

# MINUTES FROM THE ENGINEERING COMMITTEE MEETINGS

by Tony Beard

MEETING No.89 HELD ON 2 AUGUST 1935

## SPECIAL EXPENDITURE REQUISITIONS:

### Liverpool Street – Interchange

Special Expenditure Requisition No.CA/67 was submitted, covering the cost of £1,400 for the construction of a short subway and staircase to connect the Central London Railway booking hall at Liverpool Street with the west side of the suburban platforms of the LNER station as shown on a drawing, the work to be carried out by LNER as part of the New Works Programme. Approval of the requisition was deferred pending agreement with the LNER regarding the allocation of expenditure to the New Works Programme.

### Barkingside Airport

Mr J.P. Thomas submitted a memorandum reporting that information had been requested by the Director of Civil Aviation with regard to the Board's proposed services at Barkingside in view of their proposal to construct an aerodrome close to the Board's proposed railway. It was decided that the Board's policy should be to resist the provision of an aerodrome within half a mile of any railways to be operated by the Board.

### Central London Line – Platform Lengthening

Mr Cooper submitted a memorandum requesting authority to proceed with the necessary drawings and specifications for the lengthening of the Central London Line platforms to accommodate 8-car trains between Wood Lane and Liverpool Street stations inclusive at an estimated cost of £790,000. This was approved and powers were to be sought in the next session for the lengthening of the platforms to 440ft. at the above stations.

### Central London Line – Ruislip and Eastern Extensions

The Vice-Chairman gave instructions to Mr J.P. Thomas for a diagram to be prepared of the proposed line between Ruislip and Newbury Park, showing at all points the facilities which are provided and proposed for reversing or stabling trains.

### Metropolitan Line Improvements – Baker Street Station

It was decided that every endeavour be made to provide a satisfactory interchange between the Circle Line tracks and the through and bay roads for the Main Line at upper level.

### New Works Programme – 1935/40

#### Works to be Deferred to a Later New Works Programme:

1. Extension north of High Barnet (LNER)
2. Extension from Edgware to Elstree

#### Works to be Deferred Indefinitely:

1. Extensions of Northern City Line, northwards and southwards.
2. Camberwell Extension.
3. Breaking of Circle at Baker Street and South Kensington.
4. Bank-Waterloo and City connection.
5. Farringdon Street sidings.
6. Hammersmith (H&C Line) depot.

#### Works to be Included in the new Works Programme – 1935/40:

1. A siding east of Liverpool Street.
2. Newbury Park – new station and bus forecourt.
3. Fenchurch Street to Stratford electrification (to be carried out by LNER).
4. Chesham Line Improvements.
5. Metropolitan and Great Central Line – train stops.
6. New depots or sidings at Neasden, Uxbridge, Stanmore and Rickmansworth.
7. Re-signalling of Northern City Line.
8. Re-building of all station buildings north of Finsbury Park as far as High Barnet, Edgware and Alexandra Palace.

9. New stations as laid down in previous Minutes.
10. Bakerloo Line – lengthening of platforms for 8-car trains.

**Powers to be Obtained this Next Session for the Following Station Reconstructions to be Carried Out as Part of the New Works Programme (1935/40) Except Where Otherwise Indicated:**

1. Oxford Circus – double ending
  2. Monument – escalators
  3. Sloane Square (west end)
  4. Marylebone
  5. South Kensington
  6. Highbury
  7. Essex Road
- } These may be deferred till the next New Works Programme
1. Borough
  2. Gloucester Road
  3. Russell Square
  4. Notting Hill Gate
  5. Earl's Court
  6. Post Office (powers already obtained)

**Works to be Carried Out During the Period 1935/40 but not as Part of the New Works Programme:**

1. Hammersmith and City Line – station reconstruction
2. Cromwell Curve Signal Cabin

**MEETING No.90 HELD ON 12 AUGUST 1935**

**SPECIAL EXPENDITURE REQUISITIONS:**

**Signalling – Morden/Edgware Line**

A Special Expenditure Requisition was submitted covering additions to and improved signalling between Golders Green and Belsize Park, southbound road; at Hendon Central, northbound road; and between Waterloo and Kennington, southbound road; at a cost of £1,232, this work being necessary to obviate the checking of trains which was now being experienced. This was accepted in principle, the requisition being returned to the accountants for allocation in view of the work being largely a re-arrangement of the existing signals.

**Hammersmith Station – Shelters**

A requisition was submitted covering the erection of two shelters, one on each platform, at Hammersmith Station (District and Piccadilly lines), at a cost of £303, these shelters being provided to afford protection to passengers during inclement weather. This was not approved. A simpler and less obstructive proposal to be considered for protecting the existing seats.

**Morden-Edgware Line – Increased Current Demand**

Mr Millen submitted a memorandum reporting that the proposal to speed up the train service on all sections of the Morden-Edgware Line in the early autumn by the use of shunted field control had been estimated by the Chief Mechanical Engineer to result in an increased current consumption of about 12½%. As a result, he could not recommend the adoption of the new train service, until the power supply had been reinforced by alterations at Burnt Oak and Hendon substations and by completion of the proposed new Camden Town substation. It was decided that the matter should be deferred for further discussion at the next meeting when the following would be submitted:

1. A report dealing with the reasons for this failure in co-ordination between the Operating and Power Departments.
2. A report by Mr Millen setting out –
  1. the risks which would be involved in increasing the train service as desired in the Autumn without alteration to the power supply,
  2. the time which would be occupied by carrying out the substation works proposed, together with a rough estimate of the cost, with special reference to the new substation at Camden Town.
3. A report by Mr Buller upon the progress of negotiations in respect of the building line and with adjoining owners for Camden Town Substation.

**Ruislip Manor Station**

Mr Heaps submitted a plan embodying a layout of Ruislip Manor Station similar to South Harrow with entrances from the north and south sides of the bridge. It was noted that the cost of the new station as indicated on the plan would be roughly £22,800, as against a cost of £20,300 for the proposed station at the side of the railway and it was decided, (a) that the plan should be provisionally accepted and be referred to the Station Committee for consideration with special reference to the size of the shops, the adequacy of the approach to the cycle store and the number of steps from the ticket hall to platform level and (b) that a solid abutment, as shown on the plan, would be preferable.

### **Central London Line – Proposed Train Services**

The Vice-Chairman directed that consideration should be given to the provision of signalling power and rolling-stock with a view to supplying a service of 40 8-car trains per hour in the peak throughout the whole of the Central London Line from North Acton to Leytonstone.

### **Morden-Edgware Line – Proposed Train Services**

The Vice-Chairman directed that consideration be given to the provision of signalling power and rolling-stock with a view to supplying a service of 40 8-car trains per hour in the peak throughout the whole of Morden-Edgware Line from Church End, Finchley and Golders Green to Morden.

### **Ongar Branch Electrification**

It was agreed that the Board's policy would be not to electrify the line but to provide a shuttle service between Loughton and Ongar with a passing loop at North Weald. The Chief Mechanical Engineer was requested to make enquiries as to suitable rolling stock for this service and report.

### **Property Owned by LNER on Line of Extension**

Decided that a set of plans in colour showing the property owned by the London and North-Eastern Railway throughout the whole of the line be prepared and submitted for consideration at an Engineering Meeting with a view to deciding the land required by the Board in connection with new works.

### **Stroud Green Station**

Decided that a scheme be prepared by the Chief Mechanical Engineer for a light escalator or other means of transporting passengers in the open from ground to rail level.

### **Crouch End Station**

The upper station to be entirely rebuilt and the platforms renovated. No powers required.

### **Cranley Gardens Station – Ticket Office**

Consideration to be given to rebuilding the present timber ticket office in a central position over the tracks. No powers required.

### **Muswell Hill Station**

Consideration to be given to providing improved access to the ticket hall from the Broadway by the construction of a subway or arcade. Powers would be required.

### **Alexandra Palace Station**

Consideration to be given to the removal of the extension to the down track beyond the platform and the provision of direct access by a short subway from the entrance hall to the ticket hall. No powers required.

## **MEETING No.91 HELD ON 19 AUGUST 1935**

### **SPECIAL EXPENDITURE REQUISITIONS:**

#### **Morden-Edgware Line: Northern Extension: Camden Town Junction**

The Vice-Chairman directed Mr Hally to report at the next meeting on the current capacity of Camden Town junctions and especially whether he considered it possible to run 40 trains per hour from the Golders Green and Highgate branches through the junctions simultaneously.

#### **Central London Line: Eastern Extension: Services to Ongar**

Mr Brook reported that he had inspected the diesel car now under construction by the Gloucester Carriage and Wagon Co. Ltd. but he was not satisfied that it would be satisfactory for use by the Board. Mr Brook to pursue his investigation further.

#### **Ealing Broadway: Central London Line**

It was decided that consideration be given to the provision of an interchange platform at Ealing Broadway between the Great Western Railway local trains to Paddington and the District Line trains; consideration also to be given to the electrification of the Castle Bar Loop.

#### **Metropolitan Line Improvements: Baker Street Station**

Consideration was given to a model showing the proposed layout at Baker Street under the Parliamentary Scheme (Scheme C5), omitting the flyunder for Main Line trains under the Circle and the reversing siding east of Baker Street for breaking the Circle service at that point, but showing improved interchange facilities between the Bakerloo and the Circle and between the Metropolitan Main Line and the Circle. It was noted that since the last discussion by the Engineering Committee, a decision had been taken to abandon the proposal to extend the Tube tracks from Finchley Road beyond Baker Street to Oxford Circus. Mr Hally and Mr Larcombe reported that about 40 trains per hour were worked today in both directions over the level crossing immediately east of Baker Street and that this could be continued provided the existing layout were unaltered and assuming that any addition to the number of trains from or to the Main Line was compensated for by reducing the trains from or to Edgware Road and beyond. They further stated that the construction of a flying junction for the main line northbound to pass under the Circle tracks, while affording some operating relief would not enable this number of trains, which represented the full capacity of the tracks east of the junction, to be increased. In view of these facts and, since the flying junction involved the northbound Main Line platform at Baker Street being lowered and placed in an undesirable position it was decided,

- (a) that the flying junction should not be proceeded with,
- (b) that the improvements to the upper station, booking hall and interchange at Baker Street, subject to the decisions (g), (h), (i), and (j) below, together with the additional southbound platform on the Bakerloo, be carried out as the first stage of the works at Baker Street, it being understood that 19 trains per hour would be able to be worked from the Metropolitan Main Line to the City without further works, and as many as 22, if the Great Western Railway trains could be taken off;
- (c) that, assuming that the 22 trains per hour referred to above insufficient, consideration should be given as a second stage to breaking the Circle at Baker Street, without the provision of a flying junction. That for this purpose
  - (i) the layout shown on the plan should not be approved in view of the operating difficulties;
  - (ii) another layout shown on a different plan should be considered as a possibility;
4. a further layout be prepared to provide a bay road for reversing trains from eastbound to westbound in the existing Circle Line westbound platform at Baker Street, a new westbound line being constructed on the south side of the Circle Line westbound platform. This scheme, together with the preceding scheme, to be submitted at the next Engineering Committee for consideration.
5. (c) no scheme for breaking the Circle to be approved which, in the Operating Department's opinion, would impair the possibilities of working 40 trains per hour as between Baker Street and the City in both directions simultaneously. Mr Hally reported that the layout shown on the Plan fulfilled this condition.
6. (d) that any additional powers required for works at Baker Street should be sought in the forthcoming session.
7. (e) that, with a view to minimising the idle mileage cost of Kings Cross, consideration should be given to the provision of a reversing siding as shown on the Plan. This Plan, together with an estimate of cost, to be submitted for consideration, at the next meeting of the Engineering Committee.
8. (f) that consideration be given to the necessity for extending No.4 road past Madame Tussaud's to connect with the Circle eastbound track at a cost of £70,000; a plan to be submitted for consideration at the next meeting of the Engineering Committee.
9. (g) consideration to be given to Mr Cooper to the possibilities of straightening and shortening the interchange through the ticket hall, as shown on the model, between the Bakerloo and Circle tracks and between the Metropolitan Main Line and the Circle tracks (ignoring the existing interchange bridge, if necessary).
10. (h) no low level interchange to the Circle platforms from the Bakerloo via the existing interchange escalators and low level passage to be provided.
11. (i) consideration to be given to the possibility of moving the ticket hall in a south-westerly direction in order to facilitate the straightening up of these interchange passages, but not so far

as to interfere with the existing stanchions or involve additional stanchions for the support of Chiltern Court coming into the ticket hall.

12. (j) consideration to be given to moving the passimeters from the central ticket hall and placing them *en echelon* in the passages from the street, the passages being widened, if necessary for this purpose.

### **13. MEETING No.92 HELD ON 26 AUGUST 1935**

#### **14. SPECIAL EXPENDITURE REQUISITIONS:**

#### **15. Rolling Stock – Hammersmith and City Line**

16. In confirmation of authority already given by the Vice-Chairman, by memorandum, it was decided that the Chief Mechanical Engineer be authorised to place orders with the Birmingham Carriage and Wagon Company and the Gloucester Wagon and Carriage Company for 29 two-car units each, for replacing Hammersmith & City Line rolling stock, at a cost of £6,850 per two-car unit.

#### **17. Tube Station Tunnels – Diameter**

18. Mr Cooper submitted a memorandum reporting that the standard diameter of Tube station tunnels was 21ft.2½ins. and of the large station tunnels constructed at Manor House, Turnpike Lane and Wood Green Stations 23ft 2½ins. and that the larger diameter tunnels cost an additional £3,000 per platform. He recommended that where Tube Stations of normal design were constructed the standard of 21ft 2½ins. should be adhered to and reported that in the absence of the General Manager (Railways), the Operating Officers concurred. The Vice-Chairman stated that, in his view, a decision must be partly dependent upon the method of station tunnel lighting to be adopted, to which further consideration would require to be given; and that a second factor of importance, particularly in deep level stations, appeared to be the improved ventilation obtainable with larger tunnels. It was decided provisionally that at all future deep level and important Tube stations of normal design, the tunnel diameters be 23ft 2½ins., the standard diameter 21ft 2½ins. being adopted only at shallow or unimportant stations.

#### **19. Highbury Station – Escalator Scheme**

20. Mr Cooper submitted a drawing showing general arrangement of proposed escalator scheme at Highbury Station. This appeared to be a straightforward and satisfactory layout, and it was accordingly decided that powers for the reconstruction of Highbury Station should be sought in the 1935/36 Bill.

#### **21. Liverpool Street Station – Improvements to Broad Street escalators**

22. Attention was called to the fact that no plans had so far been submitted to show the improvements or additions required to the Broad Street escalators at Liverpool Street Station. It was decided that Mr Cooper confer with the Operating Officers and ascertain their requirements as soon as possible with a view to the submission of a plan at the next meeting and the inclusion of the work, if approved, in the 1935/36 Bill.

#### **23. Red House Station**

24. Mr Cooper submitted drawings showing revised general arrangement of Newbury Park Station and proposed alignment of the railway approaching Newbury Park from Ilford North. The drawings were approved. Powers would be sought in the 1935/6 Bill for acquiring all property necessary for the construction of the railway in accordance with these drawings on the assumption that the level of the line will remain as now and necessitate the destruction of the houses within the limits of deviation between Ley Street and Newbury Park; but that further consideration be given to the practicability of constructing the lines at a slightly lower level in order to permit of the road being carried at a uniform level across the railway. Mr Andersen to see the Essex County Council.

#### **25. Mill Hill East Station**

26. Consideration was given to the location of the station at Mill Hill East, and it was decided that the station be reconstructed either on its existing site immediately west of Bittacy Hill, or alternatively, immediately east of the road if this is more convenient having regard to the levels; and that if

possible provision be made in connection with the reconstruction of the station and the widening of the railway bridge to give adequate clearance under the bridge for the operation of double-deck buses.

**27. Page Street Station**

28. The Vice-Chairman directed Mr Cooper to obtain from the Local Authority concerned any available information as to the projected development of roads in the area at present undeveloped to the east of Page Street with a view to consideration being given to a suggestion that a new station should be provided on a new road east of Page Street instead of at Page Street itself, especially if the curves and gradients of the railway are more suited to the construction of a station at the alternative point.

**29. Edgware Station**

30. Mr Cooper submitted a preliminary sketch plan showing the proposed position of additional tracks and platforms to form a new terminal for the London and North-Eastern Railway immediately adjacent to the existing station of the Morden- Edgware Line, and proposed alignment of the tracks approaching it. It was decided (a) that further study be given to the layout of the tracks and fresh drawings submitted in general accord with the preliminary sketch, and that in the meantime powers be sought for the acquisition of the whole of the area between the existing London and North-Eastern Railway terminal station and the existing Morden-Edgware station. (b) that in connection with the reconstruction of the station buildings provision be made for a more spacious forecourt for buses, and that before preparing drawings for this purpose Mr Cooper ascertain how much accommodation in the forecourt the Operating Manager (Central Buses) requires.

**31. MEETING No.94 HELD ON 6 SEPTEMBER 1935**

**32. Special Expenditure Requisitions:**

**33. George Green Station**

34. Mr Robertson submitted a plan showing the proposed layout of a surface station with escalators at 'The George', Wanstead. This was approved subject to the limits of deviation being extended to include two additional houses on the south side of the proposed ticket hall.

35. It was further decided that the name George Green should be adopted for Parliamentary purposes.