

UNDERGROUND NEWS

NUMBER 291

ISSN 0306-8617

MARCH 1986

THE TIMETABLE

Friday 7 March

Talk, 'Prototype Rolling Stock', by Mr.R.J.Greenaway, 19.00 for 19.15 in the Conference Room Baden-Powell House.

Friday 21 March

Annual General Meeting, see page 27 of UN 290.

Friday 11 April

Talk, 'LRT Breakdown Organisation' 19.00 for 19.15 in the Conference Room, Baden-Powell House.

Wednesday 30 April

Library Evening, 18.00. The Society's Library open for inspection at 62 Beauval Road, Dulwich, London, SE22 8UQ

Friday 9 May

Talk, 'The 1986 Tube Stock', by Dr.R.W.Aylward, 19.00 for 19.15 in the Conference Room Baden-Powell House.

Would members please note that the April issue of Underground News, will be despatched late, due to the work commitments of the collating team. Please also note the change of date for non-receipt of journals.

SOCIETY SILVER JUBILEE FILM SHOW

SPECIAL ~~VIDEO~~ FILM PRESENTATION

by BARRY COWARD

SATURDAY 12 APRIL 1986, at 18.00 hrs.

in the LECTURE THEATRE,

LONDON TRANSPORT MUSEUM

COVENT GARDEN

Tickets £1.50 each. Members, Families & Friends.

See page 23
UN290 (Feb)
for Ticket
details

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LETTERS TO THE EDITOR

Sir,
The Locomotive History of the South Eastern Railway.

The RCTS has recently published a new edition of this book by D L Bradley. It contains some useful information on the Locomotives fitted by the SER with condensing apparatus for use on the Snow Hill and East London lines, but the key points for LURS members will be found in the article on the Beyer Tanks on page 217.

Following correspondence with Mr Bradley, I can clarify a number of points as follows:

The locos BP 1941-1943 of 1880 carried numbers 54 to 56 when delivered to the SER. (It would be interesting to discover if BP 1944-1946/80 ever carried Met. numbers 57 to 59, as they must have been built under these numbers and renumbered 54 to 56 when the others were transferred to the SER). They only became 57 to 59 on return to the Met. They entered service as SER 54A to 56A and were renumbered 299 to 301 later. 54A is confirmed as such in the SER's Black Book after the driver failed to use the condensing apparatus. The dimensions quoted come from SER General Arrangement 4061 dated 11 June 1880. I always associated the 8ft 10in wheelbase with Class A and 8ft 1in with Class B. The SER records 8ft 10in. can anyone comment on this?

Regarding Mr Cleaver's letter in UN 288, the tunnels referred to are the Widened Lines tunnels to Kings Cross and St Pancras. However, at the Society meeting held on 13 September, Mr. C Austin of British Rail drew attention to the low bridge at, if my memory serves me right, Kings Cross Midland, which only allows the use of low-profile trains on this line at present, thus the need for the 319s to be of a special design.

In the longer term, consideration was being given to new tunnels from Euston, St Pancras and Kings Cross to by-pass this obstacle and the sharp curves which effectively preclude the reopening of the York Road and Hotel Curves. However, the present financial climate is not conducive to such schemes and their coming to fruition seems unlikely.

Only then would it be possible to run Mark III (or even probably Mark IV) stock over the Snow Hill Link.

L.C. Stanway, BEng.
Basildon

Sir,
Quainton Road

Further information has recently been traced in the Bucks County Library and the County Council records. The Aylesbury & Buckingham Railway station had only one platform but the line was reconstructed and doubled by the Metropolitan and brought into use as a double line between Aylesbury and Granborough Road on 30 November 1896; it is therefore probable that the second station at Quainton Road was brought into use on or about that date. The doubling was completed to Verney Junction on 1 January 1897. The contract for a bridge to replace the level crossing was signed on 29 June 1898 and the certificate of completion was issued on 28 July 1899 and the bridge was probably brought into use the following day and the crossing closed.

Quainton Road station was closed to passenger traffic the last train calling on Saturday 2 March 1963. The last trains to call on Sundays

were: Morning trains 14 September 1958; evening down 16 November 1958; evening up train 3 May 1959. These were all Great Central main line trains.

Snow Hill Link UN 287 p 137

Victoria - High Barnet should read New Barnet, formerly called Barnet. There was no regular continuous service Victoria - High Barnet but one or two G N trains appeared in the timetables from time to time but never LC&D trains. The Victoria - Hendon service was provided by both LC&D and Midland trains, but according to my information the service to South Tottenham was provided only by Midland trains.

H.V. Borley
Bexhill

Sir,
Further connections from the Snow Hill scheme
With regard to Mr. Cleaver's query concerning further connections to the north. These were explained by Mr. C. Austin when he addressed the Society in September 1985. The routes being studied were via Hotel Curve (northbound) and York Road Curve (southbound), which formerly provided the tunnel connections between Kings Cross terminus and the Widened Lines. They last saw service on 6 November 1976, when diesel multiple units between Moorgate (Northern City). The connection to the West Coast main line would not have re-used any disused tunnels, but would have followed the Midland route to the vicinity of Finchley Road-West Hampstead, where a new connection would be made to the North London Line. This would be followed to Willesden Junction, where an existing freight line connects to the West Coast main line.

Both routes have problems. The Hotel Curve, in particular, is both steeply graded (up to 1 in 35) and sharply-curved (7-chain radius) and there is now a difference in height between the formation at the foot of these curves and that of the Bed-Pan electrics west of Kings Cross Midland station. The Bed-Pan electric cars themselves are built to substandard height because of height restrictions on the curve beneath St. Pancras station.

The cost of remedying these deficiencies to allow standard main line stock to pass would seem astronomical, and the writer suggests (although hoping to be proved wrong) that this is just another "what would happen if...?" exercise.

A member at the September meeting suggested that the St. Pancras height problem might be eased by converting to third rail between Farringdon and West Hampstead (or even to Willesden Junction) which conjures up the interesting thought of modern electric locomotives working on both overhead and third rail.

D.F. Croome
Perivale, Middx

Sir,
Edgware Road (Met)

On page 149 of UN 288 a review of an article by F W Goudie in RAILWAY WORLD (November 1985) repeats the incorrect statement made in that article that a subway connection existed between Edgware Road and Edgware Road station (Metropolitan).

The Metropolitan Railway records at the Greater London Record Office show that the company certainly intended to build such a subway, considering it from 1908 onwards (they were concerned about bus competition on the main road). All the properties were purchased. Whilst it was at first proposed to include the subway when rebuilding the station, by September 1924 the official

papers mention revised plans for future provision. It was never started. The Metropolitan had decided that their proposed Edgware Road to Kilburna relief tube line, with its stations on the Edgware Road would pick up bus traffic along that road (as well as poaching some from the Bakerloo tube !).

Northern Line 1935-40 Extensions

In the same issue (page 142) Mr Cleaver speculates on the decisions about the Northern Line extensions to Bushey Heath and Alexandra Palace, which were started but not taken up again after wartime suspension of work. Some detail on the background to Mr Cleaver's "mysteries" is given in chapters 11 and 13 of Rails Through the Clay by D F Croome and me (Allen & Unwin 1964).

So far as pre-war planning was concerned, a principal objective was to relieve the very heavily-congested Edgware-Hampstead section which was not only carrying commuters from all the new housing north of Golders Green but traffic brought in by road services to Golders Green from the catchment areas of the steam-operated LNER lines to Barnet and Edgware. It was estimated by the LPTB that electrification and doubling of the LNER lines would divert as much as 25 per cent of the existing traffic from the Edgware-Hampstead section.

That a new depot was needed for all the new services cannot be in doubt; what is questionable is that there was no other site for this but Aldenham. At that time there were no problems of planning permission and several possible sites would have been available between Finchley and Edgware or immediately north of Edgware. But the LPTB had inherited the right of way of the old Watford & Edgware scheme and indeed already owned land along the route of that proposed railway. Although not explicitly stated at the time, it was I think clear that London Transport wished to push the Underground as near to Watford by this route as they could, hoping for new building development along it to bring new traffic; hence the three new stations. There was nothing at that time to prevent housing development northwards from Edgware and indeed it was proceeding rapidly between 1937 and 1939, with more planned. There was however some opposition building up against the unrestricted outward growth of London, opposition directed towards establishment of a compulsory Green Belt of a type which did not become a reality until after the war. This tended to make London Transport conceal its true intentions when making public statements.

After the war it was of course impossible to build new housing in any quantity north of Edgware (though the new Green Belt was sadly scarred by road developments), whilst the traffic of the Alexandra Palace branch had been substantially diverted to road services by reducing the steam trains to minimum level and even withdrawing them altogether at one point. Furthermore the bombing of the City of London had very much reduced the former heavy flow of commuters between the Muswell Hill area and the City. To have complete the electrification of the branch would have been something of an act of faith with results not dissimilar to the much-belated electrification between Liverpool Street and Enfield Town, which was poorly patronised for comparable reasons. Whilst a very intensive bus service was put on between Muswell Hill and Finsbury Park, especially after the trains were finally withdrawn, it did cope. Whether there would have been any new traffic generated by tube services to Alexandra Palace even before off-peak business was slaughtered by television and wider car ownership, is doubtful, in my view.

Bearing in mind that the London Transport policy makers of the 1950s were very "bus-minded" and that capital from central government for costly rail projects was not easy to obtain (especially as London Transport was in competition for it with BR), it is perhaps not surprising that such money as could be got was expended on what were regarded as higher priorities: the Central Line extensions and, later, the Victoria Line.

Alan A. Jackson
Dorking.

Sir,
Mr. Cleaver's article on "A 20th Century Mystery" in the December Underground News. I am not sure whether he knows of "Underground No. 9 - The Northern Line Extensions", in which every aspect of both the completed and the abandoned Northern Line extensions was very fully recorded and discussed. Viewing the matter in its long-term historical perspective, I fail to detect any "mystery". There was admittedly an element of duplicity in the way that the Bushey Heath extension was presented by the LPTB in 1937. The first part of the alignment (from Edgware to Brockley Hill) had long been owned by the LPTB as the beginning of a Watford extension, and although Aldenham depot might have been the only large enough site that was on the market at that time, it is clear that the reason for the Bushey Heath extension was both to reach the depot and to encourage housing development. The rejected sites are mentioned in "Underground Notebook No. 10" UN. 274, page 117.

The extension north of Brockley Hill was abandoned in 1950 and the remainder of the scheme in 1953. The imposition of Green Belt planning restrictions was undoubtedly a factor in the abandonment north of Edgware. Even if the Edgware-Mill Hill East area was largely built-up, this line would have carried some of the passengers coming through from north of Edgware, and may not have been viable if relying solely on traffic generated locally. The war and the bombing had changed traffic flows, whilst between 1948 and 1963 London Transport was part of the British Transport Commission, and had to compete with the run-down British Railways for scarce supplies of capital and materials. In fact, London Transport had to fight hard for the Loughton-Epping extension of the Central Line, opened in September 1949. Later the pendulum swung the other way, with the authorisation of the Metropolitan scheme in 1956, and the Victoria Line (after years of pressure) in 1962. There was no "mystery" - merely a constantly fluctuating set of standards needed to justify railway works, which happened to be at a high point when the Northern Line came up for consideration. My personal feeling is that the abandonments south of Edgware were foolish, and that the works could have been mothballed to await better times.

Detailed criticisms of the article are :-

(i) I don't know how far "almost the entire way from Mill Hill East to Edgware" covers, but the cabling was completed throughout to Edgware, whilst the conductor rail stopped at Mill Hill (The Hale).

(ii) The A.41 was to have been crossed by a plate-girder bridge, (which was never erected) not a brick viaduct.

(iii) The tunnels under Elstree Hill were driven only to the extent of 160 feet northbound and 70 feet southbound.

(iv) Most of the work came to a halt in November 1939 (except for the High Barnet extension and Highgate station) and nearly all the rest in June 1940 (except the Mill Hill East branch).

(v) The section of the article on the Finsbury Park-Alexandra Palace branch does not make clear that freight traffic between Highgate and the Alexandra Palace branch ceased in 1957, where as it continued on the original main line from Finsbury Park to Edgware until 1964.

(vi) The connecting ramps at Drayton Park could not be used by the Great Northern electrics until opened out to main line gauge.

(vii) Barker and Robbins, in "A History of London Transport, part II" state that the capital expenditure written off (at pre-war prices) was - Brockley Hill-Bushey Heath - £159,000; Finsbury Park to Alexandra Palace - £ 300,000; Mill Hill East/Edgware/Brockley Hill £101,000, i.e. at total sum of £560,000.

Finally, two points which I cannot prove, but would suggest from evidence available that :-

(viii) The cutting north of Edgware was not excavated,

(ix) It seems unlikely that any of the viaducts near Brockley Hill were demolished with dynamite, in a then semi-residential area, when less disturbing methods are available.

D.F. Croome
Perivale, Middx

Sir,
I was pleased to see that my article "A 20th Century Mystery" had stimulated some reaction, but feel that Mr Croome and Mr Jackson had rather missed the point of the article, the questions posed in the opening paragraph:- Would the proposed Northern Line extensions have been completed if not interrupted by WW2, and would they still be running in their entirety today?

If my background material was slightly incorrect in places you must blame my sources of information. The article was meant to stimulate opinion and not as a definitive statement of fact.

However a few points raised need some clarification :-

1. Mr Croome says he "feels the abandonments south of Edgware were foolish and that the works could have been mothballed to await better times" which, south of Edgware, in particular and what, or when, are the better times?

2. My sources said cabling was completed almost the entire way to Edgware from Mill Hill East, and I don't know how far this covers either.

3. Photographs I have seen of the brick viaduct incorporating Brockley Hill station, give the appearance of spanning the A.41 road I am most interested to learn that this was not so. The 6-foot high stumps of the bases of the brick arches can still be seen in the field on the junction of the Watford Way A.41, and Brockley Hill.

4. With regard to Mr Croomes "detailed criticism number iv" - I stated in paragraph 4 of my article that "the works, quite heavy in places, were interrupted by the outbreak of war in September 1939 refers to the date of the outbreak of war (3 September 1939), NOT to the date of cessation of works.

5. As to Mr Croomes points v and vi - I can only apologise for not mentioning every detail pertaining to the dates of freight traffic cessation and to loading gauges. I was not in possession of these fascinating facts, but had I been, I would certainly have included them.

6. Mr Croome states in point vii that Barker & Robbins give the total capital expenditure written off as £560,000. My source, either a pamphlet concerning the line or park built on part of the trackbed of the "Ally Pally" line, or a local newspaper report of the 1950s, (I forget which) gave the figure of "approx £2 million pounds". Mr Croome would seem to accept Barker & Robbins figure as correct. Does anybody know differently?

And finally, to paraphrase Mr Croome "two points" which I cannot prove, but would suggest from the evidence available that :-

7. The cutting north of Edgware WAS excavated as there is a tunnel portal upper parapet wall behind the row of shops and on the service road opposite Edgware station, and a pair of parallel retaining walls running for some yards from this, rather indicating that an excavation of some depth WAS made, if only for the footings of the walls. This section is now flush with ground-level and is surfaced with tarmac and used by traders as a car park.

8. A cutting from a local newspaper of 1964, viewed in the local history section of Brent library stated that the brick viaduct at Brockley Hill was demolished by dynamite. Mr Croomes "less disturbing methods" would also be much slower and costlier methods. Finances being generally the governing factor I would have been surprised if explosives had not been used. I watched two neighbouring tower blocks of flats in East London dropped to the ground in a few seconds by explosives some 4 or 5 years ago, they were located in a densely populated council estate and was achieved without so much as a cracked window in adjacent properties only a few yards away.

I know explosives technology was not quite so advanced 20 odd years ago, but the viaduct stood in an open field with the houses a fair distance away, and I have no reason to doubt the veracity of the article in the local paper or perhaps someone could tell us otherwise?

R.F. Cleaver
Leyton
E.10

POINTS OF INTEREST

Nigel Hyde writes:

A TWENTIETH CENTURY MYSTERY

IMPROVING LONDON'S TRANSPORT (Railway Gazette 1946) reported (page 15) that "a lapse of six years has, however, brought into play new factors, especially in connection with town and country planning....". Besides the 1948/9 completions of the Northern Line extensions also scheduled for 1949 was work between Rickmansworth and Amersham. Reference on pages 25 and 26 to the western extension of the Central Line stated "For the moment it is proposed to complete the works only as far as Greenford ..From Greenford to Ruislip a single track is to be provided to gain access to the new car depot." On page 32 reference to "The terminal station (at Bushey Heath) was to be situated in the 'V' junction of Watford Way and Elstree Road and

of a type generally similar to those at Cockfosters and Uxbridge. Road improvements proposed at the site, however, are necessitating reconsideration of the location. Arrangements will be made for a car park and bus interchange facilities. The Line rises from Edgware at a gradient of 1 in 53 for the two miles to Elstree Hill beyond which it is level". (Perhaps it might have become BUSHEY HEATH PARKWAY!)

For many years after the withdrawal of the LNER steam service, through rail tickets could be used on buses between Mill Hill East and Edgware.

AU REVOIR, CROXLEY GREEN

Until the 1965 curtailment, ten Bakerloo trains stabled at Croxley Green Depot (out of the line service requirement of 47), entering service as trains 51-60 (M-F). It is interesting to recall that when uncoupled services operated, pairs of empty 3-car units were worked between Watford Junction (platform 5) and Croxley Green Depot - up to three units could be stabled at the north end of platform 5. Trains uncoupling at Watford Junction were formed with DMs at the south end of the 3-car units - the use of UNDMs leading being ruled out on the empty trips to Croxley Green Depot. I seem to recall that staffing at Croxley Green presented some problems so that Traffic Circular requests for crews appeared from time to time and it was possible to be promoted to work there out of the normal line of seniority - job protection being given except for reduction of establishment.

CAIRO METRO SYSTEM

Beneath the streets of central Cairo construction work is proceeding on the first Underground 'Metro' railway in the Middle East. A joint Egyptian/French project it is envisaged that three lines will cross the city. The first 42 km, the 'Suburban' line, will link two existing lines being electrified or modernised, by a 4.5 km underground section. A longer term project involves building two entirely new 'City' lines. Originally envisaged for completion in 1985 the first line, mostly under existing streets using open-cut techniques, has experienced delays. On a recent visit to Cairo our guide described the line to us as 'THE TUBE' and said completion was due in four year's time.

Incidentally travel on Egyptian Railways Cairo - Aswan line along the Nile Valley revealed British style lower quadrant signalling including distant signals in use - there are some colour lights in the Cairo area, left hand running on the double track section out from Cairo (will the Metro have right hand running?) and THIRD class travel available (NOT sampled!)

BBC2 COMRADES 17 November 1985

The subject of the first programme, a student teacher, was seen on the Moscow Metro. As mentioned in my report of the 1983 visit, the two digital displays over the departure tunnel headwall were shown - one Moscow time to the second, the other train headway.

FINCHLEY ROAD - BAKER STREET BOTTLENECK

Although it is now 30 years since I read the Metropolitan Railway Report for 1925 (at the then BTC Archives office at Royal Oak) my notes show that the Kilburn - Edgware Road tube was to be at a depth of 25 ft 6 in to 75 ft 9 in except for a 200 feet long cut-and-cover approach tunnel immediately west of Edgware Road station. Regarding the lengthening of platforms to take 8-car trains this has not been done at Baker Street on the Circle Line.

TUNNEL WORK AT HEATHROW

London Underground began some additional engineering work recently on a short length of the new tunnel serving Heathrow's Terminal Four.

The tunnel, due to open to passenger traffic in April, is complete and fully equipped, but slight ground movement has affected a section near Hatton Cross and stabilisation work is to be undertaken in advance of the opening of the service.

The section concerned is just west of the junction with the existing line. It is 240 metres in length, and was built by assembling cast-iron tunnel segments in an open excavation.

Over the past few months, cracks have appeared at the top of some of the tunnel segments. Investigations indicate that this is due to settlement of the ground around the tunnel.

London Underground and its contractors, advised by consulting engineers Sir William Halcrow and Partners and by a university expert on ground stabilisation, have assessed various methods of halting the movement, which has been carefully monitored over the past three months and is about two inches in places.

A two stage approach has been evolved. Initially, grouting of the clay around the tunnel using a hydrofracture technique is being carried out at night, when no trains are running.

Arrangements are also being put in hand to construct bored piling alongside the tunnel from the surface. This work will start on February 10 and its extent will depend on the degree of success of the hydrofracture grouting carried out within the tunnel.

The ground movement does not affect the safe passage of trains. It is fortunate that the air terminal has not yet opened, and there is time to deal with this problem without disrupting passenger services. This further work will not affect the opening date, which is anticipated to be 7 April 1986, following the Royal opening on 1 April.

BLACKFRIARS REACHES THE TOP

A £6 million office complex, nearing completion above Blackfriars Underground Station in the City of London, has been "topped-out" in a traditional ceremony by the Chairman of London Regional Transport.

This is the first of LRT's City developments. It is part of a comprehensive London-wide programme which, in the next two years, will involve 12 office sites, 10 retail schemes, six industrial schemes and the sale of 12 residential sites.

The five-storey Blackfriars development was started in July 1984 and comprises 28,500 square feet of high-quality office accommodation plus two shops and a wine bar. It has been let in advance to international accountants Peat Marwick; the rent from the new building will be received by LRT. Underground passengers will benefit by the associated part-refurbishment of the station ticket hall and its subway entrances.

LRT is employing Lovell Farrow as contractor for the superstructure work, which is on target for completion this Autumn.

Lovell Farrow Construction is a member of the Lovell Group which this year celebrates its bicentenary. The work at Blackfriars is the latest of many contracts the company has carried out for LRT and its subsidiary companies.

Archaeologists were invited to investigate the site, and were delighted to discover a Saxon loave-ring, bearing a worn description, together with other ancient artefacts. A mediæval wall was also discovered where none had been known of before.

At the "topping out", Dr Bright paid tribute to the contractors, site workers and consultants, and added: "The air-space above our Underground stations in locations such as this has great development potential. Our development programme is designed to maximise the income from our heritage of prime sites in all parts of London. This will help to give tax-payers and rate-payers the best return for their investment in London Regional Transport, and will help finance improvements to the stations involved."

NEW UNDERGROUND CONTROL CENTRE NEARS COMPLETION

Transport Minister David Mitchell met - and handled - the "mouse" that is about to make London Underground once again a world leader in railway technology.

He was visiting a control centre now taking shape at Baker Street. It will control the sophisticated new computerised signalling system for 50 miles of the Metropolitan and Jubilee lines, replacing 27 local signal boxes.

Computer technology on the Underground is not new, but operating staff have sometimes found the keyboard controls daunting. The "user-friendly" mouse - computer jargon, derived from its appearance - replaces the keyboard. It is a hand-held device used to steer a cursor across a screen to select displays or commands. A single button on the mouse then activates the command and the computers do the rest. A single operation can pre-set dozens of points and signals and direct a train on a complete journey.

Describing the system to the Minister, Mr Leslie Lawrence, Engineering Director for London Underground Ltd, said: "This control centre will be the culmination of 25 years of development in centralised control. It will come into use at the end of the year, initially dealing with the whole of the Jubilee Line and the Metropolitan Line between Wembley Park and Finchley Road. Later, services to Amersham, Chesham, Watford, Uxbridge and Hammersmith will all be monitored from this one room."

The control centre and its computer links to the signalling system are together costing more than £3 million.

Baker Street Control Centre

London Underground signalling is renewed about every 45 years, using the latest available technology. Since the 1960s control arrangements have been progressively centralised, with automatic route setting facilities on site. This arrangement makes more efficient use of manpower and improves the co-ordination of train services. It permits quick intervention on a line basis if an incident occurs, and better dissemination of information to passengers and staff. It allows effective regulation of the service - to provide regular intervals between trains.

Automatic route setting in the 1960s was by a device called a programme machine, operating on a piano-roll principle, but today local computers perform this function.

When the current cycle of modernisation is completed the whole Underground network will be supervised from four control rooms.

The new centre at Baker Street for the Metropolitan and Jubilee lines will go into use between

September 1986 and January 1987 and in this first stage will supervise operations on the entire Jubilee Line and on the parallel section of the Metropolitan Line, between Wembley Park and Finchley Road, using six local computers. Ultimately other sections of the Metropolitan Line will be covered as well as parts of the Circle and District lines. This area involves about 50 route miles, with some 75 trains operating at peak periods.

Ultimately twenty-seven signal boxes will be replaced by local computers which will automatically route trains at junctions and terminal stations in accordance with the timetable.

The local computers are coupled to the control centre by data links. Computers at the control centre convert the data into information for the operators who can call up colour displays giving the location and identification of trains and showing the condition of points and signals at individual sites. An illuminated wall diagram gives an overview of the whole line.

The operating staff can intervene manually if any variation to the service is necessary. This has been made easier in this installation by a greatly simplified interface between the operator and the computer. The keyboards which are a major disadvantage of similar systems both in London and elsewhere are no longer needed for normal operations.

SOCIETY SECTION

Annual General Meeting 1986

The formal notice of the Society's 1986 Annual General Meeting was given in Underground News No. 290 (February 1986).

Because the A.G.M. is being held earlier in the month of March than usual, it was not possible to include details of Rule Changes and the Election of the Committee. The situation is therefore as follows:

- (1) There have been no proposals to change the Rules of the Society.
- (2) Nominations have been received from the following members to fill six vacancies on the Committee:
Messrs. A.R.Blake, P.Hoskins, F.W.Ivey, B.R.Panting, J.F.Thomason and J.F.Wright.
- (3) The Committee has elected Mr.F.W.Ivey to become Chairman at the Annual General Meeting, replacing Mr.B.R.Hardy who will be standing down at the end of that Meeting.

January Baden-Powell House Meeting

Our first meeting for 1986 was an illustrated talk on the Metropolitan Railway rolling stock, given by Mr.Alan Cruickshank, steward for the Metropolitan Railway section of the Historical Model Railway Society (HMRS). Mr.Cruickshank explained that each steward was responsible for certain railway subjects and that he had taken over from the late Mr.Kiddle (who was also an LURS member) who had died a few years ago. In addition to the slide presentation, four models at 1/64 scale, hand-made by our speaker, were brought along and displayed, comprising a District and Metropolitan 4-4-0 tank locomotives, a District 'B' stock motor car and a Metropolitan compartment 'shuttle' car.

Many of the slides were copies made from original photographs, but the variety, covering the Metropolitan Railway era, was a most interesting selection. Naturally perhaps, passenger rolling stock took up a good proportion of the

meeting, but goods rolling stock, stations and types of Metropolitan signals were not forgotten.

The rolling stock was covered in chronological order, starting with the rigid eight-wheel coaches. The original vehicles were mostly flat-sided, the only 'curve' being the roof. A close-up picture of the rigid wheel arrangement was shown and explained. Later, some of these coaches received new bodies and two (Nos. 41 and 45) lasted in passenger service until the Brill branch closed in 1935. The stock to follow the rigid-eight's from 1887 comprised four-wheeled coaches, and later batches from 1892 had a design change incorporating a shallower waist line. Although these four-wheeled cars gave adequate riding qualities on 'in-town' services, this was not the case on faster runs and the stock had to be returned to Cravens for the wheelbase to be lengthened.

The next set of slides covered the steam-hauled 'Bogie' stock, built 1898-1900 and subsequent conversion of it to electric stock between 1906 and 1924. On longer distance Metropolitan, which had to compete with the Great Central, new compartment coaches, which became known as 'Dreadnought' stock, was built between 1910 and 1923. Close-up pictures below floor level on these showed the shoe gear fitted to brake cars for the purpose of reducing arcing over current rail gaps at low speeds. The Metropolitan considered itself a 'main line' railway and purchased two Pullman cars, which began working in 1910, initially with 'Bogie' stock coaches and later with Dreadnought stock. Several views of these two cars, named 'Mayflower' and 'Galatea' were seen in both liveries - the original umber with cream uppers and (after 1922/23) in all-over crimson. Having been withdrawn from service in 1939 and subsequently disposed of, our speaker recalled seeing Mayflower in the early post-war period as living accommodation in Egham, Surrey, soon after which, the remains (mahogany doors etc.) were put to use as wind-breaks for flowers at a nearby nursery.

The story was then told of the Metropolitan electric saloon stock, with a lavish selection of slides. Being built to American practice, the cars had clerestory roofs and single gates at the ends. Very soon the Met. had to enclose the ends and later added centre doors after a number of experiments. The different window arrangements between the 1904 and 1905-07 batches was illustrated. This stock, in common with the Metropolitan's status of a main line railway, included luggage compartments on motor cars. Further saloon stock of 1913 and 1921 were built with elliptical roofs. The former had centre and end doors from new, while the latter had three pairs of double doors - all handoperated, of course. The Metropolitan was still undecided as to whether it favoured compartment or saloon stock and when more stock was required after the first world war, an eight-car experimental train was constructed by MCWF in 1919, utilising saloon stock cars of the 1905 batch. In this compromise design, the saloon was retained, but swing doors (five on trailers, four on motors) were fitted along the body sides. This train soon acquired the title of 'Mustle train', and bore an affinity with the C stock of 1969/77 many years later. As already mentioned, the 1921 stock was of the saloon type, with three pairs of sliding doors.

The Met's indecision on rolling stock design was highlighted in the final type to be built by that company in its own right. This was what became the T stock and was built between 1927 and 1932, and reverted to compartments with

swing doors. Initially, this stock comprised six new MW motors, and utilising Bogie stock trailers, made three eight-car trains, plus six new MV stock motors using converted Dreadnought coaches, making three seven-car trains. Further batches were delivered in 1930-32 and at the formation of the LPTB the group comprised 60 motors, 24 control trailers, 24 1st class trailers and 24 3rd class trailers. There were, in addition, 15 trailer type vehicles converted from steam Dreadnought stock. We were told that the Metropolitan Railway livery for passenger stock was varnished teak with gold lining. Numbering and lettering was yellow with blue returns and black shadows. London Transport used brown paint!

The rebuilding of two saloon stock cars into double-ended compartment motors was described. These were the result of two accidents in 1910 and were then used on services which did not warrant three-car trains. As these cars were essentially 'saloon' stock, equipment-wise, a saloon control trailer could be added where necessary to form a two-car set, and indeed we were fortunate in seeing a picture of such a formation. These single cars operated on the Uxbridge branch, between Rickmansworth and Watford and on the Stanmore and Addison Road shuttle services during the course of their lives, until withdrawal in the late-1930's.

To conclude the saloon stock section, we were shown a colour slide taken just before the second war of a trailer, minus bogies, at an unknown location. This most interesting view of 9210 - ex-Met. 3rd trailer No. 34, finished service on the Hammersmith & City Line (it was not a 'true' H&C coach, being one of several loaned to that line in about 1913), and whose stock was renumbered by LT into the 22xx (motors), 62xx (CTs) and 92xx (trailers) series. No. 9210 was one of the first few H&C cars to be withdrawn in 1938, the official disposal date of 9210 being 21.3.38.

Mr. Cruickshank then continued his presentation with slides of Metropolitan locomotives (steam and electric) and goods vehicles, including some private owner wagons, and then some Metropolitan signals. Here we saw the somersault type with balanced arms, where the whole signal arm swivelled in the middle. Later types of signals, of which an example was seen at Rickmansworth, were identical to those used on the London, Brighton & South Coast Railway. An example of the upper quadrant type was seen at Willesden Green, and although instantly recognisable as such, was interesting to observe the different track and running arrangements. Signalling concluded with an exterior view of Chesham signal box, typically Metropolitan, which differed from others only in that it stood (and still does so!) on a brick plinth.

The evening concluded with a selection of Metropolitan Railway stations. Here we saw the vertical 'Underground' signs (white letters on a red background - the LER's, which were thought to have been introduced first, were white on blue), and red-diamond station signs (bar-and-diamond - the LER used the bar-and-circle). Station views of High Street Kensington (1895), Edgware Road (as rebuilt in 1927), Willesden Green & Cricklewood (1906), Harrow-on-the-Hill (original) and, the last of the Metropolitan style, at Croyley.

The meeting concluded with a question and answer session, following which Mr. Cruickshank was thanked for an interesting and informative address, presented in an entertaining way.

BRH

LONDON TRANSPORT UNDERGROUND TRAIN SERVICES

by
Brian Hardy

Part I

The Central Line

Continued from page 18 of UN 290.

WTT No.8 - 5.6.1950

Withdrawal of Grange Hill via Hainault trains that were introduced in WTT No.6. These trains now enter service from Hainault depot via the depot road and shunting neck. Midday freight working to Ongar withdrawn. In consequence through and shuttle services between Loughton and Epping improved to regular 36-minute intervals, giving better connections at Epping. Loughton-Epping shuttle on Saturdays and Sundays increased from two to four cars. Saturday evening service after 17.30 reduced, saving six trains in service. See below for comparison service intervals:

	14.30		After
	to		17.30
<u>WTT No.6</u>			
East/West branches	10		7½
White City-Liverpool St.	5		3½-4
Leytonstone	5		3½-4
Epping	40		37½
Hainault-Woodford	10		7½

<u>WTT No.8</u>			
East/West branches	10		10
White City-Liverpool St.	5		* 3-3½
Leytonstone	5		5
Epping	40		40
Hainault-Woodford	10		10

Note * Applies 17.30 to 18.30 eastbound and 18.10 to 19.10 westbound. 5-minute interval service at other times.

Restoration of 10/5-minute service on Sundays from 13.30 instead of 19.30.

WTT No.9 - 19.2.1951

Maximum stock unchanged with little change to peak services. Reintroduction of uncoupling and major revision to off-peak services and intervals. Distinction made in timetable between 7-car block and 7-car uncoupling trains. All trains start MF and SO as full-length. Uncoupling performed at White City, West Ruislip, Loughton and Hainault. At Hainault, and also two trains at West Ruislip, 8-cars uncouple to form 2x4, one train following the other in service. In these cases the uncoupled portion is renumbered in the 1xx series - e.g. train No.5 may uncouple to form trains 3 and 105. All other uncoupling is from seven-car trains, where the three-car portion then goes off to a depot or siding.

Coupling and uncoupling operations (3 off 7 and 3 onto 4) performed at the following times MF:

	Uncoupling	Coupling
West Ruislip	09.31-10.57	15.02-16.32
White City	09.53-12.07	14.40-16.20
Loughton	09.51-11.11	14.57-16.17

	Uncoupling	Coupling
West Ruislip	18.24-20.01	22.02-23.04
White City	18.54-19.24	21.31-22.07
Loughton	18.44-20.05	22.16-00.59

Short trains thus operate in the evening off-peak, with only some trains recoupling late evening. However, on Saturday night, all trains full-length by 22.00, although re-coupling

starts as early as 17.00.

On Sundays a small number of trains start as seven or eight cars, but all short trains by 10.00. Full-length trains by mid-afternoon. The 10/5 minute service put back (again!) to start at 19.30 instead of 13.30.

Summary of Off-Peak Intervals:

MF Midday -

East/West branches 10, White City-Marble Arch 2½-5, Marble Arch-Liverpool Street 2½. Liverpool Street-Leytonstone 5, Through Epping and Epping shuttle each 40, Hainault-Woodford 10.

MF Evening -

East/West branches 9, White City-Marble Arch 3-6, Marble Arch-Liverpool Street 3, Liverpool Street-Leytonstone 3-6, Through Epping and Epping shuttle each 36, Hainault-Woodford 9.

Saturday Afternoon and Evening -

East/West branches 9, White City-Liverpool Street 3, Liverpool Street-Leytonstone 3-6, Through Epping and Epping shuttle each 36, Hainault-Woodford 9.

Sundays before 19.30 -

East/West branches 12, White City-Leytonstone 6, Through Epping and Epping shuttle each 48, Hainault-Woodford 12.

Sundays after 19.30 -

East/West branches 10, White City-Leytonstone 5, Through Epping and Epping shuttle each 40, Hainault-Woodford 10.

WTT No.10 - 15.4.1952

Reduction in Saturday peak service from 78 to 65 trains. Central area (North Acton-Leytonstone) reduced to 2½ minutes, 5 minutes branches, West Ruislip 10, Debden 5-10, Epping 10-15, Hainault-Woodford 10.

After Saturday midday peak, White City-Liverpool Street service extended to Loughton (giving Leytonstone a 5-minute service), reversing in the middle platform, during which time the Epping-Loughton shuttle reverses via Loughton sidings. Main line service interval thus 3-6 (or two every 9 minutes) to Loughton. Saturday evening re-coupling to start an hour later, from 18.00.

WTT No.11 - 3.11.1952

Peak service total unchanged, but 79 trains formed 46x7 and 35x8 - i.e. an increase in the number of eight-car trains. All shuttle trains (Woodford-Hainault and Loughton-Epping) reduced to three-cars.

Complete revision to MF midday off-peak service and uncoupling arrangements. Intervals changed to 12 minutes branches, 6 minutes North Acton-Marble Arch and Liverpool Street-Leytonstone, 3 minutes Marble Arch-Liverpool Street. Through service to Epping increased to 24 minute intervals, but Loughton-Epping shuttle withdrawn MF. The extra eight car trains available allows all uncoupling to be performed by splitting 1x8 into 2x4, with the uncoupled portion taking the 1xx number. Uncoupling continues to be done at West Ruislip, White City, Loughton and Hainault, but that at White City and Loughton provide interesting operations. At Loughton, an eastbound train would uncouple with the front portion going forward. Twelve minutes later the uncoupled (rear) set would depart, but after making a connection from the terminating 7- or 8-car train, which would go to depot or sidings. Similar arrangements would operate on re-coupling. At White City, uncoupling was mostly done in the middle platform with a westbound train. The west end portion would then go forward to Ealing, while the east end portion would return in the opposite direction on a Liverpool Street 'local' working. Self-contained midday services West

Ruislip-Hainault, Ealing-Debden/Epping and Liverpool Street-Marble Arch.

Evening off-peak service MF similar, except that alternate 'local' trains extended from Marble Arch to White City (altered from 1.12.1952 to the midday pattern). All trains MF to stable as full-length.

On Saturday mornings between peaks, Epping-Loughton shuttle provided every 36 minutes, plus through service every 36 minutes. No shuttle SO afternoon or evening, but through Epping service every 18 minutes.

On Sundays, all afternoon coupling forms 7-car trains by adding three cars. Epping-Loughton shuttle continues to operate on this day - intervals as WTT No.9.

Hainault-Woodford midday and evening service MF reduced to 24 minutes.

WTT No.12 - 27.4.1953

Midday off-peak MF service increased to 10 minutes branches, 2½ minutes Marble Arch-Liverpool Street, 20 minutes Epping and Hainault-Woodford. Self-contained service pattern changed to West Ruislip-Debden/Epping and Ealing-Hainault. Evening off-peak unchanged.

WTT No.13 - 2.11.1953

Withdrawal of early-morning and late-night staff trains in tube tunnel sections to give engineers extra time for maintenance. (This also applies to Piccadilly and Bakerloo lines from same date, and is the result of an experiment first tried out on the Northern Line from July 1950). Because of the extended running times of staff buses, which replaced the trains, this means that the night staff train from White City arrives at West Ruislip at 02.52 (previously 02.22) and departs at 03.41 (previously 04.09).

White City-Loughton service on Saturday afternoon and evening revised to terminate at Woodford until 21.00, thereafter extended to Loughton. Until 21.00, Hainault-Woodford shuttle reduced from 9 to 18-minute intervals.

WTT No.14 - 4.10.1954

Better distribution and utilisation of eight-car trains at peak periods. Loughton-Epping shuttle reduced from three to two-cars on Sundays.

WTT No.15 - 14.2.1955

MF evening off-peak completely revised. Increase in service from 6 to 4 minutes between Liverpool Street and Leytonstone, but reduced from 3 to 4 between Marble Arch and Liverpool Street. Intervals as follows:

West Ruislip	16
Ealing Broadway	16
North Acton-Marble Arch	8
Marble Arch-Leytonstone	4
Newbury Park	8
Hainault	16
Debden	8
Epping	24
Hainault-Woodford	24

Self-contained services West Ruislip/Ealing-Debden/Epping and Marble Arch-Newbury Park/Hainault. After 22.00 however, branches resume 12-minute service intervals for re-coupling purposes. It is interesting to note the non-compatibility between the 16-minute Hainault service and the connecting (!) 24-minute shuttle service from there to Woodford.

Re-coupling on Sundays deferred from 14.00 to about 19.00 - at the same time of start of the 10/5 minute service.

WTT No.16 - 21.11.1955

Increase in the number of eight-car trains to 39, with block number of stock: 1-39 (eight-cars) and 40-79 (seven-cars). The self-contained midday MF off-peak service numbered also in

blocks, and consecutively:

Nos.	Service	Uncoupling at	Uncoupling Nos.
1-10	West Ruislip-Debden/Epping	West Ruislip & Loughton	101-110
11-18	Ealing-Hainault	White City & Hainault	111-118
19-22	Marble Arch-Liverpool St	White City	119-122

The above arrangements allow one or more services to remain as eight cars during the midday off-peak period, without affecting other services.

WTT No.17 - 29.10.1956

MF evening Marble Arch reversers eliminated and extended to White City, giving a four-minute service between those two points instead of eight minutes. Uncoupling after MF evening peak at White City to be performed on eastbound rather than westbound. Block numbering of trains extended to Saturdays and Sundays. Late-evening service on Saturdays on Hainault-Woodford branch reduced from 9-10 minutes (3 trains) to 20 minutes (2 trains).

WTT No.18 - 18.11.1957

Electrification of Epping-Ongar branch, thereby eliminating the Loughton-Epping shuttle (which latterly operated Saturday mornings between peaks and all-day Sundays). Maximum stock MF adjusted by increasing 8-car trains: 48 x 8 and 31 x 7 (no change to overall total). Additional trains to Loughton branch in evening peak (16 to 20 in the half-hour 17.30 to 18.00 at Liverpool Street). Reintroduction of uncoupling at Ealing Broadway MF mornings and afternoons to relieve operating pressure on White City. MF midday off-peak intervals on branches unchanged, but central area increased from 2½ to 2-minutes, by reversing three trains every 10 minutes at Liverpool Street.

MF evening pattern (16/8/4) introduced on Saturday evenings until 22.00. Unlike MF evenings, which remains at 24 minutes, the Hainault-Woodford branch on Saturday evenings is increased to 16 minutes to give better connections at the former.

Epping-Ongar branch service intervals -

MF: 40 (20 peaks, 48 evening)
SO: 20-24 (40 afternoon, 48 evening)
Sun: 48 (40 after 19.30).

WTT No.19 - 21.4.1958

Withdrawal of uncoupling at Ealing Broadway. MF midday off-peak reduced in central area to 2½ minutes with no White City reversers. Introduction of school special train (q.v. below) eastbound only from Ealing to Hainault midday MF - eight cars.

Introduction of coupling/uncoupling on Sundays of some 4/8-car trains, although coupling of some 3's to 4's remains.

During the currency of this timetable, Sunday service revised from 8.3.1959 to operate at 12/6-minute intervals all-day (24 Hainault-Woodford and 48 Epping-Ongar).

WTT No.20 - 12.10.1959 (MF)

Stock total still 79 trains, but eight cars increased to 54 (trains 1-54 eight cars, 55-79 seven cars). Reduction in number of peak hour Greenford reversers, giving an improved service to and from West Ruislip. First and last hour of service MF and SO reduced to 7½ minutes in central area. Uncoupling to start MF after morning peak about ten minutes later, because of heavy loadings. Marble Arch used for reversing instead of White City, while uncoupling takes place at the latter.

Eight-car school special to work both eastbound

and westbound. This departs empty from Hainault, picking up at Fairlop, setting down at Mile End and Bethnal Green and from the latter running in normal passenger service to White City. On the return journey the train runs empty, picking up at Bethnal Green (Mon, Wed and Fri only), Mile End (MF), setting down at Fairlop and then empty to Hainault.

Additional timetable No.20A for Thursday evening late-night shopping, giving an increased after peak service and full-length trains.

During MF peaks, more trains scheduled to reverse at Debden, by extending some Loughton reversers. Reduction in number of Newbury Park peak hour reversers in morning.

During currency of this timetable, abandonment of short trains on 'main line' services in off-peak periods. On MF and SO this was continued from the Christmas shopping period, where all full-length trains were operated, and on Sundays from 24.1.1960 - last day of 'short-train' operation on the Central Line therefore assumed to be Sunday 17.1.1960.

WTT No.21 - 21.3.1960

Permanent withdrawal of uncoupling daily. Train numbering revised according to depot in time and number order. Increase in peak service by two trains to 81 (19x7 and 62x8) to cater for new reversing siding at Northolt, to replace Greenford. (Northolt siding was not actually available until 1.5.1960 and trains continued to reverse at Greenford until then). Midday MF off-peak standardised at 12 minutes branches, 3-6 White City-Marble Arch, 3 Marble Arch-Liverpool Street, 6 Liverpool Street-Leytonstone, 24 Debden-Epping and Hainault-Woodford, 48 Epping-Ongar. Evening off-peak at same pattern, but 6 minutes through central area with no local service, seeing the end of the 16/8/4 minute pattern.

Reduction of Saturday peak service to 58 trains. Central area interval reduced to 3 minutes (previously 2½), western branches 9 minutes, eastern branches 6 minutes. Epping 12 minutes. Between morning and midday peaks SO, service increased to 10 minutes branches, 3-3½ Marble Arch-Liverpool Street, 20 Hainault-Woodford, Debden-Epping and Epping-Ongar. Saturday afternoon intervals 10/5, reduced in evening after 20.00 to 12/6 (with correspondingly wider intervals on branch extremities).

1959 Tube Stock introduced onto the Central Line from 19.4.1960. This was initially two seven-car passenger-carrying crew training runs MF. These were replaced by eight-car trains when they became available from 25.7.1960.

WTT No.22 - 25.9.1961

Additional peak hour Northolt reversers by extending some White City trains. Two extra trains in service Saturday peaks (SO). Introduction of a second school special from and to Hainault, one reversing at White City, the other at Northolt. Withdrawal of Marble Arch reversers immediately after evening peak. Reduction in last hour of service MF and SO in central area to 10 minutes.

Reduction on Epping-Ongar branch SO between peaks to 40 minutes (one train) instead of 20 minutes (two trains). Only five Pre-1938 stock trains scheduled for service on Sundays.

From 5.2.1962 a new timetable (No.22A - MF) was introduced, catering for all MF midday off-peak trains to be worked with new 1959 stock.

WTT No.23 - 26.3.1962

All trains MF midday and evening, SO afternoon and evening and all-day Sundays to be worked by new stock. Saturday peaks reduced to 53 trains, with central area interval 3 minutes (westbound morning, eastbound midday) or 3-3½ minutes (eastbound morning, westbound midday), with

western branches remaining at the standard Saturday interval of 10 minutes.

WTT No.24 - 15.10.1962

Reduction of trains MF peaks from 81 to 79 and on Saturdays from 53 to 52. Introduction of 'Thursday Only' timetable pages for late night Oxford Street shopping. Two trains to stable between MF peaks at Newbury Park. Still a few trains of Pre-1938 stock, but no discrimination made between such trains in timetable.

Experimental operation of Epping-Ongar shuttle in off peaks, by reversing in platform 2 (eastbound) at Epping, requiring some connecting 'main line' trains having to reverse beyond the station via Epping east siding. This experiment was to eliminate the crossing of the footbridge by passengers transferring between services at Epping.

WTT No.24A - 12.5.1963 (Sun)

Extension of all trains to Epping, giving a 12-minute service instead of 24 minutes. Epping-Ongar shuttle therefore increased to 36 minutes instead of 48 minutes.

WTT No.25 - 8.7.1963

Elimination of all 1½ minute intervals in peaks, and thus standardised at 2-minute intervals. Reduction in extra peak running times by 1½ minutes (westbound morning) and 2 minutes (eastbound evening). Reversing at Newbury Park restricted to a few trains on peak 'fringes' - after morning peak and before evening peak. Maximum stock unchanged at 79 MF and 52 SO.

Abolition of experimental off-peak working at Epping!

WTT No.26 - 14.10.1963

Transfer of two trains from Ruislip depot to Loughton, where two new sidings had been constructed, giving slightly reduced service eastbound prior to morning peak and after evening peak.

Saturday peaks reduced by one train to 51.

Sunday morning service intervals reduced before 10.00 to 15/7½, 45 Epping-Ongar, 30 Hainault-Woodford, saving one train on the latter service.

WTT No.27 - 12.10.1964

Introduction of 24-hour clock timings. Reduction in 'main line' trains from 79 to 77 MF (two less from Ruislip depot) and 51 to 48 SO. All off-peak trains MF and SO extended from Debden to Epping, giving a 12-minute service (MF, and SO after 20.00), or 10-minutes (SO until 20.00), with correspondingly increased Epping-Ongar branch (36 minutes MF and SO after 20.00 - no change SO before 20.00).

Revision to operation of school trains MF, with Northolt train diverted to Ealing. In westbound direction both trains run in normal service from Bethnal Green and likewise throughout on the eastbound (but still picking up parties at Bethnal Green and Mile End). Utilising these two trains in service through the central area thus enabled a 2½-minute service to be worked for a half hour period in each direction.

Saturday peak services in both directions mostly at 3-3½ minute intervals. Western branches unchanged at 10 minutes, but eastern branches 6½-7 minutes, 6½-13 Epping (two trains every 20 minutes).

WTT No.28 - 11.10.1965

No major changes to services, but traffic day reduced MF and SO, with later first trains and earlier last trains. Examples of changes as follows:

FIRST TRAINS

From West Ruislip

WTT 27 WTT 28

05.10 05.28

FIRST TRAINS (Continued)	WTT 27	WTT 28
Ealing-Hainault	05.13	05.34
Eastbound from White City	05.10	05.24
From Epping	05.31	05.46
From Debden	05.15	05.15*
From Hainault	05.23	05.26
From Leytonstone	05.31	05.31*
Hainault-Woodford	05.44	06.03

LAST TRAINS

From West Ruislip to Epping	23.41	23.06
From West Ruislip to Debden	23.41	23.26
From Ealing to Hainault	23.50	23.30
From Ealing to Newbury Park	00.02	23.50
Eastbound from White City	00.13	00.01
Westbound Epping-London	23.43	23.28
Westbound Debden-Woodford	00.38	00.29
Westbound from Hainault	23.59	23.50
Westbound from Leytonstone	00.15	00.06
Woodford-Hainault	00.33	00.01

Note * No change

WTT No.29 - 17.10.1966

Last train to Newbury Park MF and SO extended in passenger service to Hainault. No stabling at Newbury Park between peaks (or at any other time). Revision to Saturday afternoon and evening pattern: 15 minutes branches, 5 minutes central area extended to Leytonstone, with the introduction of reversing east to west for the first time at that point. Hainault-Woodford increased to 15 minutes, but no change to trains in service (achieved by reducing layover times). Epping-Ongar also reduced to 45, connecting into and from every third main line train at Epping.

WTT No.30 - 16.10.1967

Revision to MF midday off-peak, reduced to 15 minutes branches (30 Hainault-Woodford with one train instead of two, 45 Epping-Ongar). However, central area service increased from 3 minutes to 2½. In a half-hour period, therefore, service comprises: 2 Epping-West Ruislip, 2 Hainault-Ealing, 2 White City-Leytonstone, 3 White City-Liverpool Street and 3 Marble Arch-Liverpool Street. Westbound school party trains withdrawn, but one eastbound continues to operate. Evening MF off-peak reduced to 15/5 as SO afternoon and evening. On Thursday evenings, however, central area service increased to 3½-4 minutes with Leytonstone reversers extended to Woodford and other additional trains extended to Hainault. Normal MF service resumed on Thursday evening from 20.45. In consequence of the different service pattern on Thursdays, last trains on this night bear different set numbers from those on Monday-Wednesday and Friday.

Sunday branches reduced to 15 minutes all day, with Leytonstone reversers from 10.30. Hainault-Woodford also 15 from 10.30.

WTT No.31 - 14.10.1968

Restoration of 12/6/3 minute service pattern MF midday off-peak. Additional passenger workings of main line trains between Grange Hill and Woodford before morning peak and after evening peak, instead of running empty.

Last eastbound train to Debden MF and SO extended to Epping.

To be continued.

ROLLING STOCK ALTERATIONS

January, 1986

With the transfer of rolling stock overhauls from Acton Works to depots, the opportunity has been taken to revise the presentation of this

column, so that all items referring to a particular type of stock is dealt with under one heading.

1938 Tube Stock:

From Ruislip to Booths, Rotherham, by road for scrap -

10162 11162 12139 012367 17th

1959 Tube Stock:

Overhauled at Golders Green depot -

1158-2158-1159 30th

1967 Tube Stock:

From Northumberland Park to Acton Works, for 18-Year Overhaul -

3020-4020-4120-3120 7th

1972 Tube Stock:

From Neasden to Acton Works, for OPO experiments -

3456-4556-3556 16th

From Neasden to Golders Green for Overhaul -

3251-4251-4351-3351+3451-4551-3551 21st

From Golders Green to Neasden, transferred Northern to Jubilee (temporary transfer, to cover for overhauls) -

3245-4245-4345-3345 23rd

Changes to Unit Formations -

From 3520-4520-3420

From 3545-4545-3445

To 3520-4545-3445 (collision damage on 3420 and 3545, 4520 spare).

Note: This is the first-ever unit to comprise both MkI and MkII 1972 stock.

A60/62 Stock:

O.P.O. Conversions -

Unit	End	Neasden-Acton	Neasden-Ruislip
5152	D	9. 1.86	-
5192*	D	14. 1.86	-
5050	A	15. 1.86	-
5052	A	17. 1.86	-
5064	A/D	-	23. 1.86
5006	A	23. 1.86	-
5144	D	24. 1.86	-
5054*	A	27. 1.86	-
5068	A	30. 1.86	-

Unit	End	Ruislip-Acton	Acton-Neasden	In Service
5228*	D	-	8. 1.86	9. 1.86
5088	A/D	-	9. 1.86	9. 1.86
5210	D	-	13. 1.86	14. 1.86
5010*	A	-	14. 1.86	15. 1.86
5004*	A	-	23. 1.86	27. 1.86
5126	A	-	29. 1.86	29. 1.86
5056	A/D	23. 1.86	30. 1.86	30. 1.86
5198	D	-	30. 1.86	-
5100	A/D	16. 1.86	31. 1.86	-
5106	A/D	30. 1.86	-	-

Note * Includes half-life overhaul.

Service Locomotives:

L30 Lillie Bridge to Acton ('D' buckeye mod., 'A' end already done) 10th

L46 Lillie Bridge to Acton ('D' buckeye mod., 'A' end already done) 28th

L5½ Acton to Lillie Bridge (overhaul, yellow livery, 'A' & 'D' end buckeye mod.) 28th

Miscellaneous Vehicles:

Scrapped at Cockfosters depot by London Underground Ltd. -

Jib Carrier JC688 11th

POWER SWITCH

Power for the Underground will be supplied by the London Electricity Board from 1990, saving millions of pounds of investment and running costs. The green light has been given by the Government for the scheme to transfer power supply London Underground's Greenwich and Lots Road power stations. Supplies would come from new bulk supply points at Lots Road (Chelsea), and Aldgate and these, together with an existing bulk supply point at Neasden, will provide all the necessary power to operate trains on the Underground. New equipment will cost between £40m and £50m, much less than it would cost to renew the generating equipment at the Underground's existing power stations.

Power from the National Grid is cheaper too. Depending on the price of fuel, London Underground will save between £70m and £190m over the next quarter of a century by switching power supply and not having to re-equip Lots Road and Greenwich. The new system will derive the full benefit of the modern power supply arrangements of the CEGB with greatly improved reliability. However a limited emergency generating capability will be retained to cover the unlikely event of a total power failure affecting all of south-east England, ventilation and lifts and escalators to evacuate passengers safely from trains in tunnels.

WORK STARTS ON NEW TUBE TICKETING SYSTEM

Work began recently on the Underground's £135m ticket system. Rickmansworth is the first of some 250 stations where work is necessary for the computer-controlled system which will improve services to passengers and cut both frauds and costs. A temporary ticket office is being installed while the stations ticket hall is rebuilt. The new ticket machines will be fitted from 1987, to speed up ticket issue, reduce queuing and improve staff security and accounting facilities. The whole system is due for completion in about three years.

Automatic ticket-checking gates will be introduced for entry and exit at busy central stations, but suburban stations, including Rickmansworth, will have no routine ticket inspections. Instead, more spot checks will be made on trains and elsewhere by additional mobile staff, and a high penalty charge will be imposed on passengers without valid tickets. Many ticket halls will be more spacious, with self-service ticket machines mounted on walls to avoid clutter and to allow servicing from the rear.

Special steps are being taken to keep passengers and neighbours informed of building works at stations. "With major programmes of station modernisation and lift and escalator renewal already in hand, this means we are asking our passengers to put up with even more inconvenience", says London Underground's Chairman and Managing Director, Dr Tony Ridley. "But after a few years of fairly intensive activity, we will have a much more attractive, efficient and up-to-date Underground."

NEW TICKET MACHINES

Improved versions of two types of passenger operated ticket machines tested at Vauxhall in 1983 will form the basis of the new system. All but the quietest stations will have at least one machine which will issue any of the ten most popular tickets from that station. These machines will be quick and easy for passengers who know the fare. Another machine will issue a complete range of day tickets to all stations. Both machines will accept a wide range of currency and will give change.

Booking clerks will have new machines for ticket issuing. These machines will "read" the magnetic codes on tickets in case of queries. Most of the Underground's existing ticket issuing machinery is almost obsolete, and modernisation, even without the many benefits of the new system, would cost nearly £50 million. All tickets issued from the new machines will be credit card size. The whole system will be monitored by computers and is designed to be fully compatible with British Rail. The new ticket machines will allow a system of individual accountability for the booking clerks instead of the present system of group accountability.

IMPROVED TICKET OFFICES

New self-service machines will be wall mounted so that they can be serviced from the rear. Ticket offices in the centre of booking halls will be replaced by wall offices. This involves a large amount of building work at many stations and will account for a large proportion of the cost of the scheme. At some stations, it will be necessary to close or move shops and kiosks to provide the necessary space.

AUTOMATED TICKET CHECKING

Checking Magnetically-coded tickets in electronic gates is more effective than manual methods and will bring the biggest reduction in fraud. Modern gates are quick and efficient, but less mobile passengers, or those with heavy luggage, will be able to use a wide gate controlled from the booking office. This is particularly important in view of the need to make transport as accessible as possible for all passengers, including those with disabilities.

"OPEN" STATIONS AND PENALTY FARES

Electronic gates are expensive, however, and their cost in relation to the number of passengers at some outer stations would be high. Recent legislation for penalty fares makes it possible to transfer much of ticket-checking to the trains, with a greatly increased force of mobile ticket checking staff but no regular barrier staff. Passengers will have to have a valid ticket or other authority to travel before starting their journeys. Any passengers without a valid ticket will have to pay a penalty fare. The level for such a fare was set, in the London Regional Transport Act, at £5 or ten times the normal fare, whichever is Greater, but the Secretary of State has power to vary this. No date has yet been set for the introduction of the penalty fares.

Open stations would be impractical in central areas because many journeys are short and on train checking would be impossible in rush hours. The new system therefore has automatic checking at central stations and on-train or random checks with open stations outside central London. About 40% of Underground journeys are wholly within the central zone

and another 40% start or finish in this zone, so 80% of the journeys would be automatically checked either on entry to the system or on exit. The open station concept represents a major change for London's Underground, but it is common in much-envied Continental systems and is used by British Rail.

STAFFING

The new system will reduce staffing requirements at stations on a progressive basis over several years, and this will be achieved by natural wastage and, possibly, a limited amount of voluntary retirement. Although there will be fewer staff in ticket halls, additional mobile staff will be needed for ticket checking, increasing staff "presence" on and around the system.

FROM THE PAPERS

DAILY TELEGRAPH

4.12.85 The glass in the roof of Cannon Street (B.R.) station's train shed was removed to a warehouse in the country during the second World War. However, the warehouse received a direct hit from a random bomb, whilst the station was never hit by a bomb. New glass was installed after the war, but was removed in 1958 when the roof structure could not sustain the weight.

6.12.85 The Commons all party Transport Committee has recommended that the Government should select a rail-only twin tunnel (Channel Tunnel Group).

Following a 50p. toll on taxis at Heathrow for using a feeder park taxi drivers have boycotted the airport, the Airport, and LRT has had a 20% increase in passengers from Heathrow.

Tourists can now visit the tunnels beneath Peking free of charge, but must obtain permission from the tourist agency. The tunnel networks run for two miles under the street. One is 26 feet below the street, the other 49 feet. The first aid section has been converted into basic hotel accommodation for out-of-town relatives and friends of local employees

9.12.85 From 6th January, express coaches will be able to carry passengers for a minimum of 15 miles instead of 30 miles. There are no "volume of service" restrictions on such operations.

12.12.85 Further grants of £375,000 have been made for the restoration of the old 1840 GWR terminus at Bristol Temple Meads, making a total of nearly £1 million.

17.12.85 LRT will receive £28 million less in subsidy next year. The new figure of £295 million is made up of £193.6 million from the ratepayers and £101.4 million from the taxpayers. The precept on ratepayers will be 9.79p. in the next year, compared with 10.8p this year. The total subsidy is down by 17% on last year, or 26% on 1983. Train mileage will rise 3% next year, with increased services on the Piccadilly, District and Metropolitan. Modernisation of 140 stations will continue, at a cost of £85 million, and about £130 will be spent on new high speed ticket machines. Staff will be cut by a further 4%. 60% of Underground trips are now made by holders of some kind of pass.

18.12.85 When the £135 million Underground ticketing system is complete, passengers without tickets will be liable for on-the-spot fines of up to ten times the fare evaded.

21.12.85 Out of the latest batch of 12 bus services for which LRT invited tenders, London Buses retained only three (79A, 125, 179).

The taxi boycott of Heathrow is continuing, and the drivers association is seeking a judicial review in the High Court of the new charge of 50p. for using the feeder park. The cab fare to London is usually about £18; mini-cab drivers have been known to charge up to £97.

23.12.85 A committee set up by the Royal Horticultural Society recommends that, owing to overcrowding, the site of the annual Chelsea Flower Show should be moved from the Royal Hospital Grounds to either Osterley Park or to the Society's own garden at Wisley, Surrey. Closure of the old Horticultural Hall in Westminster is also recommended.

24.12.85 The Government yesterday invited merchant banks to apply to become its advisers on plans to sell the £77 million Docklands Light Railway to the consortium wanting to spend £1.5 billion on a centre for city services at Canary Wharf, Isle of Dogs.

Nicholas Murray, the singing booking clerk at West Ruislip station is about to leave the London Underground to join the Hamburg Opera Choir.

Police claim to have smashed a gang which attempted a £20 million fraud on LT and BR by selling season tickets stolen from printers.

27.12.85 A Christmas Day fire at Southall bus garage damaged 19 buses and caused damage estimated at £300,000.

The chosen scheme for the Channel fixed link will be announced at a Thatcher/Mitterand meeting in Lille on 20th January.

James Sherwood, the American millionaire, proposes to reintroduce night ferry sleeping cars between England and Paris. Rolling stock would be either BR sleeping cars enlarged with private bathrooms, or continental sleepers that would not run west of Dover.

From 1st. February 1986, 1,000 posters with poems about city life will be posted on the London Underground and changed regularly. 30 poets have been featured.

28.12.85 An advertisement in the Majorca Daily Bulletin, with a new bus timetable, says "N.B. The 8 a.m. bus which leaves Pto Andraitx for Santa Ponsa often leaves at 7.45 a.m. in spite of official time."

30.12.85 When through BR services between the North West and the South Coast are strengthened next May, BR will encourage motorists to park at Kensington Olympia and take the train from there. 450 parking spaces will be provided, but local residents fear that the approach roads will be inadequate. It will be possible to travel to Kensington from Brouley South, East Croydon and Watford Junction.

The most recent performance of Mr. Nicholas Murray, the ticket office clerk, who is joining Hamburg Opera Choir on Monday, was with the LT Choral Society at its carol service at St. Martins-in-the-Fields.

BOOK REVIEW

LONDON TRANSPORT AND THE POLITICIANS, by Paul E. Garbutt. Published by Ian Allan Ltd., Shepperton, Surrey. 1985 Price £8.95. 128 pages; index. Numerous photographs and diagrams in the text. Size A.5. (148 x 210 mm.) Thin card covers. ISBN 0.7110-1478-7

"He who pays the piper calls the tune"; this book spells out the history of politicians influence on London Transport from 1965, when changing conditions forced it to abandon the long held policy of balancing its books and to seek a Government subsidy, to 1985, when the profound changes stemming from the London Regional Transport Act 1984 were beginning to work through the system. What a host of ghosts from the past strut across the transport stage for a brief spell, then retire to the less demanding occupations! Who remembers Stephen Swingle, Tom Fraser, Richard Marsh, Harold Mote, Keith Robinson? As Ian Phillips pointed out in 1983, British transport since 1968 had enjoyed the attention of nine Transport Ministers, six L.T. Chairmen, and a dozen acts of parliament on financing public transport.

The story of the never-ending changes of policy and organisation is conscientiously recorded, from the White Papers of the late 1960's, which led to control by the GLC, via the honeymoon period of 1972/3 to a labour fares-freeze which was put right by increases of 68% in one year, then through the ever worsening relations with the Conservative GLC (with the Chapman-"axeman" saga and the sacking of Ralph Bennett) to the fares fiascos of recent years and the seizure of control by the Government in 1984.

There are no startling revelations (not that any should be expected from a responsible former officer of London Transport) but it is useful to have all the published information assembled together. It is salutary to recall that the present chairman, Dr. Keith Bright, nearly "lost his head" in the dying days of GLC control, but hung on by some clever footwork.

The text is enlivened with some amusing anecdotes, such as the rumour that the British Airports Authority, annoyed that LT had been given the Heathrow connection and not BR, insisted that the load of earth excavated in the "start of work" ceremony in 1971 should be replaced in the same hole within half an hour of the end of the ceremony.

Your reviewer has had the advantage of reading others reviews, with their unanimous comment that the author does not attribute to LT's managers a fair share of the blame for the fiascos of the last two decades, even though their freedom of action was constrained by external factors. On the bus side, these included the early disposal of virtually two whole fleets of one-man buses, the ticket machine muddle, and inaction on known inefficiency at Chiswick and Aldenham. On the rail side, the repeated changes of plan for automatic fare collection, a decade of delay in introducing one-person operation on the Circle and Hammersmith & City lines, and delay in reorganising Acton Works to take advantage of the far longer lives of modern rolling stock. This omission can, perhaps be excused by regarding the work more as a record of facts than a judgement of his former colleagues, but it is surprising that there is no mention of some distinctly political interferences - the circumstances in which the two batches of 1972 tube stock were ordered, the renaming of the Fleet Line as the "Jubilee", and the declaration that the GLC would extend

the Jubilee Line beyond Charing Cross by "going it alone".

There is a good selection of photographs of the major characters in the drama, opening ceremonies (including a fine one of Westbourne Park Garage, where the distinguished guests are clearly bored stiff by David Wetzel's speech), aerial views of Acton and Chiswick Works, traffic diagrams and maps.

These points for reflection - what might have happened if Leslie Chapman had not been so han-fisted in his criticisms of London Transport's efficiency (or lack of it) and if the AMOS mini-bus application had been more thoroughly prepared? And (page 58) "the quality of management was probably no better then (the 1930's and the 1950's) than it is now".

DFC

Underground News is printed and published by the London Underground Railway Society. Correspondence for this journal should be addressed to the Editor, Underground News, 116 Kinghill, Brandon Street, London, SE17 1UR. When writing to any Society Officer, please quote your membership number on all communications, including applications for visits. Members requiring a reply to their correspondence are asked to enclose a stamped addressed envelope.

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