie (Left) and LURS Collection (Right)

Editor's note: Assuming that the episode was recorded before 27 February 2023, then Waterloo would be correct but with 24 escalators and not 23. The total of 24 is also matched also by Liverpool Street. However, if the programme was recorded after 27 February 2023, then Bank station would take the credit for the most escalators, at 31. As we don't know when the programme was recorded, the escalators at both stations are summarised below:

WATERLOO:

Nos.	From/to
1-2-3	Bakerloo/Northern Line lower circulating area – main ticket hall
4-5-6	Bakerloo/Northern Line lower circulating area – 'Shell' ticket hall
7-8	Bakerloo Line interchange to 'auxiliary' ticket hall
9-10-11	Northern Line – main ticket hall

¹ At its maximum, Earl's Court control room had signalling control of the District Line from Tower Hill and High Street Kensington to Olympia, Putney Bridge and Ealing Broadway, along with the Piccadilly Line from Cockfosters to South Harrow and all Heathrow terminals.

² At present with the exceptions west of Barons Court (to be extended to Stamford Brook in the future) and west of Fulham Broadway (to be extended to East Putney in the future).

12-13-14	Main ticket hall – main line station
15-16	Jubilee Line interchange concourse – Waterloo Road ticket hall
17-18	Jubilee Line interchange concourse – Waterloo Road ticket hall
19-20-21	Jubilee Line (west end) to interchange concourse
22-23-24	Jubilee Line (east end) to interchange concourse

BANK:

Nos.	From/to
1-2-3	Central Line to Central Line ticket hall
4-5	Northern Line to Monument interchange subway
6-7	Central Line interchange to Northern Line (Lombard Street) ticket hall
8-9	Central Line interchange to Northern Line interchange subway
10-11	Bank DLR (west end) to Northern Line interchange subway
12-13	Bank DLR (east end) to District Line interchange subway
14-15	District Line interchange subway to Monument westbound platform
16-17	Waterloo & City Line to Bloomberg intermediate level
18-19	Bloomberg intermediate level to Wallbrook exit
20-21-22	Northern Line concourse to DLR concourse
23-24-25	Central Line and Northern Line interchange corridor
26-27-28	Northern Line to mid-level (Cannon Street)
29-30-31	Mid-level (Cannon Street) to Cannon Street ticket hall

Still at Earl's Court, Siddy then went to see the disused Piccadilly Line lift shaft³, which now houses a telephone exchange.



Two views of the lower lift landing at Earl's Court looking towards the eastbound Piccadilly Line platform, that on the left looking at the access to the two remaining lifts (Nos.3 and 4), while the photo on the right shows where lifts 1 and 2 used to be. The current lifts have been renewed over the years, but Earl's Court received automatic lifts, which went into service on 9 October 1932 following experiments at Warren Street in 1927-28.

Both photos: Brian Hardy

At the LTM Acton Depot, a volunteer demonstrated a 1930's programme machine, using punched tape and electrical studs, which controlled the platform train describers, connected to a miniature lever frame (believed to be from Baker Street, Bakerloo Line) to show how they worked. The actual train describer was a scale replica, as the original was far too large to be displayed.

ALPERTON

Siddy then visited Alperton station (originally District Railway, but now served by the Piccadilly Line). It is one of many stations sited on an embankment, where the escalators go up to the platforms, rather than down⁴. The station was opened in 1903 by the District Railway on its Rayners Lane branch, where it connected with the Metropolitan Railway. It was modernised in the 1930s by Charles Holden with its signature modernist "Brick Box with a Concrete Lid" station ticket hall, with its large windows and high ceiling, giving a light and airy feel. It originally had a Passimeter ticket office, but that has long gone (there is still one at Hounslow West, now with a model railway display inside for its 90th Anniversary last year).

Its secret is that it still has a wooden treaded escalator, which has been hidden out of sight and use since 1988, following the King's Cross fire disaster in 1987. The escalator shaft is very much of an art-deco/modernist style with circular roof lights.

The escalator was originally at the Festival of Britain in 1951 and was installed at Alperton in 1955. The escalator machine room underneath was also shown, complete with all of its equipment, although much covered by grime and cobwebs, from years of disuse. There are plans to remove this historic escalator, so Siddy had arranged for it to be photographed by our good friend Luke Agbaimoni ("The Tubemapper") for posterity, as he was then researching historic and futuristic stations (or

³ Earl's Court was one of several stations in the 1924-30 period, where little or disused lifts were removed. Earl's Court, of course, also had escalators which negated the need for four lifts.

⁴ Only two stations had escalators which went up to platforms – Alperton and Greenford, with only the latter still in service.

extensions of them) for his new book. (*Editor's note: It has been suggested that the escalator shaft will be used for an inclined lift as part of Alpert's step-free access plans.*)



Above: (Left) The escalator at Alpert when new in 1955.

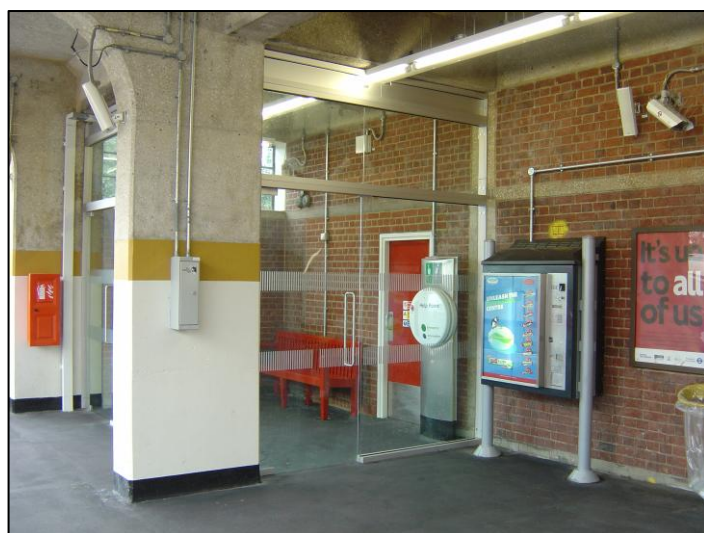


Photo: LT Museum

Above: (Right) A recent view at the eastbound platform level at Alpert. Passengers using the escalator used to reach the platform in the centre of the photo. The red door was added after the escalator was declared withdrawn and the area converted into a glass waiting area.

Photo: Brian Hardy

After Earl's Court, Tim visited the maps store at LTM Depot with Director, Chris Nix, and looked at the evolution of adjoining railway lines and stations, in particular, "Kensington (Addison Road)" opened in 1886, later just "Addison Road" until just after WW2, when it became "Kensington (Olympia)" in 1946, later simplified with the omission of the parentheses to "Kensington Olympia". 1950s archive photos of "Ken O" were shown, with a Q Stock train in the District Line bay platform, headed by a Q23 DM. The station was heavily damaged by bombing during the "Blitz", as was the Metropolitan Line connection from Uxbridge Road to Latimer Road, as well as a V1 "Flying Bomb" in 1944. The station has had its ups and downs regarding LU services, and is currently served by London Underground (limited services), London Overground (West London Line), and some National Rail services.

I would mention here that Twickenham and District Model Railway Club has a superb award-winning 'O' Gauge layout based on the southern end of "**Kensington (Addison Road)**", set in the early post-grouping era and is currently constructing a scaled-down model of the next station on the WLER, "**West Brompton**", set in the late 1950s, as an alternative centre section, which will require a District Line 'Q' Stock 4-car unit of varying types from Q23 to Q35 (and possibly a 3-car CO/CP Stock unit).

EPISODE 2 – PADDINGTON STATION AND TOTTENHAM COURT ROAD

PADDINGTON

After the usual intro, Tim and Sidy got down to business at Paddington station, investigating those hidden parts. The main line station was originally opened by the GWR in 1838 as a fairly modest affair, but Brunel wanted something bigger and better. The current station opened in 1854, having the then largest covered train shed in the world, and was enlarged in the early 20th Century with additional platforms on the north side. The Metropolitan Railway opened in January 1863 between Paddington (then "Bishop's Road") and Farringdon (Street), some 4.5 miles away, generally following what is now Euston Road. A second Paddington station (originally known as "Praed Street") was opened in 1868 on a southward extension to "Brompton" (now Gloucester Road), connecting with the Metropolitan District Railway running from the western suburbs of London to South Kensington and later towards Mansion House and points east. The "Praed Street" station, which became part of a larger Paddington, is now on the Circle and District lines and still contained some of its original features, such as parts of the overall train shed and the lattice framed footbridge, which is still in use today. The original station building above the tracks had been redeveloped many years ago. The Met. was also extended westwards from Paddington to Hammersmith (Met.) in 1864, along what is now the Hammersmith & City/Circle Line. The extension of the Bakerloo Line from Baker Street to Queen's Park arrived in 1913⁵ and the latest arrival was the Elizabeth Line, opened in 2022. All of these lines had to be integrated into a single interconnected station complex.

Joe Proctor of Network Rail took Tim Dunn down to the Undercroft to look at what lies below the station platforms. There was a veritable rabbit warren of passages, both along and across between the platforms. The area under Platforms 10 & 11 still had its original glazed tiling from the early 20th Century expansion to allow staff to access all platforms, and was still used by staff of the current GWR, retailers' stores, utilities, and communication systems. Sidy passed along platform 1, with the famous statue of a certain bear (Paddington, of course!) and entered yet another hidden part of the station, which was very much disused. The tiling was very much in the early 1930s LU style of Holden and Heaps. Stairs leading to the platforms had been blocked off. Part of the Undercroft here had once been used as "cells" by GWR Police, before the formation of BTP in 1949 after nationalisation. There were even cuttings from football magazines pasted on the wall from April 1956! In addition, there were the remains of the former "Mail Rail" mailbag chutes and conveyor belts under platforms

⁵ Paddington (Bakerloo Line) was reached in 1913, Queen's Park in 1915.

10 and 11, disused since 2003, when Mail Rail and several sorting offices closed, having opened in 1927, as a more efficient way of moving mail and parcels across London to other stations, the main Mount Pleasant Sorting Office, and the Eastern District Sorting Office at Whitechapel. A small section of Mail Rail remains in operation at the Post Office Museum at Mount Pleasant.

Another abandoned relic, this time from 1999, remained under the Heathrow Express [Hex] platforms. This was the baggage conveyor from some 20+ check in desks, which would whisk your luggage up to the waiting HEx trains (*then Siemens Class 332 EMUs, long since withdrawn and scrapped, apart from three cars at Goole*). After the 9/11 terrorist attacks in 2001, there were increasing security concerns about unaccompanied baggage and the check-in desks were closed and the baggage conveyor belt system was discontinued from 2003.

Under the concourse shops, there were the remains of what was described as a “Barber’s Shop”, with a row of ‘Adamses’ washbasins and very ornate glazed tiling from the 1905 enlargement of Paddington. Few barbers’ shops survive on railway stations today, Manchester Victoria being quoted as one. Some rooms had been used later as steam loco crew washrooms, but had been disused for over 50 years and were semi-derelict. Another room was used as a store for the GWR Paddington Station Band’s instruments and row upon row of sheet music, going back over 100 years! The Band had been started in 1855 and still played on Platform 9 (near the statue of Isambard Kingdom Brunel himself) on Friday evenings, much to the delight of waiting passengers. Tim Dunn then posed the question “How did the visualisation of the Hammersmith and City Line change in 1990”? The answer was that the route colour on the so-called “Tube Map” was changed from Met. maroon to H&C pink, when the line was given its own identity. (Of course, Circle Line yellow was added when the Circle Line was extended from Edgware Road to Hammersmith (Met.) in the so-called “pan-handle” or “teacup” route).

In the LTM Drawings Store, Tim Dunn and Chris Nix looked at various original hand-drawn architects’ drawing and plans for the construction of the Paddington stations, but also for the then “Post Office Railway” (later “Mail Rail”) in view of its proximity to several underground railway lines. One diagram even showed the individual tunnel lining segments, where specific version were required, such as on corners. The plans for Paddington Mail Rail showed the tunnels, platforms, mail chutes, and conveyor belts under the platforms in considerable detail. The same applied to the Post Office Railway Mount Pleasant Depot, very close to the Circle and Metropolitan tunnels.

The arrival of the 21st Century Elizabeth Line in 2022 completely changed the way that Paddington would be operated into the future.

TOTTENHAM COURT ROAD

This was also on the Elizabeth Line from 2022, after it had had a major make over and expansion. The original Tottenham Court Road was called “Oxford Street” when it was opened by the then Central London Railway (now the Central Line) in 1900. The Charing Cross, Euston & Hampstead Railway (now part of the Northern Line) arrived in 1907, but had its station there named Oxford Street. This became Tottenham Court Road in 1908 when its Tottenham Court Road one stop away was renamed Goodge Street. The Central and CCE&HR stations were combined in 1925, with an enlarged ticket hall with escalators replacing lifts. In 1984, the current Tottenham Court Road had mosaic murals by Edward Paolozzi, covering some 950 sq. metres, installed all around the station. One of the largest sections was known as the “Church Window”, weighing 1.5 tons, which had to be relocated when Tottenham Court Road was modernised for the Elizabeth Line. Some sections which could not be relocated were moved to the Edinburgh College of Art, where Paolozzi had studied. The 1900 CLR passageways, unused since 1925, still had the original CLR glazed tiling in situ, but were now used by staff moving around the station.



Left: When changing between the Northern and Central lines, passengers have to pass through the bottom of one of the old CLR lift shafts at Tottenham Court Road.

Photo: Kim Rennie

London Tour Guide Anthony Robbins explained the development of the Tottenham Court Road area as former Crown Land from the 17th and 18th Century onwards for shopping, entertainment (some of a dubious nature!), theatres, and later cinemas. It was a thriving cosmopolitan part of London. The CLR and CCE&HR “tubes” had allowed all types of people (including women!) to go

shopping or to the theatre, with these leisure pursuits being widely promoted with posters on stations and elsewhere. Part of Tottenham Court Road had echoes of the 1950s and 1960s “Cold War” with the Warsaw Pact countries, particularly Russia. In a locked part of the station were the floodgate operating equipment installed by the then LTE in 1960-1961, controlled from the now abandoned and never-opened “North End” station. Five other tube stations had floodgate equipment. An archive photo of Tottenham Court Road in 1931 was shown, to illustrate how quickly a station could be flooded, this time from a burst 24” high pressure water main. Fortunately, no one was injured. The old Northern Line lift shafts, disused since 1925, were now used ventilation shafts from the station and running tunnels.

At the LTM Depot, on board 1972 Mk1 Tube Stock DM 3530, Tim Dunn spoke to “Renee” a Northern Line Train Operator about her job, which she filmed and uploaded to social media, to show what her job was like, as a sort of role model for newer and younger female staff on the Underground, of which there were now more. She had colleagues who had worked

as Train Operators for over 25 years and some who had just started. She outlined what her job involved (which was different every day), with a lot of concentration. She explained some of the “secret language” used by Train Operators and railway staff. **“Getting one out”** of the depot; **“Doing an M”** – Morden to Edgware (via “the Cross”); back to Battersea Power Station (Station) for a 5 minute **“PNR”** break and change ends; back up northbound to High Barnet or Edgware, then back to Morden! Going **“on the cushions”** (i.e. as a passenger) from East Finchley to High Barnet for **“grub”** (meal break) then back to East Finchley to pick up her next working. She had been a driver for two years and loved every minute of it, apart from the 05.00 starts, but her favourite section was north of Camden Town, emerging into daylight after 17 or so miles of tunnels from Morden and seeing abandoned stations (with the occasional “Hidden London” tours) along the tunnel sections.

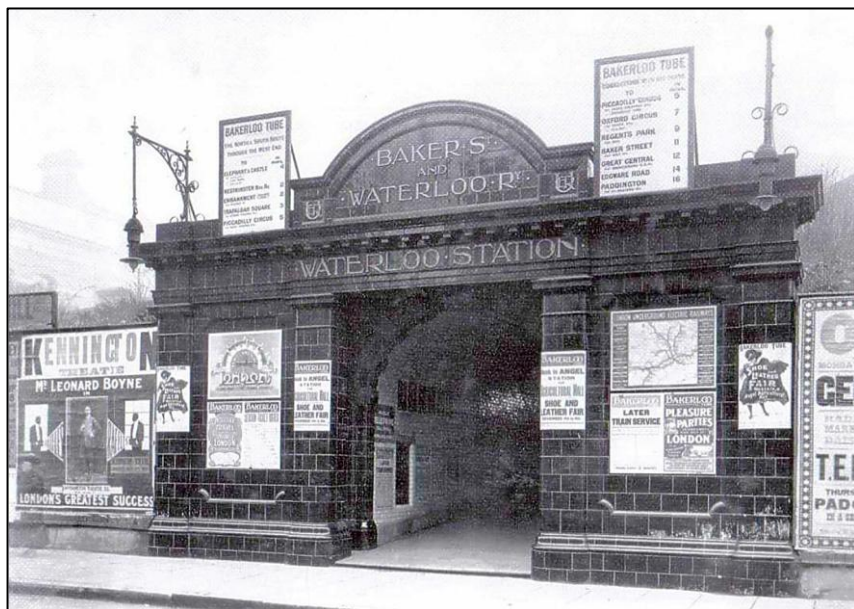
EPISODE 3 – WATERLOO AND MARBLE ARCH

WATERLOO

Waterloo Main Line Station has 24 platforms (excluding Waterloo East), as well as eight underground platforms, dating from the late 19th Century to the late 20th Century. Waterloo was named after the nearby bridge and the 1815 Battle of Waterloo. The Victory Arch was constructed during the post WW1 rebuilding as a lasting memorial to those LWSR staff who were killed during the Great War. Waterloo was originally opened in 1848 by the LSWR but subsequently rebuilt in 1906 and the early 1920s by the LSWR (later Southern Railway), and again by BR and L&CR in the 1990s for Eurostar. It is undergoing further regeneration, especially below ground!

The first tube arrived in 1898 with the Waterloo and City Railway, as a means of the LSWR reaching the City (Bank area) and an archive photo of one of the original Dick, Kerr & Co. cars was shown. The line only had two stations – Waterloo and Bank – the same as it has today. The Bakerloo Line (then the Baker Street & Waterloo Railway) arrived in 1906. The Charing Cross, Euston, & Hampstead Railway (now part of the Northern Line) arrived in 1926, when the line was extended southwards from Charing Cross to Kennington. The Jubilee Line Extension arrived in 1999.

The northbound platform can be glimpsed from the southbound platform through ventilation grilles. Inside a storage cupboard, original 1906 Leslie Green cream and brown and mint green and white glazed tiling can still be seen.



Left: The original entrance to the Bakerloo Line station at Waterloo constructed to a Leslie Green design but somewhat different in appearance than normal. It was later demolished.

Photo: LT Museum

A new entrance in York Road was built for the 1951 Festival of Britain, which took place on the South Bank. It was demolished in the early 1960s to make way for the Shell Building, which itself has only recently been demolished, redeveloped and reopened.

The Bakerloo Line platforms at Waterloo are staggered diagonally due to space constraints below ground.

Barry Kitchener, Network Rail Facilities Manager and 4th generation railwayman, took Tim Dunn around the Undercroft and catacombs below the main line station, parts of which have been disused for many years, and included social and sporting clubs, with snooker table, boxing ring, and a rifle range! The whole station had been built on hundreds, if not thousands, of arches supporting the main line station above. The “raw underside” of some of the arches and corridors could be seen. The station’s public address system equipment room was also housed there, giving a “haunted” feel when announcements were made. The Undercroft was undergoing regeneration to make use of the space available, but did not explain what would be there in the future.

Siddy Holloway then looked at the old equipment rooms for the WW2 floodgates, installed in 1940 to allow tunnels to be closed off during air raids to prevent flooding if any of the tunnels were breached, which never happened to an operational tunnel. However, one bomb did penetrate the closed off Charing Cross Loop tunnel, which had been disused and sealed off since 1926 when the Northern Line was extended southwards. The floodgates and equipment were still in situ.

The Jubilee Line platforms (which were straight and had platform edge doors) had to be built further away from the other platforms, and therefore had moving walkways (travolators) to aid quick movement of passengers. The unique architectural design of the Jubilee Line platforms and passageways could be seen. The Jubilee Line was 30 metres below ground level and was the lowest of all four Underground lines, with the W&C at the top, then Bakerloo, then Northern, and finally Jubilee. There were two emergency step-free exits, with 128 steps and lifts, installed in the 1990s, as a result of the King’s Cross fire disaster.

As a brain-teaser, Tim Dunn asked which was the only other station which had moving walkways. Answer: Bank, with two separate pairs.

At the LTM Depot, Tim Dunn and Chris Nix looked at architectural and engineering models of stations, including Waterloo Jubilee Line from the mid-1990s. The bits that weren’t needed were made in clear perspex so that they could be seen through. Only the underground parts were coloured according to the intended use, e.g. ticket halls, escalators, passages, lifts, etc.

MARBLE ARCH

The Central London Railway (now Central Line) station was named after the nearby landmark, which was currently undergoing restoration, and was opened in 1900. An archive image of the early station (the famous “ghostly man”) was shown. The CLR ran from Shepherd’s Bush in the west to Bank in the east, but was extended later. The original station entrance was on the corner of Oxford Street and Quebec Street, but was relocated to its present position when escalators replaced lifts. Parts of the 1900 station, including a footbridge to the old lift shafts were still in situ, but the passageways were now used for ventilation. Other parts, although disused, were still preserved, including the old emergency stairs shaft (without the stairs), replaced with escalators as part of the 1932 rebuilding, which had cut through it.

The 1932 modernisation had included additional entrances and passageways, in the 1930s Stanley Heaps design, some of which had not been used for many years. The last use was for the 2012 Olympics events in Hyde Park, but were now closed off, very dark, and full of cobwebs and “creepy-crawlies”. The exit connected to the entrances to Hyde Park underground car park.



Marble Arch also has a large number of vitreous enamelled artworks and motifs, centred on Marble Arch, created by Annabel Grey, who was interviewed by Sidy on the station. These had been installed some 40 years ago and were still as pristine as ever, having taken over two years to make. Unusually, the banks of station seats were split into pairs, either side of a full height motif (*Left*), so that they could be seen in all their glory.

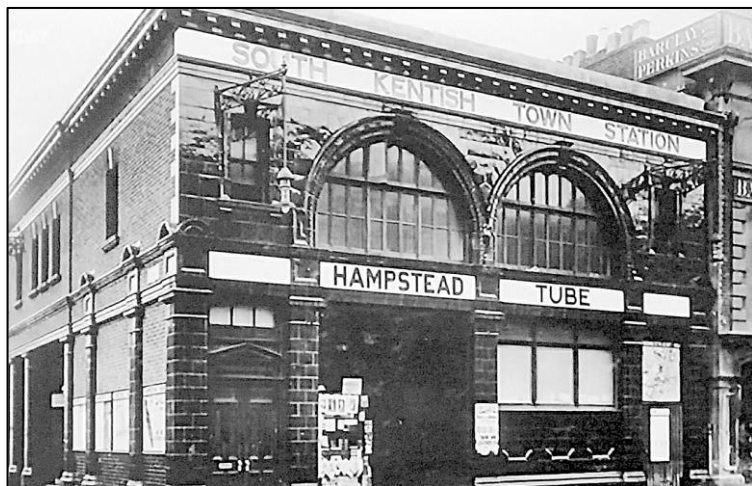
Photo: Brian Hardy

The LTM had the largest collection of signs, many of which were made of vitreous enamel

on steel, which were fireproof and graffiti resistant. A.J. Wells & Co. (now based on the Isle of Wight) were the main supplier of LU (and LO) signage since the late 1970s. Cedric Wells stated that the company had started by his grandfather in 1972, making wood burning stoves to burn felled timber, etc, and had later moved into making vitreous enamel signs, after being approached by London Underground. They were still making signs today, including the recent rebranding of London Overground routes, as new stations and lines were opened or refurbished. Various examples were shown and the manufacturing process explained.

EPISODE 4 – SOUTH KENTISH TOWN AND LUCC

SOUTH KENTISH TOWN



Left: South Kentish Town station building around the time of opening in June 1907. Within nine months, the UERL had decreed that “Tube” (signage and nomenclature) had to be replaced by “Underground”, which was agreed by all lines including the Met., MDR, GN&C, CLR and C&SLR.

Photo: LT Museum

After the usual intro, Tim and Sidy looked at the closed and abandoned station of South Kentish Town, which had been opened in 1907 by the Charing Cross, Euston, & Hampstead Railway (which became part of the Morden-

Edgware Line, later Northern Line), but was closed in June 1924, due to low passenger numbers, as well as a strike by power station workers. It never reopened and has been abandoned for over a century with trains passing through the station site. Tim and Sidy’s guide was ERU Manager Roy Kenneth who took them down the emergency spiral staircase, as the station was still used as an intervention point for emergency evacuations from trains. It was “another world below street level”.

The original Leslie Green-designed station building still existed, with its distinctive ox-blood tiling, semi-circular windows, and cornicing, but it was now a “Cash Converters” store, but below were the remains of the station, which was primarily used for tunnel ventilation.

It was stated that the station had had two lift shafts each with two trapezoidal-shaped lifts⁶. On the lower lift landings, the original 1907 Leslie Green tiling was still in situ, of which some were marked with the manufacturer, “W.B. Simpson & Co”. In the original spiral staircase shaft, the steps had been removed due to severe corrosion and although some tiles remained

⁶ This was not correct – it did indeed have two lift shafts, but only one had ever been fitted with a pair of lifts.

in situ, many had simply fallen off, hence the wearing of personal protective equipment. South Kentish Town had been used as an air raid shelter during WW2 and there were signs of what had been there: toilet cubicle partition wall marks, faded and peeling adverts, etc. An archive photo of the South Kentish Town surface level building was shown, but as no images of the South Kentish Town shelters had survived, those at the former “British Museum” station were shown as an example. Both northbound and southbound platforms had been removed, so the bottom of the stairs was as far as they were allowed to go, as the line was still live, acknowledging Train Operators of passing trains, who had been advised of Tim, Siddy, and Roy’s presence at South Kentish Town.

Tim Dunn then asked his usual ‘Brain Teaser’: “What was the other closed/abandoned station on the Northern Line that still had trains passing through it?”. He correctly stated it was “City Road”.

At the LTM Covent Garden, Tim spoke to Director Chris Nix about the early stations, and several scale models of stations were shown, including the C&SLR Stockwell Station from 1890, when it had been the southern terminus. Various C&SLR archive images were shown. Chris Nix outlined three issues with the first deep tube: (1) How would you build it? Greathead tunnelling shields, (2) How would you power such a railway? Electricity, as obviously steam could not be used in such confined spaces and (3) How do you move passengers from street level to the platforms and vice-versa? Lifts, originally hydraulic, but later replaced by electric lifts. Enter the Otis Elevator Co. from Chicago, which had patented the first safe electric lifts in 1875. At that stage, escalators had not been introduced on the Underground network. The domes above the C&SLR stations (of which Kennington is the only survivor) simply housed a pulley wheel above each lift at first, but have since been used to accommodate the equipment for replacement electric lifts. A model of the lifts at Borough station were shown to illustrate the development from hydraulic to electric. Early lifts had been semi-circular, but as they got faster, they became trapezoidal, then rectangular, but always in very large circular lift shafts.

LONDON UNDERGROUND CONTROL CENTRE

As control technology developed at a rapid pace from the late 20th Century into the 21st Century, an old Jubilee Line Control Desk (now at LTM Acton Depot) was shown, leading to a visit to the current London Underground Control Centre (LUCC), at what was claimed to be “a secret location somewhere in Central London”. (At one point, the front entrance of the LUCC building at 197 Blackfriars Road, was glimpsed – not so secret now!). Not only that, when Siddy was speaking to TfL Commissioner Andy Lord, Waterloo East Station could be seen through the windows! Andy Lord had been TfL Commissioner for two years and was ultimately responsible for all TfL train, Underground, tram, bus, ferry, hire cycle, etc., services, as well as controlling the main routes and traffic lights across London inside the M25, as well as the importance of preserving LU’s long heritage, e.g. Baker Street station. The LUCC had opened in 2013 at a cost of £25m and the Elizabeth Line was its “Jewel in the Crown”. The LUCC oversaw the entire LU and LO network, co-ordinating BT Police, security, CCTV, traction power supply, trains, track access, engineering, etc, as well as dealing with incidents and other events. Siddy spoke to LUCC Manager Steven Manoel about his role and how the LUCC operated as “the beating heart of the Underground”. It also co-ordinated preparations for events, such as the Coronation, and both expected and unexpected incidents – “leaves on the line” every autumn with over half the network being above ground, or “dogs on the tracks”, usually with a happy ending for the dog and its owner.

At the LTM Depot, Tim referred to the “human experience” of the Underground and, in particular, buskers, who provided entertainment from 40 pitches across 25 stations. There were now over 200 licensed musicians, who could apply for two-hour slots at any of the permitted stations, after going through an audition process and obtaining a TfL Busking Licence, which had been introduced in 2003 to replace the previous, rather haphazard, arrangements.

Tim spoke to one “busker”, a singer-songwriter Charlotte Campbell, who had been busking for some 10 years. She was one of the first to use contactless payments for donations and tips, including one from a certain former “Beatle”, who gave her the “thumbs up” when she sang a well-known Beatles number! Her favourite pitches were Leicester Square and Southwark, the latter because of its superb acoustics. She performed her own composition, “Streets of London”. Good, pleasant singing voice, too!

EPISODE 5 – THAMES TUNNEL AND LAMBETH NORTH

THAMES TUNNEL

After the usual introduction, Tim and Siddy were at Rotherhithe to explore the ground-breaking ‘Thames Tunnel’, designed by Marc Isambard Brunel, father of the famous Isambard Kingdom Brunel (IKB), more associated with the GWR and civil engineering construction. The Thames Tunnel is unlike any other on the London Underground or London Overground network, due to its “horseshoe” cross section, rather than being circular as on most deep-level tube lines. Tim spoke with Catherine McAlpine, Director of the Brunel Museum, situated on top of the Rotherhithe shaft, who explained that the tunnel had been part of the rail network since 1865, but had originally been intended for road traffic, but the approach ramps on each side were never built, due to lack of funds, and it became a pedestrian tunnel, accessed by staircases in the access shafts at each end.

Marc Brunel had not been an experienced tunnelling engineer and, although a cross-Thames tunnel was not a new idea, a new river crossing was needed. The tunnel was around 400 metres long, with 60 arches between the separate northbound and southbound bores. These had been constructed using Marc Brunel’s “tunnelling shield” method, patented in 1818, allowing 36 miners (3 high by 12 across) to excavate the ground material, mostly London Clay or sand/gravel. Tunnelling had started in 1825, but had not proceeded very far, as in January 1828, there was disastrous flooding from the Thames, which killed six miners and injured IKB, who had been employed by his father as the Site Engineer, who was very lucky to escape with his life.

Construction work stopped for eight years before recommencing. IKB had come up with various ideas, in typical Brunellian style and bravado, to promote the tunnel and raise funds, including banquets and carnivals in the tunnel itself, with souvenir stalls in each of the central arches. One banquet had tables in each tunnel, with funders and investors on one side and tunnel workers on the other, with music provided by the Band of the Coldstream Guards! Large quantities of wine must have been consumed! The tunnel was finally opened in 1843 for pedestrians, but made very little money, but did become a tourist

attraction for over 20 years. Ground water penetration through the brick lining was a constant problem, requiring continuous pumping out to keep the tunnels as dry as possible. The tunnel was taken over and converted for rail use in 1869 by the East London Railway, when Rotherhithe and Wapping stations were opened, later becoming part of the London Underground network as “The East London Line” until 2007 when it became part of the London Overground network. The ELL was originally part of the Metropolitan Railway and was shown on maps in Met. maroon. An archive photo was shown of an F Stock train emerging from the tunnel. The ELL itself ran from Shoreditch in the north via Whitechapel to New Cross and New Cross Gate in the south, the latter connecting with the former Southern Region network. It became a separate line in 1990 and was coloured orange until closure in 2007, after which it was shown as a pair of orange lines. The ELL also carried freight trains until 1962. (*Parcels trains lasted until 1966 – Ed.*)

The historical importance of the Thames Tunnel was recognised as a civil engineering landmark by a large wall plaque at Rotherhithe station and by its Grade 1 listing in 1995. Sidly Holloway and LTM Director Chris Nix had arranged a “Tunnel Walk” overnight (out of traffic hours with the tunnel lighting on) from Rotherhithe to Wapping to look at the tunnel’s construction and historical features. The Wapping shaft still contained its entrance and exit stairs, as well as its brick lined ceiling, similar to Baker Street, opened only six years earlier. Part of the Rotherhithe shaft had been repurposed for use by the Brunel Museum for events, etc, and the marks of the former staircase supports were still visible.

The Thames Tunnel had been an integral part of the London transport infrastructure for almost 200 years and without it, the Underground as we know it would probably not exist.

Tim Dunn’s “brain teaser”: How many times do railways pass under the River Thames in London? His answer was “14”, which I think could be debated – is the C&SLR abandoned tunnel included or not, for example? *Have we missed any out? Ed.*

LINE	BETWEEN	LINE	BETWEEN
Victoria Line	Pimlico – Vauxhall	Jubilee	Canada Water – Canary Wharf
Northern	Embankment – Waterloo	Jubilee	Canary Wharf – North Greenwich
Bakerloo	Embankment – Waterloo	Jubilee	North Greenwich – Canning Town
Jubilee	Westminster – Waterloo	Docklands	Island Gardens – Cutty Sark
Waterloo & City	Bank – Waterloo	Docklands	King George V – Woolwich
C&SLR	<i>King William Street – Borough</i>	Crossrail	Custom House – Woolwich
Northern	Bank – London Bridge	High Speed 1	Below the QEII bridge, Dartford
East London	Wapping – Rotherhithe		

Tim then visited the Poster Exhibition at LTM Covent Garden, with Curator Matt Brosnan. The LTM had over 33,000 artworks and posters in its collection and various examples were shown, by well-known commissioned artists such as Hans Unger, Tom Eckersley, and Victoria Davidson, along with the related litho-printed posters. Many featured London landmarks, attractions, and events, and are superb artworks in their own right.

LAMBETH NORTH

At the LTM Acton Depot, Sidly, as Hidden London Curator, showed Tim an advert for the “Baker Street & Waterloo Railway” (now the “Bakerloo Line”) from the early 1900s, which listed its stations and connections, but with one different name – “Westminster Bridge Road” – which doesn’t appear on later tube maps, as it is now “Lambeth North”. It was opened on 10 March 1906 as “Kennington Road”, but this was soon changed to “Westminster Bridge Road”, on which it was actually located, but was renamed “Lambeth North” in 1917, which name it has retained ever since⁷.



Left: The original name lasted only five months (when it was renamed Westminster Bridge Road) but survived intact under paint until more recent station refurbishment when it was removed permanently, unlike some other renamed stations (Great Central, Gillespie Road and Heath Street for example).

Photo: Desmond Croome

The Bakerloo was soon extended to terminate at Elephant & Castle, with an interchange with what became the Northern Line. The former lift shafts at Lambeth North were now used for ventilation, not only for the Bakerloo, but also for the Northern Line, whose running tunnels are close by. The Northern Line had arrived in the 1926, dug underneath the Bakerloo Line.

⁷ Kennington Road was renamed Westminster Bridge Road five months after opening in 1906, renamed Lambeth (North) in 1917 with the brackets being dropped from c.1928.

Lambeth North was, and is, a typical Leslie Green design of the early 1900s and has many heritage features, such as the superb green and cream wall tiles (with Acanthus leaf patterns on some of the border tiling) as well as the unique dark blue and gold wall tiles on the platforms and stairways. The original 1906 station tunnels had been extended by LT in the late-1930s as part of the expansion of services to take longer 7-car trains. The extended station tunnels were less ornate than the originals. The station had been used as an air raid shelter during WW2 and on 16 January 1941, during the Blitz, a high explosive bomb detonated outside the station, but did not penetrate the tunnels, although a great deal of damage was caused, with one person being killed and 28 injured, which took three months to repair.

Siddy spoke to Tour Guide Katie Wignall about the London Underground Railway Training Centre, which used to be located at Lambeth North from the 1920s until it moved to White City in 1963, and explained its purpose in training railway staff to right way to do things, like train dispatching, etc., with archive photos from the 1940s, when more women were employed in previously male-only grades. Unfortunately, a rather graffiti-covered trailer car in a 1972 MkII Tube Stock train was then glimpsed departing from Lambeth North!

Tim then spoke to TfL Lead Engineer Mo Gajja about proposals to extend the Bakerloo Line south-eastwards from a new Elephant & Castle station, via New Cross Gate (interchange with LO) to Lewisham (interchange with the DLR), and the proposed stations, which would be further apart than the current Bakerloo Line, which would be extended by some 8.5km. The Old Kent Road-Lewisham area had poor Underground connectivity with Central London and the extension would relieve pressure on the existing road network and bus routes, by putting passengers underground on more frequent services. *(One assumes that the 1972 MkII Tube Stock would be long gone by then, perhaps replaced by 2024 Tube Stock clones).*

It was stated that, once a Transport & Works Order had been granted, it would take some seven years to construct and fit out before trains could be safely operated. However, the proposed route has geological issues, because of the underlying rock strata, varying from London Clay, through sand/gravel, to chalk, which had caused some problems with the original construction, resulting in the use of air-locks to keep ground water out from tunnel boring worksites. Tunnel Boring Machines [TBMs] had been used since the 1970s and a test tunnel had been built near New Cross (originally intended to be part of the Fleet, later Jubilee, Line) but was now sealed off – “the tunnel to nowhere”!

Editor's note: This proposed extension has been talked about for well over 100 years, first being mooted back in 1913, but in the current climate, it seems unlikely to ever see the light of day, however needed it might be. Time will tell).

Episodes 6-10 will be reviewed in a future issue of Underground News.