

REPORTS OF SOCIETY MEETINGS

The Northern Line Extensions of the 1935-40 New Works Programme by Brian Hardy

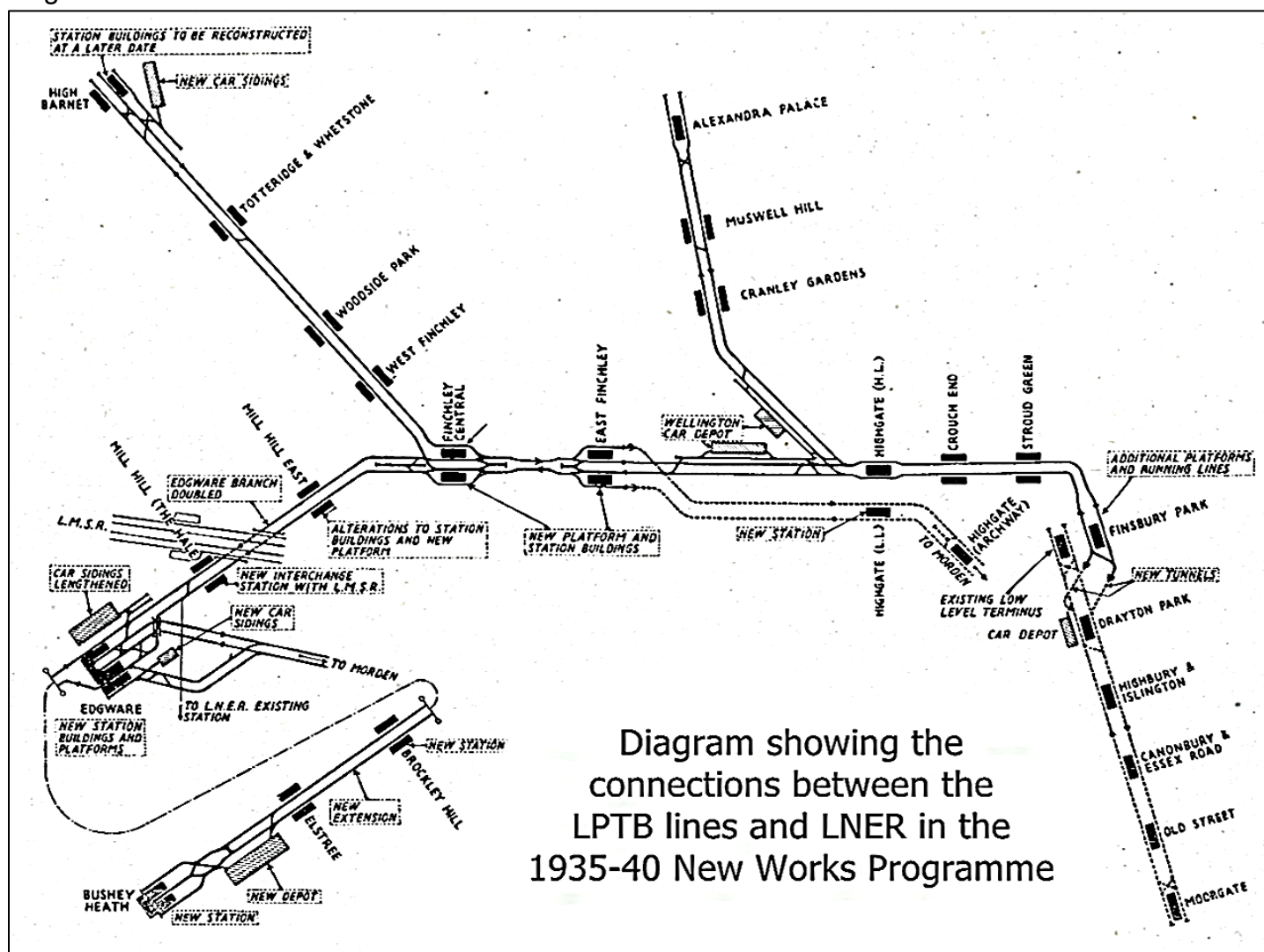
A report of the presentation given to the Society
at the Gallery at Alan Baxter, Cowcross Street, London, E.C.1
on Tuesday 6 May 2025

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Brian began by saying that the Northern Line Extensions of the 1935-40 New Works Programme is a topic that never fails to fascinate, in plans that were first created some 90 years ago, even though the last of the work was formally abandoned some 70 years ago. Had the Second World War been delayed by just over a year or so, it would have all been completed and we wouldn't be giving them a second thought.

He explained that subjects like 'via' destination plates on trains and intended train indicators may be found in the January 2025 issue of *Underground News* (page 20 et seq.) and as for new and station rebuilding, only two were completed – East Finchley and Highgate (Underground) – the latter varying several times from what was first proposed. However, illustrations of other stations that were planned are available to see in previously published books on the subject.

The meeting was divided into four overlapping sections – (1) what was planned under the 1935-40 New Works Programme, (2) what was actually done, (3) what was abandoned and (4) what remains now. A diagram showed what was intended:



- Extend the Northern City up to the high level station at Finsbury Park.
- Electrify from there to Alexandra Palace and East Finchley, linking up with an extension from Archway through to High Barnet

- Doubling the track and electrify from Finchley (Church End) to Edgware, joining up at the latter with the existing railway from Golders Green.
- A new section of railway north of Edgware to Bushey Heath.

In the Northern Line scheme of things, there was just 5.77 miles of new railway, the rest being electrification over existing LNER metals.

The whole project was designated scheme 'C' and was one of nine in the 1935-40 New Works Programme, and this part was estimated to cost just over £6.7m. The total cost for all nine projects was just over £44.7 million.

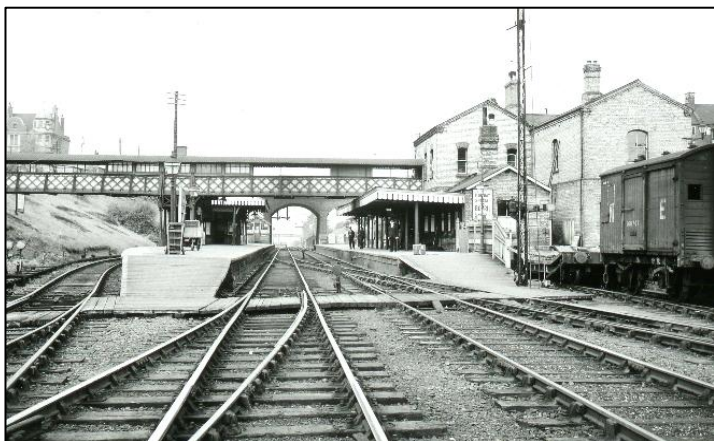
First, however, we took a look at what existed before the New Works Programme, which included the Hampstead's railway north of Golders Green, the Great Northern & City, the route to Alexandra Palace and High Barnet, and then from Finchley to Edgware.

Below: (Left) Golders Green looking north in 1923 when the station was being enlarged to three tracks and five platform faces. The train is standing in what will become the middle platform and the new platform (under construction to the right) was formerly two stabling sidings.

Photo: LT Museum



Above: Original 1904 main line-size wooden stock on the GN&C at Drayton Park, stabled on the stock connection ramp which led to the main line.



Left: Finchley Church End looking north, today's Finchley Central. Instantly recognisable to most of us with little changed, this wasn't to have been the case in the 1935-40 New Works plan with a completely rebuilt station with four tracks and two island platforms.

The London Passenger Transport Board then had to consider –

- Where to put the new depot.
- What to call the new stations.
- Renaming of present stations.
- The possibility of additional stations being built ...

... all the options of which were summarised.

We then moved on to the provision of new rolling stock – the 1938 Tube Stock – which comprised 1,121 new cars but also added were 58 trailers of 1927 vintage, converted to run with them, making 1,179 cars. Added to that were the 24 cars of 1935 Experimental Tube Stock, making 1,203 cars in all. It was noted that 286 cars were to be allocated to the LNER as the extensions were a joint LT/LNER



project and "property of" plates were affixed to the solebars of those cars. It was, of course, an on-paper agreement, as LT was to maintain them all. This arrangement ended on 1 January 1948 when the former main line sections were transferred to London Transport.

Photo: Brian Hardy



Top: (Left and Right) Comparison of the two types of stock (sub-surface and tube) used on the Northern City Line, the changeover between them being in May 1939.

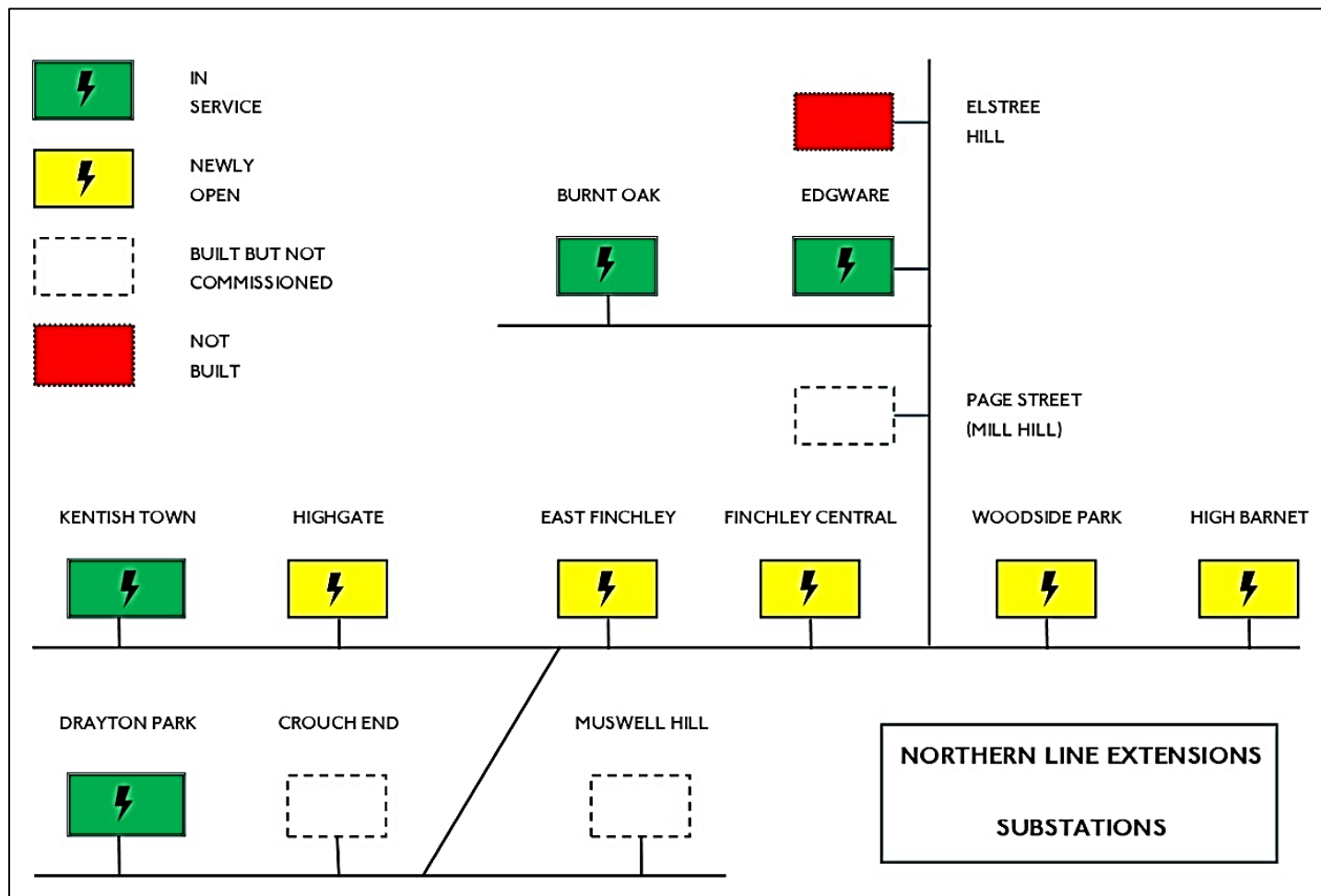
Above: (Left) The connection used for stock transfers to and from Drayton Park. BR Locos shunted the trains onto current rails and they worked on current to the station.

Left: Traction current was normally off on the stock connection and energised when required, by the operation of section switches seen at lower right.

Below: Two views of trains just north of Crouch End, in LNER days in 1946 on the left and just four years later in British Railways days. In just four years, the current rails in the 1946 picture were in place but not so in the 1950 photo. Two coach trains had been the order of the day for some time, pending final closure of the line to passengers in 1954.



New signage was produced with every intention that it would be installed and, that would be that. But of course, we know different ... There was a suggestion that the Bushey Heath extension would have been worked as shuttle to and from Edgware, but all indications point to the fact that under normal circumstances, excluding the peak shoulders, only trains via Mill Hill would normally serve the Bushey Heath extension. Nine new substations would also be required, in addition to those already in operation – five were built and in use, three built but never used as intended, and one was never built.



We then moved onto the 'work in progress', beginning with Archway to East Finchley (which opened on 3 July 1939) and thence back to Highgate LNER to look at the depot, then Park Junction and Highgate station (both old and new). From there we looked at the Northern City Line, which included the current rail changeover in May 1939 and the replacement of the GN&C main line-size stock with Pre-1938 Tube Stock, the latter, which having been displaced by the new 1938 Tube Stock, had to be stored in sidings at Stanmore until the current rail changeover was ready to be commissioned. Other work at Drayton Park featured the two new access ramps for the Northern Heights service. That for the southbound was completed with track and used for stock transfers, while the northbound had been partly completed, but not broken out at the Drayton Park end, nor any track laid in it.

Much work had to be done at Finsbury Park main line station to accommodate the Underground trains. This included the part demolition of the main entrance so that girder work for the future tracks and island platform could be installed. We then saw that current rails had been laid on the Down line at both Stroud Green and Crouch End.

The next stage to open was north of East Finchley to High Barnet on 14 April 1940 and we saw trains on trial trips at both Finchley Central and High Barnet. At the former during trial running, the temporary height platforms were seen, which was necessary for LNER trains until the Underground took over. Highgate LU station didn't open until January 1941, although it was used for sheltering from September 1940. The Underground platforms at Highgate (and some others) were built for nine-car trains¹, which became part of the 1935-40 New Works plan, but were never used as such. West Finchley, Woodside Park and Totteridge were never lengthened.

¹ Nine-car trains had been running on the Edgware branch since the end of 1937 and the same was proposed for the Barnet line – four trains on each branch. Ten trains were ordered, giving 2x4 for service and one spare on each route.



Left: Highgate Underground station opened in September 1940 for wartime sheltering but didn't open to passenger trains until January 1941.

Above: The long northbound platform at Highgate looking south, before refurbishment in 2008 by Tube Lines.

Photos: LT Museum (Left), Brian Hardy (Above)

Onto the Finchley – Edgware section, photos were shown of the additional track for northbound trains being partly laid and the platform for northbound trains at Mill Hill The Hale. An August 1940 shot looking north at the approach to Edgware (LT) showed the additional platforms to be at an advanced stage, although again, work had probably stopped by this time. An aerial view from Elstree to Bushey Heath showed a partly completed depot at Aldenham, with the ground formation of the intended route to Bushey Heath clearly visible. Despite work on the extensions being halted, because of Mill Hill Barracks, the line was electrified to Mill Hill East in May 1941 but only as a single line and using the existing wooden platform as the terminus.

We then summarised the intended completion dates for the various stages, showing how dates had slipped somewhat before work on the incomplete sections had been halted. Soon after WW2, a revised set of completion dates were announced in 1946, only soon to be followed by the dates for non-completion, which were:

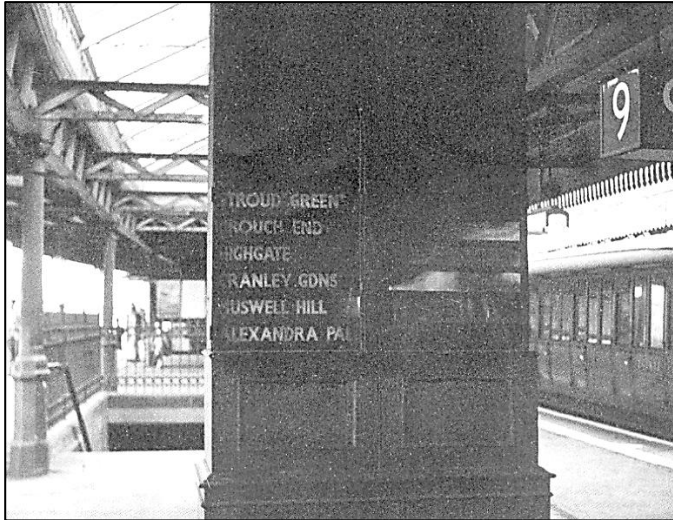
- 1949: Finchley Central – Edgware to remain closed to passengers
- 1950: Brockley Hill – Bushey Heath abandoned.
- 1950: Finsbury Park – Alexandra Palace electrification abandoned.
- 1953: Drayton Park – Finsbury Park (high level) abandoned.
- 1953: Finsbury Park – Alexandra Palace steam service to close (4 July 1954).
- 1954: Edgware – Brockley Hill abandoned..

Various views showed that some current rails had been laid for the most part from Stroud Green to Muswell Hill, which remained in place until the line was authorised for closure, as seen (Right) in this pre-nationalisation shot of a two-coach train leaving Muswell Hill on the Up line.

We then took a tour of the extensions areas post-WW2, beginning on the Northern City Line with some 'then and now' views. We saw the train indicator board at Finsbury Park main line station



(showing stations to Alexandra Palace illuminated) – *(Below, Left)* before the Alexandra Palace service was withdrawn in July 1954, and then the still temporary exterior to the station *(Below, Right)* as it was in 1955 and to remain so for longer.



Above: Not the best photo by a long chalk, but it is when the high level (ex-LNER) station at Highgate was still open and it is full of salvageable interest, this section being that newly constructed by London Transport :

- At far left, signage pointing down (the stairs) to the Northern Line.
- Just to the right of that sign is the structure to the Priory Gardens entrance.
- Top centre, a way out sign (and also 'to Northern Line'?).
- An LT bullseye station name sign in place slightly lower than centre.
- LT-style station light shades.
- An approaching Down train (passenger or freight?) approaching the south tunnels. Note lower right at track level the tripcock tester – all BR locos working over LT to the Northern Line goods yards had to be tripcock fitted.



Left: Until 1957, passengers leaving the station for the Archway Road had to climb some 60ft up stairs, the access being seen here.

Below: (Left) Relief came on 26 August 1957 when one escalator was provided, although in the shaft there was space for two. To that end, this access became 'exit only'.

Below: This is the top level landing of the single escalator from Highgate ticket hall to the Archway Road, with the space for a second escalator clearly visible to the right.

Photos: LT Museum (Above and left) and Brian Hardy (Below)



Below: Drayton Park from the depot looking north, with the 1939 signal cabin atop the tunnel mouths. If the northbound ramp had been broken out at this end and track connected, then the GN&C signal box would have been in the way and would have had to have been demolished – in the end it wasn't in the way and survived while in LT's hands (from 1953 as a shunter's cabin).





This sign at Essex Road (Above) survived into the LT era, but it isn't known when it was removed.

The Northern City Line stations in the 1950s and 1960s were far from inspiring, as those at Essex Road (Above, Left) and Old Street (Left) attest – almost advertless and soulless.

All photos: LT Museum

Below: Even worse was the replacement northbound station at Highbury, which was done because of Victoria Line work. With BR takeover on the cards, "do little" was the order of the day when opened in 1965.

Photo: Brian Hardy



1938 Tube Stock took over on the Northern City Line in October 1966 with the last of the Standard Stock in service on 3 November. From then on until 1970, any three- or four-car unit of 1938 Tube Stock operated on the Northern City as seen in this four-car unit (*Right*) at Moorgate.

Stock transfer moves over the Highgate Depot – Northern City Line section were then covered, including when the Down (northbound) line was taken out of use because of the condition of the bridge at Crouch End, and then the revised stock transfer arrangements via King's Cross main line from October 1970, which ended when the Northern City was taken over by British Rail for the Great Northern inner suburban electrification in October 1975. It was noted that the weak bridge at Crouch End was rebuilt in 1978, but it wasn't rebuilt for trains to pass underneath, which rather ended any hope of trains coming back to this route.



Above: The changeover of stock in October 1964, with 61 cars of 1923-29 Stock removed and 8x4-car 1931/34 Stock transferred in. An outgoing train is seen (Left) about to pass through Crouch End with a 1928 UCC motor car nearest. An incoming train of 1931/34 Stock is passing through Finsbury Park high level (Right). Note the partly completed structure for the never completed Northern Line extensions on the right.

Both photos: Fred Ivey

With Highgate Depot and Highgate Wood Sidings never being completed as proposed, we then covered its reduction in use from 1981 and final closure in 1984 with views of the various stages of run-down. However, the depot reopened in 1989, with eight covered roads, initially being used for the modification of stock following the King's Cross fire. It wasn't until 2002 that 16 trains (two per road) were stabled overnight there, although Highgate Wood Sidings were never included in this plan.



Previous Page: (Bottom Left) The last train to leave Highgate Depot upon closure in March 1984 arriving at East Finchley composed of 1959 Tube Stock. This should have been the service from Moorgate Northern City Line if the plans had come to fruition.

Previous Page: (Bottom Right) Highgate depot looking north on 22 April 2010 with trains berthed on the southern tracks. The roof of the depot was replaced in the early-1970s but very recently, the condition of it has given cause for concern.

Both photos: Brian Hardy

We then moved to the Alexandra Palace branch from 1950, and noted that some current rails were still in place at Cranley Gardens, along with a (non-commissioned) LT signal relay room adjacent to the main line signal box. Next station along was Muswell Hill with the substation, where feeder cables were laid to it but never completed – it was demolished sometime after the line closed. Various views at Alexandra Palace were then shown, both before and after closure.

The changeover of stock on the Northern City Line in October 1964 then followed, with a series of photos taken by the late Fred Ivey, seen south of Highgate high level, Crouch End and Finsbury Park high level. We then moved on to the Barnet branch, with goods trains seen at East Finchley, Woodside Park in 1961 with two disused signal boxes, 1938 Tube Stock and a still flourishing goods yard. At Finchley Central, the space for the intended fourth (southbound) track was seen (*Below*).

Both photos: Nigel Gibson



The Mill Hill – Edgware section then followed, with 1950s and 1960s views, which included steam and diesel freight trains and two railtours that operated through to Edgware LNER station, ending with the line after closure. Edgware was visited next with photos of the partly-completed and then abandoned work on the station's approach, the partly built extra platforms for the Bushey Heath extension, the never completed tunnel under Station Road and the bridge parapet on the north side of it. Photos of the route to Bushey Heath followed, including the south end of the infamous Elstree Hill tube tunnels and an aerial view of the Bushey Heath station site and Aldenham Depot in the background.

The meeting concluded with then and now views at Stroud Green and Mill Hill East, concluding at Alexandra Palace as it was and 'how we would have liked it to have been' ... (*Right*).

Photo: Alan A. Jackson with 1938 Stock addition by David Burleigh

There then followed a short question and answer session, where Brian explained the service patterns of the proposed extensions, had they been completed, although he had never seen any evidence to support them, although he is still 'on the case' ... but



whether ‘the case’ is ever solved, remains to be seen. It should be noted that the table below, published in the January 2025 issue, contained a couple of typos, in that the bracket note for Highgate high level on Mondays to Saturdays should read (e) as shown below and not (c).

PROPOSED SERVICE PATTERN

To and from:	Trains per Hour		Sundays All-day
	Mondays to Saturdays Peaks	Off-peaks	
Bushey Heath			
via Mill Hill (The Hale)	7	6	3
High Barnet:			
via Charing Cross	7	6	3
via Finsbury Park to Moorgate	7	–	–
Finchley Central:			
via Charing Cross	14(a)	12(a)	6(a)
via Bank	7(b)	–	–
via Finsbury Park to Moorgate	7(c)	–	–
East Finchley:			
via Charing Cross	14(a)	12(a)	6(a)
via Bank	7(b)	–	–
via Finsbury Park to Moorgate	7(c)	6(d)	8(d)
Alexandra Palace:			
via Finsbury Park to Moorgate	7	6	–
Highgate (High Level):			
via Finsbury Park to Moorgate	14(e)	12(e)	8(d)
Finsbury Park (Low Level) to Moorgate	14	–	–
Drayton Park to Moorgate	28(f)	12(c)	8(d)

Notes:

- (a) Half starting from Bushey Heath, half from High Barnet.
- (b) All starting from Finchley Central.
- (c) All starting from High Barnet.
- (d) All starting from East Finchley.
- (e) Half starting from Alexandra Palace, half from High Barnet (peak), or East Finchley (off-peak).
- (f) 14 from Finsbury Park (Low Level), 7 from Alexandra Palace, 7 from High Barnet.

Whilst the off-peak service pattern is easy to understand (6 trains per hour = a 10 minute service), a 7 tph service doesn't fit neatly into an hourly pattern. A possibility is that it could be that the capacity at Moorgate (Northern City) with its two terminal platforms couldn't handle a more frequent peak service with 28 tph being the maximum possible. The 28 tph would have comprised –

14 tph Finsbury Park (low level) – Moorgate
 7 tph High Barnet – Moorgate
 7 tph Alexandra Palace – Moorgate

This equates to a train every 8-8½ minutes from High Barnet and Alexandra Palace, every 4-4½ minutes Highgate (high-level) to Drayton Park and similarly from Finsbury Park (low level) to Drayton Park. These would combine to give a 2-2½ minute service between Drayton Park and Moorgate. It would be impossible with a mix of 4-, 6- and 7-car trains to reverse in just 3 minutes, so it is assumed that ‘stepping back’ of train crews would have been necessary to achieve quick turn rounds. All that is fine in theory, but any out of turn working or service disruption with stepping back would complicate matters, unless the managing supervisor was on the ball. *(Editor's note – there is nothing more embarrassing during stepping back disruption than a train waiting to depart the terminus but having the (late running) crew sitting outside the terminus on a train awaiting a clear platform in!).*

At the meeting, Brian mentioned that the Alexandra Palace branch had a very spasmodic Sunday service, ending altogether on 20 September 1925. From the above table, it is evident that there still wouldn't have been a Sunday service to Alexandra Palace, even if it were to have been served by the Northern City Line.

GREAT NORTHERN & CITY LINE

September 1934 Becomes Northern City Line (remember, no “Northern Line” then!).
August 1937 The Edgware, Highgate & Morden Line (so renamed from Hampstead & City Line on 12 November 1933), soon shortened to the Morden-Edgware Line in June 1935, becomes the Northern Line. Papers state that when the extensions are opened, it will become the Northern City section of the Northern Line.
14 March 1970 Becomes Northern Line (Highbury branch).

NINE-CAR TRAINS

In the first plans for the use of the 1938 Tube Stock, there was no mention of nine-car trains, as these were only in their infancy and being planned. However, first introduced with existing stock from November 1937, the ultimate Northern Line fleet for service included 110 trains (as against 95 previously) of which eight would be nine-car, four each on the Edgware and Barnet branches (see panel, right, which excludes spare trains). To that end the sidings at High Barnet and shunting neck were long enough for nine-car trains, and a second shunting neck was added at Edgware, also for nine cars. Plans for Edgware included

four nine- car sidings in spare land between the tracks to Burnt Oak and the additional tracks to Burnt Oak, which were only ever long sidings identified as Nos.17 and 18 sidings. With 10 nine-car trains provided, there would be four on each route² and one maintenance spare for each. With Golders Green depot being very tight for space, it was not possible for nine-car trains to access the depot from the southbound shunting neck, so had to shunt back from the southbound main line. Northbound trains stabling at Golders Green would work empty from Hampstead and ‘across the main’ straight into depot.



Left: Looking north to Edgware probably early-1960s. The depot is top left of centre and the two-road train shed to the left of that. At far left is Edgware substation. A southbound train is seen departing with a train stabled on No.16 siding to the left. Between November 1932 and May 1940, there were four further sidings to the left of the stabled train (Nos.12-15). The grassed area on the right is where four sidings would have been provided for nine-car trains, had the 1935-40 New Works for the Northern Line been completed.

ANTICIPATED STOCK REQUIREMENTS FOR SERVICE

MORDEN-EDGWARE LINE

110x7 CAR 1938 TUBE STOCK

For Morden to High Barnet,
Edgware and Bushey Heath
via City and West End

Note - This table omits reference to 9-car trains. However, the 95-train timetable pre-extensions in 1939 required 91x7-car and 4x9-car. If the extensions had been completed as planned, the 110 trains would have comprised 102x7-car and 8x9-car.

NORTHERN CITY

9x7 CAR PRE-1938 TUBE STOCK

5x6 CAR 1938 TUBE STOCK
(with Pre-1938 trailers)

4x4 CAR PRE-1938 TUBE STOCK
(with Cammell Laird trailers)

2x4 CAR PRE-1938 TUBE STOCK

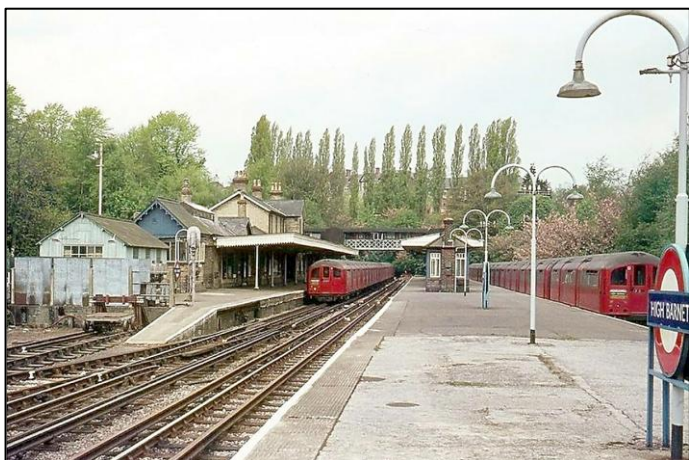
For Moorgate
to Alexandra Palace
and High Barnet

For Moorgate
to Finsbury Park
peak shuttles

² Four trains Edgware – Kennington and four trains High Barnet – Kennington, all via Charing Cross.



Above: A 1938 Stock approaches Mill Hill East and is crossing Bittacy Hill on the bridge that was installed for the 1935-40 New Works programme. To the right of the train is the space for the intended northbound track which was never completed. At Mill Hill The Hale, the northbound track was partly laid, but soon removed in the early days of WW2 for use on railways damaged elsewhere. Also completed at the Hale was the northbound platform, although not to normal width and with no platform furniture.



Above: Views of High Barnet station (Left) and sidings (Right), showing that both were long enough for the proposed nine-car trains, as was the sidings' shunting neck.

Left: The Birmingham-built 1956 Prototype Tube Stock departs from the 9-car-length siding in the shunting necks at Edgware. The shorter shunting neck on the right had become disused in 1965 following a collision between two trains but remained in position rusting for another 20 years.

Photo: Brian Hardy

10306 ON THE NORTHERN CITY?

Readers will recall the famous 1938 Tube Stock driving motor car 10306 that was modified in 1949 with windows extended up into the curve of the roof on passenger doors and also on some of the saloon windows. There were also circular 'porthole' windows at door pocket positions and cab end. A contributor to the "London Underground and Overground" Facebook group recalls seeing this car (and unit) in service on the Northern City Line at some time between 1966 and 1968.



Although Brian had seen no other reference to this, and with no known photographic evidence, nor any mention of it in the Society's then publication "Underground", it is perfectly feasible that this could have happened, as in those years, any Northern Line four-car unit could work on the line. This was dependent solely on which train stabled during the peaks in Highgate Wood sidings which was available for Northern City changeover purposes – and, it seems, included 10306 unit. Here is a reminder of 10306 seen in Acton Works (*Above*) fresh from heavy overhaul in May 1971.