

UNDERGROUND NEWS

ISSN 0306 - 8617

NUMBER 246

JUNE 1982

THE TIMETABLE

Sunday 6 June

At the London Transport Museum, Covent Garden, 10.00 to 18.00: A sale of bus and railway memorabilia, special display of old and new buses, cinema bus and vintage bus rides, in addition to the usual attractions of the Museum. It is hoped that the Society will have a Sales Stand at this event. Normal admission charges apply.

Sunday 6 June

Library Evening, 18.30. The Society's Library open for inspection at 9A Dunrobin Court, 389 Finchley Road, London, NW3 6HE.

Friday 11 June

Members' Slide Show - see front cover of UN 245 for further details. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

Saturday 12 June

Morning visit to Lillie Bridge depot. For details see front cover of UN 245.

Wednesday 7 July

Library Evening, 18.30. Other details as for 6 June.

Friday 9 July

Talk, 'The Fully Automatic Controlled Train on the Underground', by Mr. R.A. Grant. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

Saturday 10 July

Morning Study Tour from Golders Green to Edgware, Northern Line, led by Mr. A.A. Jackson. This tour involves alighting at most stations and passing through the barrier to view the station exterior, so that ordinary tickets (which do not allow break of journey) are not suitable. L.T. are prepared to issue a special ticket for a party allowing break of journey at normal fare but as they must know the exact size of the party in advance, no refunds can be made to any members who have booked but do not attend. It is planned for the tour to include walks between two pairs of stations but one of these walks may be replaced by a train ride if the weather is bad. All intending participants please send SAE to Edgware Line Tour Organiser, 6 Launceston Gardens, Perivale, Greenford, Middlesex, UB6 7ET for further details. Those not in possession of a pass or season ticket available over this section of line

(continued over)

UNDERGROUND NEWS IS PUBLISHED & PRINTED BY THE LONDON UNDERGROUND RAILWAY SOCIETY. CORRESPONDENCE SHOULD BE ADDRESSED TO THE EDITOR WHOSE ADDRESS APPEARS INSIDE. MEMBERS ARE ASKED TO ENCLOSE A STAMPED ADDRESSED ENVELOPE IF A REPLY IS REQUIRED. OPINIONS EXPRESSED ARE THOSE OF CONTRIBUTORS AND NOT NECESSARILY ENDORSED BY T.L.U.R.S.

© THE CONTENTS ARE COPYRIGHT.

The Timetable (Continued)

should enclose a remittance of 80p adult, 20p child (ordinary), or 20p adult, 10p child (privilege). Please pay in stamps for the 10p and 20p tickets and by cheque or postal order payable to the 'London Underground Railway Society' for the 80p ticket(s). Those wishing to pay at privilege rate must quote the Identity Card number; all applicants please write their names in block letters and send applications to arrive NOT LATER than 26 June 1982.

Friday 13 August

Talk, 'The Work of the London Transport Architect's Department'. 19.00 for 19.15 in the Tudor Room, Caxton Hall.

APRIL CAXTON HALL MEETING

The Society's April 1982 meeting at Caxton Hall was a talk, supplemented by slides, 'Service Experience with D Stock', given by Mr. G.H. Hafter, O.B.E., Director of Mechanical Engineering, L.T. Railways.

Mr. Hafter started the evening by suggesting that the D stock was perhaps London Transport's best-looking train; despite the flat sides, the design was neat and clean, and the passenger doors were evenly spaced. The revised door arrangements on the new trains has shown that passenger boarding and alighting times had been maintained to within a second or two, compared to trains of R stock, even with the passenger open facility. Mr. Hafter also pointed out that the D stock train was only about 100 mm narrower than LT's widest train (the A stock on the Metropolitan main line), but was still wider than B.R's trains built to a C.I. loading gauge.

The successes of the new trains were then outlined. Mr. Hafter said that the problems encountered with the 1973 tube stock, having similar electrical and braking equipment, have mostly been avoided, as have many problems with the fault-finding Train Equipment Panels (T.E.P's). The success of these has been in the lack of indications they provide under normal running conditions, in marked contrast to the 1973 tube stock, which give both 'normal' and 'fault' indications. The D stock trains were now one of London Transport's more reliable stocks, with a present failure rate of 6%. This compares to 12% when the trains first entered service, and is still far less than the present 1973 tube stock failure rate.

The suspension arrangements of D stock trains was then seen, in the form of pairs of rubber cones, having no metal-to-metal contact, and far superior to the rubber sandwiches of the 1967/72/73 stocks. Mr. Hafter stated that air bags had been considered and experimented with, but opting for rubber cones had saved £3 million, with still a very acceptable train ride being given.

Another factor contributing to the success of the D stock was that the stock was able to be fully electrically tested at the Metro-Cammell works before delivery to Ruislip depot. A special building was constructed in 1979 (see NF 2531, page 339, UN 216) on the site of disused sidings, and when this was completed it became possible to test train motor generators, compressors, T.E.P's, etc. For the first time ever, trains were planned to arrive at Ruislip from Metro-Cammell as good as ready for service, with only the current collector shoes needing to be fitted. In practice, there were usually a number of minor adjustments or modifications to be dealt with, but the work was very small.

Attention then turned to some of the problems encountered with the new trains. It was seen that the solid buffers do not touch between the cars, and one of the early problems was with that of coupling at the driving ends. There being no buffers to take the shock of coupling and because of the full 90 lbs/sq in pressure behind the wedge engines, more force than normal was required to couple trains, the net result being that the side frame of the automatic coupler became torn away. Thus, the couplers had to be sent back to the manufacturer for modification with stronger side frames. Fortunately, this was found out at an early stage, affecting only a few units, and the bulk of the modifications were able to be made to the rest of the fleet before delivery.

The green coloured doors-closed visual, illuminating when all passenger doors are closed, had to be modified to yellow with domed glass, as the former proved difficult to see in bright sunlight conditions. There were also problems with some of the door

relays, which was highlighted on the very first train in passenger service (see UN 219, page 88). This was solved initially by careful adjustment of all the relay contacts to avoid an overlap, and permanently by adding an extra relay on every car.

Mr. Hafter then outlined the development of the train driver's seat - from the crude swinging perch on Pre-1938 tube stock to the sophisticated adjustable seat of D stock. Whilst recognised as a great advance in driver comfort, the seats have had to be modified by raising them two inches on a plinth, and moving them back slightly towards the rear cab wall. This solved the problem of the seat nearly always being on the highest position, which weakened the spindle, and now allows the driver to drive his train in the standing position. A further modification under consideration at the moment is the replacement of the perforated leather covering with moquette and a still stronger main spindle and socket.

Perhaps the biggest criticism of the D stock from both the public and staff, has been with the ventilation - a story that starts not with the D stock, but right back to the beginning of Underground railways. Mr. Hafter explained that while the interiors of the new trains get uncomfortably hot, this was not dangerous. London Transport had consulted British Aerospace, among others, on this problem, and as a temporary measure 'P.O.G.O.' switches were currently being installed. This stands for 'Passenger Open, Guard's Open' and during the summer months, probably from mid-June 1982, all D stock passenger doors will be opened by the guard. Experiments were continuing in trying to get the ventilation right, with trials being conducted on a 1973 tube stock car, having seven fans along the car ceiling. It is hoped, Mr. Hafter said, that the first D stock car to have a better system of ventilation would be completed at Metro-Cammell's within about two months.

Mr. Hafter then invited questions and comments from the audience. Among the points raised was the problem of noise generated by car lighting. Mr. Hafter explained that the contract for car lighting was shared by G.E.C. and Phillips, but one component of the latter's system had a noise level far from acceptable. The problem was solved temporarily by removing four G.E.C. lighting ballasts from each G.E.C. car and inserting some of them on cars fitted with Phillips ballasts, mixing the two, giving each car with four fluorescent lighting tubes out. This problem had now been solved, with only a handful of D stock cars outstanding to be returned to normal lighting standards.

The criticism of only one set of transverse seats per car, Mr. Hafter said, could be looked at in two ways. It was accepted that most passengers preferred to sit forwards, and to a lesser extent backwards, rather than to travel sideways. But with mostly transverse seats (as on C stock) standing passengers tended to crowd the doorway area rather than to move along the car. Transverse seats were more difficult to get into and out of, but they increased the number of seats in a car. As usual, the final solution was a compromise.

The evening concluded with a resounding vote of thanks to Mr. Hafter for such an enlightening, entertaining and informative evening.

SOLE NOTES ON CAR NUMBERING

by Piers Connor

As a result of a query from a member, I have compiled some notes on rolling stock numbering which may, as the member in question said, initiate the uninitiated. These notes are really designed to give a broad outline on how the LT railway car numbering system developed, so no complete lists are quoted here. Those interested in more details should, need I say, purchase a copy of 'London Underground Rolling Stock' by Brian Hardy.

Back in 1930, the Underground 'group', who owned all the underground lines of what became the London Transport system, except the Metropolitan, devised a new numbering system for all its rail vehicles to replace the existing system where each line numbered its stock upwards from 1. The new system was based on a four-figure number for each group of cars and numbers below 1000 for service and non-standard vehicles, with a prefix (in the case of service vehicles) to indicate what the vehicle was used for. The first vehicles dealt with under the scheme were the service vehicles and this was the first time that the 'L' letter appeared on Underground locomotives in front of the number.

The passenger cars were allocated blocks of 4-figure numbers as follows:

- 1000s: Wooden bodied District trailers and control trailers
- 3000s: Tube motor cars
- 4000s: Steel bodied District motor cars
- 5000s: Tube control trailers
- 7000s: Tube trailers
- 8000s: Steel bodied District trailer cars

The only deviation from the scheme was on the District where 37 wooden bodied motor cars with a short life expectancy were given the numbers 1-37. They were soon to disappear, so they did not disrupt the main scheme.

Cars carrying the new numbers began to appear during 1932 and, a year later, the London Passenger Transport Board took over the Underground group and the Metropolitan and it continued renumbering cars under the scheme already begun. The Metropolitan cars were incorporated using the vacant 4-figure blocks thus: 2000s for motor cars, 6000s for driving trailers (the Metropolitan preferred the term 'driving trailer', while the Underground group always referred to them as 'control trailers'), and 9000s for trailers. Locomotive hauled coaches retained their original 3-figure numbers.

The wholehearted acceptance of the Underground numbering scheme by London Transport led to it being regarded as an LT idea. That this is not so is confirmed by the records showing renumbering during 1932 and by the date of the instruction to renumber the service vehicles - July 1931.

When new cars were ordered under the 1935-40 New Works Programme, 5-figure numbers had to be used, not only to avoid duplication with existing cars but also to provide a clear distinction between old and new cars as they were so very different technically. The numbers were allocated as follows:

- 10000s: 'A' Driving motor cars of tube stock
- 11000s: 'D' Driving motor cars of tube stock
- 12000s: Non-driving motor cars of tube stock
- 012000s: Tube Stock trailer cars
- 13000s: 'A' driving motor cars of surface stock
- 013000s: Surface stock trailers capable of conversion to 'A' driving motors
- 14000s: 'D' driving motor cars of surface stock
- 014000s: Surface stock trailers capable of conversion to 'D' driving motors

The uninitiated but enthusiast reader will, of course, recognise most of the above numbers as belonging to the 1930 Tube and O/P stocks. He will also recognise 'A' and 'D' cars, as reference is often made to them when dealing with LT rolling stock, but the reason for this lettering is not always appreciated.

The letters 'A' and 'D' indicate the direction in which cars face, or should normally face, and refer to the end of a driving car where the cab is located. An 'A' car therefore has its cab at the 'A' end and a 'D' car has its cab at the 'D' end. But, you may ask, why use the letters 'A' and 'D'; why not 'A' and 'B'?

Originally, driving cars were lettered 'A' or 'D' according to direction but, in March 1937, a new identification system was introduced which lettered the four axles under each car A, B, C and D. The outer axle at one end of the car thus became the 'A' axle and that at the other end became the 'D' axle. The car ends were then lettered 'A' and 'D' to match and, as all cars were lettered in the same way, a train was therefore made up with a cab at the 'A' end of the driving car at one end and the cab at the 'D' end of the car at the other end. All the intermediate cars were coupled in the same way so that normally the 'A' end of each car was coupled to the 'D' end of the next car.

Another question which will arise in the mind of the inquisitive is why bother to involve car ends and the position of the cab in this direction-facing business? Why do we have to bother which way round the car faces? After all, they don't bother with all this on main line railways. The answer is largely because of the restrictions imposed, both in law and size, on the tube railways.

Because of the insistence by the Board of Trade (now the Ministry of Transport) that a free passage be provided for passengers to pass between cars and because of the low floor height of tube cars, it was necessary for all the Pre-1938 stocks to have their two air hoses at each end of every car connected on either side of the end gangway. If a car became turned the only way to couple the hoses to other cars was by use of extensions connected across the gangway. This would cause an obstruction quite unacceptable on a

service train, so all cars in a train had to face the same way round.

The problem of cars becoming turned first arose on the Central London when the terminal Loop was opened at Wood Lane in 1903 and then later on the Hampstead Line when the Charing Cross loop was opened in 1914. This latter loop was replaced by a loop at Kennington in 1926. Both lines adopted 'A' and 'B' lettering, although the way it was used on the two lines differed slightly.

On the District before 1928, problems with which way round the cars faced did not arise, even though trains regularly became turned as a result of Circle working. This was because the air hoses were connected under the coupler and the electrical connections were duplicated on either side of the headstock. After 1928, cars began to be modernised and the expense of maintaining dual electrical connections was abandoned in favour of single connections on one side or the other of the headstock. At the same time air hoses were removed to waist level like on the tube cars. Cars were now 'handed' and all cars in a train had to face right way round in order to couple. The District, so as not to confuse the stock type lettering system they had recently introduced, did not accept the 'A' and 'B' system of lettering used on the tube lines. Instead, cars were referred to as 'eastbound' or 'westbound' according to which way the cab faced and all cars had an east end or a west end. Later, under LT ownership, the 'A' and 'D' lettering system was adopted.

The Metropolitan had a hotch-potch of cars, some of which were handed and some which were not, and it used no system of identification on the cars except for stock type letters marked on the car ends. Much careful work was needed when marshalling trains because of the diversity of equipment used and the coupling variations. The situation was only regularised when London Transport took over and much of the older stock was scrapped.

Once the principle of 'handing' was established it was incorporated into the numbering system so that when the 4-figure scheme was introduced by the Underground group in the early 1930s, cars with the cab at the 'A' end were given even numbers and cars with the cab at the 'D' end got odd numbers. When the 5-figure system was introduced this idea was modified so that, for example, 1938 tube stock 'A' motor cars were given 10,000 numbers and 'D' motors 11,000 numbers.

The use of the 'A' and 'D' notation had to be kept for the new stock introduced by LT in 1937-41 even though coupling was now by automatic couplers at the ends of units. This was because the electrical connections were located on either side of the coupler face and if a car or unit became reversed, the coupler connections became incorrect. As cars were allocated to a unit on a semi-permanent basis by this time, the turning of individual cars became a rare event. Even so, they still had to be coupled the right way round, i.e. 'A' end to 'D' end throughout the unit.

It might be worth mentioning at this point that each car was also allocated side numbers when the 'A' and 'D' system was introduced in 1937. One side was No.1, the other No.2. These numbers can be seen on guard's door control panels. They can also be seen on the solebars of newly overhauled cars with the axle letters thus: A1, B1, C1, D1 down No.1 side of the car to identify individual wheels.

With the 1937 system an orientation system was evolved so that 'A' ends faced north or west and 'D' ends south or east according to the line in question. This had already been common practice on all lines except the Metropolitan and Central, and was now standardised throughout the system, and is still the same today.

To return to car numbering, which we had left with the delivery of the 1938 tube and O/P stocks and their 5-figure system which had used the blocks between 10000s and 14000s, the next number to appear on an Underground car was 17000. This number was applied to the experimental car built in 1945 to test ideas for the new Metropolitan Amersham extension stock, and its use at this time suggests that there was already a plan to use the numbers in the 15000 and 16000 series.

Although no written evidence has survived to indicate the intended use of the 15000 and 16000 series of numbers, there are some clues which might help the more observant researcher. To begin with, the number 17000 first appears in writing in mid-1945 as the number allocated to the experimental car. At that time the only definite plans for new stock affected the District, which was to replace its hand-worked door stock with new stock - later known as the R stock - and it is reasonable therefore, to assume that the vacant numbers were meant for it.

After car 17000 had done some experimental running in 1946 it was altered internally and renumbered 17001 and was joined by another car, No. 20000. Again, this car was experimental and was used to try the door and seating arrangements which might be used on the new Amersham stock and again its number was chosen after leaving a gap of two number blocks, in this case 18000 and 19000. As before, plans for new stock seem to suggest that these numbers may have been reserved this time for the Piccadilly Line replacement stock, later called the 1952 Tube stock.

In spite of the possibility that the District's R stock was originally to have been numbered in the 15000 and 16000 series, when it actually arrived it was numbered in the 21, 22 and 23000 series. It was also numbered in such a way that each car's position in the train could easily be detected. Driving cars were numbered 21000 (westbound or 'A' cars), or 22000 (eastbound or 'D' cars) while non-driving motors were given 23000 numbers. The third digit in each car number indicated its position in the train, from one to six. At that time the District train usually consisted of six cars, but this could be increased to eight by adding two cars to the east end. A number of additional 2-car east end sets of R stock were built to give this facility and these were identical to the 5th and 6th cars of the train. Because of this, an eight-car train of R stock looked like this numerically:

West end							East end
DM	NDM	NDM	NDM	NDM	DM	NDM	DM
211xx	- 232xx	- 233xx	- 234xx	+ 235xx	- 226xx	+ 235xx	- 226xx

Note that there were no trailers. The '+' signs indicate the position of the automatic couplers which allowed the train to be broken up at these points.

As long as this arrangement persisted it proved a useful identification system. One could, once one got used to it, see a car number, e.g. 23402, and quickly say, 'Oh yes, a No. 4 car. It has an auto-coupler at the east end and carries a motor generator, but it has no driving controls!' So far, so good, but successive years of staff shortages, increasing labour costs, falling traffic and a reduction in the number of stock varieties on the District with the withdrawal of the Q stock in 1971, led to a scheme to abandon 'uncoupling' on the District and run all 7-car trains.

Without going into the multitude of reasons for the choice of a 7-car train formation, suffice to say that it played havoc with the R stock numbering system, not to mention the equipment layout. The solution was found by altering the four-car west end portions to make them into either 5-car or 3-car portions. These were coupled to one or two 2-car east end portions as required to make up a 7-car train. The old 4+2+2 cars used to make an eight car train thus became 3+2+2 or 5+2 to give a 7-car train.

The original 4-car west end portions of R stock were altered to 3-cars under this scheme by removing the No. 2 car (232xx), or were increased to 5-cars by the addition of a No. 2 car displaced from the 3-car units. The No. 2 cars added to the 4-car units were given the suffix 'A' to provide easy identification. R stock trains now looked like this:

West end							East end
211xx	- 233xx	- 234xx	+ 235xx	- 226xx	+ 235xx	- 226xx	
or							
211xx	- 232xx	- ^{232xx} _A	- 233xx	- 234xx	+ 235xx	- 226xx	

Regular readers of this journal will notice that in the Editor's diligently prepared stock changes list there have recently been some reformatations back to the old R stock 4-car formations. This is only done to units withdrawn from service so that no 5-car units have to be hauled to Ruislip depot for sale to scrap because, when coupled to their pairs of pilot cars, they would be too tight a fit in sidings.

To retrace our steps back to the late 1940s, when the R stock was originally allocated its 20000 number series, we find another new group of numbers allocated. These were in the 30000 and 31000 range which were allotted to the Uncoupling Non-driving motors of 1949 Tube stock; 30xxx numbers for 'A' cars and 31xxx numbers for 'D' cars.

A pattern was now emerging in the use of the 5-figure number whereby the first figure indicated the type of stock instead of the first two number digits used for the 1938 tube stock. Thus the 2xxxx numbers indicated the R stock and the 3xxxx numbers the 1949 UNDM cars. The next numbers were for the Piccadilly replacement stock and these were now

to be in the 4xxx series. When the 1956 Tube stock appeared as the prototype for the Piccadilly Line it was numbered in this series.

With the prospect of large quantities of new stock for the Piccadilly, Central and Metropolitan lines, a battle was joined over which numbering system would cover these stocks and not conflict with existing cars. The battle was really over continuing with a 5-figure system or reverting to a 4-figure system. There was much to be said for using a 4-figure system, which is capable of accommodating 9,000 cars, particularly as only 4,500 cars were required on the Underground system.

This battle had been fought before in 1937 over the then proposed 5-figure numbering system and it had been lost. Now, with the 5-figure blocks rapidly being used up, particularly as the 5xxx numbers were being used to cover the conversion of the O/P stock to CO/CP stock, and the 7xxx series had gone to various Pre-1938 trailers, the 4-figure number was in the ascendant again. It won the battle this time and was to rule over the new aluminium bodied stocks to be built over the next twelve years. A summary of this system is as follows:

- 1000s: 1959/62 Tube stock driving motor cars; 'A' cars have even numbers, 'D' cars odd.
- 2000s: 1959/62 Tube stock trailer cars. These are all even numbered as they are all coupled next to the 'A' driving motor and rely on it for their electrical supplies.
- 9000s: 1959/62 Tube stock non-driving motor cars (NDMs) which all have odd numbers as they are marshalled next to the 'D' driving motor car and are electrically connected to it.
- 5000s: A60/62 and C69/77 stocks driving motor cars. The A60s are numbered in the 50xx and 51xx series and the A62s follow on without a break into the 52xx series. The C69s are numbered 55xx and 56xx while the C77 have 57xx numbers. The even numbers for 'A' cars and odd numbers for 'D' cars rule still applies but as all these stocks have duplicated electrical connections on their auto-couplers so that they can, and do, run either way round.
- 6000s: Trailer cars for the A60/62 and C69/77 group whose numbers correspond with the motor cars to which they are coupled and on whom they rely for current.
- 3000s: 1967/72 Tube stocks driving motor cars, or UNDM cars.
- 4000s: 1967/72 Tube stocks trailer cars. This group of stocks is best explained by beginning with the 1967 Tube stock, which is formed as a four-car unit thus: 'A' end 30xx-40xx-41xx-31xx 'D' end. The last two digits indicate the unit number and are therefore the same on all four cars. The motors and their adjacent trailers are electrically connected like on earlier cars. The 1972 stock was based on the same system but, as there are both 3- and 4-car units and UNDMs, some adjustments were necessary. A four-car unit is as follows: 'A' end 32xx-42xx-43xx-33xx 'D' end so it differs only in the second digit from the 1967 system. A three-car unit is thus: 'A' end 34xx-45xx-35xx 'D' end. The 34xx car is the UNDM and is therefore always coupled in the centre of the train.

One of the points raised by the correspondent who prompted this article was that trains on the Northern Line get turned round on the Kennington loop, thereby making a nonsense of any 'A' and 'D' handing arrangement. This of course, is quite true but there are ways of overcoming it. You can ensure that any train going round the loop does so at least twice, or an even number of times each day. You can ensure that any train which does get turned round during the day and finishes up 'wrong way round' is put back into service next day on a turn which has an odd number of trips round the loop. You can just make the best of a bad job and have a hotch-potch of wrong or right-way-round trains, which is what has gone on for years on the Northern Line, or you can try to overcome it by a careful arrangement of coupler wiring as has been done on the 1972 Tube stock.

On the 1972 Tube stock the four-car unit is arranged so that the three-car unit can couple to either end of it. As the UNDM car must always be in the middle of a train, this arrangement means that the three-car unit can face in either direction relative to the direction of the four-car unit. Trains in the depot which have been turned can be uncoupled and reformed with units from trains which have not been turned. The greater flexibility is a great help in providing sufficient trains for service.

The problem of the 1959 stock on the Northern Line is insoluble as long as the Kennington loop is in use. The 1962 stock on the Central Line suffers, to a much smaller degree though, from the same problem because of the Hainault loop, where trains which enter

service from Hainault depot via Grange Hill will proceed west with the 'D' end car leading. Trains which are 'wrong-way-round' in this way can easily be identified by their odd numbered motor cars facing west, or north in the case of the Northern Line.

A perusal of the above list will show that only 7xxx and 8xxx numbers were left by 1973 so, when the 1973 Tube stock numbering was proposed, 3-figure numbers were chosen because there were three types of car and only two 4-figure number blocks left. The 1973 system was based on the idea of unit numbers so that the last two digits should be the same. In the case of the single-ended units (M-T-UNDM), this was the case, e.g. 100-500-300 for 'A' units facing west or 301-501-101 for 'D' units facing east. For double-ended units (M-T-M) this was altered so that a unit might be thus: 854-654-855, the 'A' car having an even number, the 'D' car an odd number. The trailer, being connected to the 'A' motor car in more ways than to the 'D' car, carried a number to match.

A similar train formation for the D stock, a lack of spare 3-figure numbers and the shortage of 4-figure number blocks led to the idea of going back to 5-figure numbers. A new scheme evolved therefore, which combined 4- and 5-figure numbers, a combination not seen since the days of standard tube stock. Single-ended units therefore became 7xxx-17xxx-8xxx 'A' units getting even numbers, 'D' units odd numbers as usual. Double-ended units got 75xx-175xx-75xx numbers with 'A' cars having even numbers, 'D' cars odd numbers. Again, the trailer number was aligned with the 'A' driving car.

For the 1983 Tube stock which are only to consist of double-ended units, the spare 3xxx and 4xxx number series are to be used. Thus, the 'A' driving motor cars are to be in the 36xx series, trailers in the 46xx series and 'D' driving motors in the 37xx series.

UNDERGROUND TO TERMINAL 4

by David O. Hayward

Part V

The last part of this article was at page 214 of UN 237 (September 1981). In the last part I touched again on the main obstacle to the tube link; i.e. finance, and I regret to say that this part is largely devoted to the discussions as to financing the link that have since taken place.

Construction of the Terminal 4 building itself has been proceeding apace, and road signs for T4 commercial vehicle traffic have been a regular feature of the Heathrow area for some time. If you want to see the works, then I suggest you take the Piccadilly Line to Heathrow Central or Hatton Cross and take an 82 bus from either station to the other.

As to the link, various reports have appeared in London area newspapers, and I have reviewed them below:

The Middlesex Chronicle - 28.8.81: This paper mentioned that Bedfont residents were given a fresh chance to speak out on the building of T4 because of the British Airports Authority's applications for planning approval for revised plans before Hounslow council. Applications included the replacement of a multi-storey car park (long term) fronting the main A30 trunk road by surface car parking. The station 'box' for T4 will be in the other multi-storey car park.

The Middlesex Chronicle - 11.12.81: It was stated that no national funds could be made available for the funding of a T4 link. Kenneth Clarke, the Under Secretary of State for Transport was said to have restated his earlier decision, to the airport consultative committee, mentioned in part IV. This was in response to renewed pressure from the Committee, who were said to have attempted to have the government reconsider on the grounds of the effect on the nation's economy and tourism.

The committee were said to have been concerned that the link would not be ready by 1985 when T4 is scheduled to be opened, because the G.L.C. had been unable to include it in its priority bids to the Ministry.

Mr. Clarke is quoted as saying that in the Government's view, it is for the G.L.C. to decide upon the priority to be given to the project within L.T.'s investment programme, although the Government would be willing to support through the Transport Supplementary Grant of any G.L.C. contribution. The G.L.C. had included a £2 million expen-

diture bid in its transport programmes for the safeguarding of the T4 underground station box, and the ministry would be considering this as part of the Transport Supplementary Grant - eligible expenditure.

The consultative committee were to have considered the reply at its meeting of the week of publication.

The Middlesex Chronicle - 23.12.81: The consultative committee chairman, Mr. Douglas Eden, was reported as having said that the B.A.A. was not prepared to make any contribution whatsoever to the link, and unless the G.L.C. and B.A.A. could agree to share the 30% of the cost that is the balance after the 70% Government grant, the link might be in danger of being abandoned. The committee agreed to press the B.A.A. to contribute provided it had the power to make any contribution.

The Government were again reported as having confirmed to the committee that a 70% grant could be considered provided the G.L.C. have the link as high priority in its transport programme submissions. It was, they said, open for the B.A.A. to make a contribution to a service to its own passengers on its own premises.

However, the G.L.C. was reported as having left out the link proposal from its 1982/6 submissions, and unless a late amendment was made the next chance would be in the 1983/7 submissions. The airport director, Mr. Mike King, told the committee that it would not be a disaster if T4 did not have a tube link, as a rapid bus link to Hatton Cross could be provided. Mr. King was said to have indicated that the B.A.A. current view was that they would not or could not invest in the link because of the relative priorities and the huge investment in T4.

The G.L.C. Deputy Leader, Mr. Harrington, is said to have indicated that it would thus then be very difficult to convince the G.L.C. to include the proposed link in the G.L.C.'s transport programmes.

The Hounslow representative on the committee reportedly suggested that the B.A.A. should borrow money for a contribution. Hounslow residents would not like to see T4 opened because of the resultant road chaos in the borough without a tube link.

The committee's chairman then accepted the decision to ask the B.A.A. to contribute towards the stated cost of £30 million. The G.L.C. would need to find £9 million which would be less if the B.A.A. shares the contribution.

The New Standard - 7.4.82: London's evening newspaper mentioned the apparent failure of the Government and G.L.C. to connect T4 to the Underground network when T4 is completed in 1985.

The G.L.C. and Department of Transport are said to be deadlocked on the question of who should pay the £30 million required to construct the link. The report mentions that the station was to have been built in a concrete box beneath a multi-storey car park, which will be vacant, cost London ratepayers £1.6 million, and may have to be rented out as a warehouse.

T4 will, the report says, be able to handle up to 300-passenger jumbo jets, special provision being made for speedy luggage handling, although passengers leaving with luggage will have to catch a shuttle bus to Hatton Cross. As a result of the failure to build the link in time for the opening, L.T. is reported as liable to lose £1 million a year in revenue. The design work is said to have been completed, and building work able to be carried out quickly if necessary. The T4 station is to be linked by way of a subway.

The cause of the deadlock is said to be the Department of Environment's new block grant system of rate subsidies, i.e. a grant could be made but at the cost of re-assessment of the G.L.C.'s Rate Support Grant quota - the extra cost would be deducted from the Rate Supplementary Grant. The G.L.C. is said to be liable to be worse off accepting the grant from the ministry than if it did not!

The current problems are thus summarised as follows:

1. The G.L.C. thinks that national assets like Heathrow should be paid for by taxpayers and not London ratepayers, and the consequence of not having a link is more car and bus traffic on the roads.

2. The Department of the Environment says any grant would have to be included in the G.L.C.'s Rate Support Grant assessment.

3. The B.A.A. wants a tube station but it is not crucial to their plans, and they will not fund it.

4. L.T. although allegedly to benefit from more passengers as a result of the terminal, has no spare cash and relies on the G.L.C. or Government for money, and cannot be provided at the expense of other L.T. projects.

Terminal 5

Discussion as to whether T5 should be built in preference to an extension to Stansted has captured the Press attention since the date of my last part of this article.

The G.L.C. reputedly favour Stansted as the best short-term option, and believe this will scotch the T5 proposals. All local councils in the Heathrow area seem to favour Stansted, as its alternative to T5.

The B.A.A. say in the 'Star & Advertiser' local newspaper of 2 February 1982 that Stansted could be ready when needed although T5 would be at least four years too late. Because of the problem of the land being used for sewage treatment, the first part of the proposed T5 would only be ready in 1992 and the cost with road and rail links, £620 million as against £563 million for Stansted.

The report suggests that even before T5 was finished, the search would be on for further capacity - T6 ?

FARES TO SPECIFIC DESTINATIONS SINCE 1975

Single between Piccadilly Circus and:

Fares period commencing:	South Kens	Wembley Park	Chesham	Ongar	Oakwood	Horn-church	Heathrow
23.3.75	15	30	60	55	35	40	-
2.11.75	15	40	80	70	45	50	-
18.7.76	20	50	1.00	90	60	70	-
17.7.77	25	50	1.30	1.20	70	80	80
18.6.78	30	60	1.40	1.30	70	90	1.00
7.1.79	30	60	1.50	1.40	70	90	1.00
17.6.79	30	60	1.60	1.50	80	1.00	1.10
9.9.79	30	70	1.80	1.70	90	1.10	1.20
23.3.80	40	80	2.00	2.30	1.10	1.40	1.55
21.9.80	40	95	2.60	2.60	1.10	1.40	1.80
4.10.81	20	70	2.30	2.50	70	1.10	1.10
21.3.82	40	1.40	3.40	3.40	1.80	2.20	2.20

Quarterly Seasons

23.3.75	9.85	26.60	55.90	51.90	32.45	39.30	-
4.10.81	21.60	67.80	217.70	237.40	70.90	113.70	113.70
21.3.82	43.70	143.00	346.00	346.00	184.00	226.00	226.00

Variations between the various fares periods are influenced by changes in the mileage (or kilometer) basis of the fares structure, by the creation or abolition of substandard fares as well as by local adjustments to avoid anomalies.

As a further comparison, a recent 'find' at Loughton station was a fares list of fares on 26 March 1972. Selected stations only are shown to give an idea of how much fares have increased over the ten-year period.

From LOUGHTON, to:

	26.3.72	21.3.82		26.3.72	21.3.82
Aldgate East	25	1.60	Burnt Oak	40	2.80
Alperton	40	3.20	Bushey & Oxhey	60	3.70
Amersham	50	3.40	Carpenders Park	58	3.60
Archway	35	2.00	Chesham	50	3.40
Arsenal	30	2.00	Chorley Wood	50	3.40
Baker Street	35	2.40	Cockfosters	40	3.20
Blackhorse Road	35	2.40	Ealing Broadway	40	2.80
Buckhurst Hill	5	40	Eastcote	45	3.40

Alia Park	30	2.80	New Cross	25	2.00
Embankment	30	1.80	Northolt	40	3.20
Epping	15	1.20	North Weald	15	1.60
Hainault	15	80	North Wembley	49	2.90
Hammersmith	35	2.40	Notting Hill Gate	35	2.20
Hampstead	35	2.00	Ongar	20	2.00
Harlesden	44	2.80	Oxford Circus	30	2.20
Harrow-on-the-Hill	40	3.20	Perivale	40	2.80
Harrow & Wealdstone	52	3.20	Putney Bridge	35	2.40
Hatch End	55	3.50	Queens Park	35	2.40
Headstone Lane	54	3.40	Royal Oak	30	2.40
High Barnet	40	3.20	South Ealing	35	2.80
Highbury & Islington	30	2.00	Southgate	35	2.80
Holborn	30	1.80	South Kensington	30	2.20
Hounslow Central	40	3.20	Stammore	40	3.40
Hounslow West	45	3.20	Stockwell	30	2.00
Kensal Green	40	2.60	Stonebridge Park	46	2.90
Kenton	50	3.10	Surrey Docks	25	2.00
Kew Gardens	40	2.80	Theydon Bois	10	80
Kilburn	35	2.40	Upminster Bridge	35	2.80
Kings Cross	30	1.80	Upton Park	25	1.60
Latimer Road	35	2.40	Uxbridge	50	3.40
Leytonstone	15	80	Watford	50	3.40
Liverpool Street	25	1.60	Watford Junction	62	3.80
Mile End	20	1.60	West Ruislip	45	3.40
Mill Hill East	35	2.80	Whitechapel	20	1.60
Moor Park	45	3.40	Willesden Junction	42	2.70
Morden	35	2.80	Wimbledon	40	2.80
Newbury Park	15	1.20	Woodford	10	60

It will be interesting to see what the fares will be like in a further ten years time, who knows?

FROM THE PAPERS

Daily Telegraph

30.3.82 - Yesterday, the Queen's Royal Assent was notified for the Travel Concessions (London) Act, which enables the G.L.C. to subsidise fares for pensioners and the disabled.

31.3.82 - A leading article, commenting on the fact that work is due to begin next month on the new British Library in Euston Road, suggests that as the books urgently need re-accommodation but the readers prefer to stay in the Reading Room of the British Museum, the books should go to air-conditioned basements at Euston, which should be connected to the reading room by a 'one-mile small-gauge underground railway, possibly using Post Office track, to enable books to be delivered within 30 to 45 minutes of request, as at present'. The superstructure of the new Euston Road building should become prime office accommodation and be sold by the Government at a profit.

6.4.82 - An attempt by Lord Underhill (Labour) to persuade peers to reverse the Law Lords ruling which sent London tube and bus fares rocketing, failed last night in the Lords when his Transport (London) (Amendment) Bill was refused a second reading by a 71-46 Government majority. It sought to empower the G.L.C. to subsidise fares through grants towards the current expenses of the L.T.E.

10.4.82 - A planning application has been lodged with the Westminster City Council to redevelop the Swan & Edgar site at Piccadilly Circus. There will be more shopping space at station concourse level, with direct access from the concourse.

13.4.82 - Mr. Dave Wetzel has appealed to Londoners to back a Private Member's bill by Mr. Douglas Jay which seeks to restore cheaper bus and train fares.

15.4.82 - Westminster City Council's planning sub-committee must tonight decide on the future of the Pizza on the Park, on the site of the surface Hyde Park Corner station, whose lease runs out at the end of the year. A scheme is afoot to demolish the seven-floor building and build an office block without restaurant facilities. The scheme is backed by the freeholders, London Transport, and the head leaseholders. Already L.T. is revoking its license for the restaurant to have 120 seats and tables on the forecourt as

an open-air terrace. There has been a restaurant on the site next to St. George's hospital for nearly 50 years, since Joe Lyons opened two cafeterias and a steak house.

16.4.82 - The plans for a block of offices and flats facing Hyde Park were rejected last night by Westminster Council's planning committee, following a petition from 1,000 customers of the restaurant.

23.4.82 - Recruiting to the L.T. Police has been stopped by the Law Lords decision on fares. The strength was originally 150 including some civilians, the current establishment and strength is 300, and the target was 400 by the end of 1982.

24.4.82 - Thousands of commuters have been lost to L.T. because of fare increases. L.T. has released figures which show that bus passengers have dropped by 20% and tube by 10%. If the trend continues there will be 250 million fewer passenger journeys on L.T. services in a full year. While services will be reduced to meet the fall in demand, the increases are expected to yield an extra £150 million a year in revenue.

Mr. Eyre, Parliamentary Under Secretary for transport, yesterday gave a warning that the Government would have to act to impose its own solution if the G.L.C. failed to 'put its house in order' in organising public transport. 'After the chaos and incompetence of the last ten months, the time has come for a major change in the way transport matters are organised', he said. The Government would be setting out ways in which its own ideas were developing for a better organised system, and the views of the all-party transport committee would be taken into account.

POINTS OF INTEREST

On empty stock workings, a member reports observing an empty eight-car A stock train at Finchley Road southbound Metropolitan Line at 12.22 on a weekday. He caught the following train which arrived in platform 2 at Baker Street and saw the empty train, bearing the set number 410 in platform 3 depart empty in the direction of the City at 12.36. This was the East London Line transfer of stock to and from New Cross depot, which operates 'as required' leaving Neasden depot at 11.51 Monday to Friday and 15.46 Sundays. Crew change-overs take place in both directions at Liverpool Street (New Cross crews work between Liverpool Street and New Cross while Neasden crews work between Neasden and Liverpool Street). Sometimes, only four-car units are exchanged (as with unit 5060 which has the experimental braking equipment by Davies & Metcalfe, and must work as a solo unit), but this stock transfer is the only time that eight-car A stock trains (albeit empty) can be seen on the East London Line.

Further to the note on page 59 of UN 243, the following information has come to light on the use of Metropolitan electric locomotives on the Southend service of the District Line. Official L.T. records state that the decision was made in December 1938 that one Metropolitan electric locomotive should be made available for the Southend service as one pair of the District locomotives was unserviceable, leaving just two pairs (for service) and one single spare (in fact L2 and L7 were scrapped on 1.7.38). At this time, the only through working was one in each direction to and from Pitsea each weekday evening, and one on Sundays. Metropolitan electric locomotive No.10 became allocated to the District for 18 months from July 1939, according to L.T.'s records. Regretably the service was withdrawn because of wartime conditions from 1.10.39 and was never reinstated. Thus, it was possible for the Metropolitan locomotive to work the service for just a couple of months - IF IT EVER DID (confirmation of this is still required, please). Disposal of the five remaining locomotives was as follows: L5, L6 - 6.10.39; L1 - 31.10.39; L3, L4 - 17.11.39.

Metropolitan locomotive No.6 (William Penn) was used for shunting at East Ham depot during the war years, as was No.9 (John Milton) at Baling Common. This latter locomotive never returned to the 'Met.' neither did it get back its nameplates, for it stayed as a shunter at Baling Common right up to its disposal on 2.3.62.

Further to previous amendments and additions to Underground No.9, the following additional information has been supplied: In the first paragraph of page 37, a member reports that the last stock move between Highgate Wood and Drayton Park line was in fact on Thursday 1 October 1970. The revised arrangements were operative from Monday 5 October 1970, via the City Widened Line and Kings' Cross (ER), originating from Neasden depot. The times of the train on the 'Northern Heights' route, which operated as required on Tuesdays, Wednesdays or Thursdays was as follows:

Highgate Wood sidings	12.10
Finsbury Park No.7 Box	12.27
Highbury Vale Sidings (Stop Board)	12.40
Drayton Park (Southbound Platform)	12.43
	To
	depot
	ex
	depot
Drayton Park (Southbound Platform)	13.19
Highbury Vale Sidings (Stop Board)	13.25
Finsbury Park No.7 Box	13.33
Highgate Wood sidings	13.50

BOOK REVIEWS

LONDON UNDERGROUND ROLLING STOCK, 1982 Edition, by Brian Hardy, 96 pages, 148mm x 210mm, plus card covers: 94 photographs. Published by Capital Transport, 1982. Price: £2.95

The 1982 edition of an old favourite has appeared, and well maintains the high standards set by its predecessors. The general layout is the same as in previous years, but the list of cars in numerical order have been omitted (the individual car numbers are still shown in the tables of unit formations) and the Introduction has been shortened to exclude the technical descriptions of equipment which appeared in the 1981 edition. On the other hand, a review of the major rolling stock events in 1981 has been added, and also a one-page summary of Stock out of Service.

As always, the excellent photographs are a strong attraction. They are all different from the previous editions and some are bang up-to-date: Isle of Wight stock in Inter-City livery, D stock with exterior grab handles, a BR class 25 diesel on clearance tests. Many include unusual workings: two 1938 stock trains together at Watford Junction, a D stock train on test at Northwood, overhauled 1938 stock passing through Harrow-on-the-Hill, the Tunnel Cleaning train passing Ruislip, an electric sleet locomotive at Mornington Crescent, etc. Enthusiasts will know how much previous planning and waiting about is needed to catch these special workings on film. Five interior views of typical stocks are a new and useful feature - it is hoped that this will be retained and expanded.

A chapter is devoted to the history and specification of each current type of rolling stock, and Brian Hardy is especially strong on details such as first and last dates of operation, interline transfers, special workings, and modifications of individual cars.

After the table of weights and dimensions there is a detailed review and a full list of service stock - electric, battery and diesel locomotives, miscellaneous cars, track machines, cranes and wagons. The valuable chapter on sold and preserved stock contains a history and current review of tube stock on the Isle of Wight, and details of ex-LT stock retained in museums, by preservation societies and by the Army. Finally, there is a three-page section on depots and sidings.

By comparing the line allocations of stock on page 5 with the trains required for service on page 96, one observes that the percentage of the latter to the former ranges from 70.6% on the Bakerloo to 91.3% on the Piccadilly. The story of the planned extra heavy overhauls for 1938 stock is interesting. Conceived before the decisions to build 1972 stock or to make the Northern City Line part of British Rail, the original plan to overhaul 88 trains was progressively reduced to 34 by 1976, plus two more in 1978.

The rolling stock chapters do not always clearly state who manufactured each main batch of stock, and perhaps this information could be included in the unit formation tables. Other small improvements that the reviewer would like to see in future editions are details of when R stock was painted white, brief mention of the historical South Harrow sidings, the addition of seating capacities and numbers of horse-powers of motors to the weights and dimensions table, and a two-line explanation of the work done on trains in main depots, minor depots and sidings respectively. However, these are all very minor points compared to Brian Hardy's fine achievement in compressing so much useful information into a well-produced 96-page book, and it is a 'must' for every serious Underground enthusiast.

Obtainable from the Assistant Sales Manager by post for £2.95 (post free to inland members), or from the Society Sales Stand.

WATERLOO AND CITY RAILWAY by M.J.D. Willsher, 16 pages, 133mm x 211mm, plus thin card covers. Published by Electric Traction Publications, Cambridge, 1981. Price: 60p

The second booklet by this publisher after 'Tunnels Under London', this comprises a textual account of the origins of the Waterloo & City, its construction and opening, and a full description of the line and its equipment 'as opened', with a brief reference to the modernisation of 1940. There are numerous reproductions of contemporary plans and cross sections of the tunnels and the special layouts at the City terminus, and the depot and power station at Waterloo. A signal diagram is included, together with an elevation of the semaphore signal and sections of the colour light signal, also a full description of the signalling procedure. A Jackson & Sharpe motor car is shown in part side-elevation and part section; there is also an author's reconstruction of the electric locomotive in its 1898 state. The two pictures are both of shield construction in progress (their quality of reproduction is like that of a photograph put through a photo-copier). A short bibliography is included.

Obtainable from the Assistant Sales Manager for 60p + 15p postage.

THE L.C.C. TRAILERS by M.J.D. Willsher, 60 pages, 133mm x 211mm, including thin card covers. Published by the Light Rail Transit Association, Broxbourne, Herts. Price: 95p

This booklet is a reproduction of a series of articles in 'Modern Tramway', and tells the full story of the trailer cars on the LCC Tramways, from the first request for permission in 1905, the brief use of coupled motor cars in 1911, the first trailer operation in the Woolwich area in 1913, to the last trailer operation in 1924.

Although the author modestly asks that the present work be regarded as a provisional account (because of incomplete sources of information in certain areas) the booklet is a shining example of thorough historical research. The reader is led through the reasons for wanting to run trailers, the securing of Parliamentary powers, the initial experiments, the ordering of 150 new open-top trailer cars, and the introduction of trailers on trunk routes from London to Merton, Greenwich, Norbury and New Cross.

The beginning of the end of trailer operation came in 1922 when the LCC wished to extend services 2 and 4 from the county boundary at Longley Road, Merton to Wimbledon via the MUT tracks, but Wimbledon Corporation objected to trailers. Comparative test weeks with and without trailers took place in November 1922. Solo operation produced more passengers and higher receipts, whilst the higher commercial speed helped the LCC fight back against bus competition and greater Underground competition foreshadowed by the City & South London's application for a Morden extension in autumn 1922. After the trailer test week, trailer operation was never resumed on this route, and similar tests put paid to the Norbury working in 1923.

Other Underground references are a picture of a trailer car ready for despatch in the Brush works in 1915, with a Central London motor bogie in the foreground, and, in connection with fruitless M.E.T. attempts at coupled operation, mention of that company's Feltham cars being designed at the Ealing Common design office of the Underground railways.

The booklet is profusely illustrated with rare photographs of trailer operation, depot scenes and a general map. Recommended.

Obtainable from the Assistant Sales Manager for 95p + 15p postage.

THE LONDON UNDERGROUND - DIAGRAM OF LINES

The second edition of the London Underground Diagram of Lines has now appeared (382/01886/500M(A)809) hot on the heels of issue No.1 (232/01577/500) which was reviewed on page 202 of UN 245, both editions being printed by the Calibri Press. While the new edition has an immediate appearance as being 'the same' as its predecessor, there are, on close examination, a number of differences and alterations.

The first noticeable difference is on the front cover where the title 'The London Underground' is red, as against white on the former. The small white border is also omitted in the new edition. The areas of the City and West End zones, shown on a whole map of issue No.1 is now solely of those zones, making identification of same much easier. Another innovation in the colour key for the zones has included a 'zone overlap'.

On the main diagram itself, the Bakerloo Line shown as a solid line has been extended from Queens Park to Stonebridge Park. Some of the advertisements surrounding the diagram

have also changed. Gone are the adverts for the play 'Can't Pay ? Won't Pay!', the H.M.V. record shop at Bond Street, and 'Time Out' entertainment guide. These have been replaced by adverts for the musical 'Evita', one for 'The Driscoll Hotel for Ladies', Covent Garden Market, and the play 'Children of a Lesser God'. Some of L.T.'s own adverts have been rearranged, while the 'Getting There' guide has been replaced by a notice about the Lost Property Office at Baker Street.

LETTER TO THE EDITOR

Sir,

Until now, it seems that where London Transport trains have brushed shoulders with those of British Rail or its predecessors, the former was more likely to take the ascendancy; the Central Line extensions to West Ruislip and Epping and the Northern Line push forward from Highgate are examples that come to mind. Presumably the advantage is the capability of running trains through to the heart of London rather than decanting passengers at a peripheral terminus, and I assume that this was the reason that the Piccadilly Line was selected to provide Heathrow with a rail service ?

So why is the Bakerloo Line service north of Stonebridge Park on the verge of extinction. Are there really more passengers staying seated on southbound LMR electrics at Queens Park, or do the majority switch to the Bakerloo ? With Kilburn High Road close to Kilburn Park tube station, and South Hampstead closed at certain off-peak times, it would seem that Bakerloo trains would cover the full service need north of Queens Park during evenings and on Sundays.

Obviously, it is the pattern of travel that has changed and has resulted in the demise of the Bakerloo service to Watford Junction, and I'm sure that many members, and not just this far-flung observer would be interested to hear why the present relationship applies between the LMR and LT, from a member who has studied the history of the Bakerloo.

Yours sincerely,
D. Gibson.

Hoe, Plymouth.
7 May 1982.

SOCIETY SECTION

Sales Announcement

Electrail Colour Slides Nos. 6001-6015 shown in list 18 of March 1982, distributed with the May 1982 issue of Underground News, are available direct from the London Underground Railway Society at monthly Caxton Hall meetings.

Editor of Underground

Due to business commitments, our Editor of Underground, David Hayward, has found it necessary to resign from this post and hand over to someone else. The Society expresses its thanks to David for all his work done with the production of Underground over the last few years.

The new Editor of Underground is Bob Greenaway, to whom all correspondence for Underground should now be sent, at 26 Fishery Road, Doxmoor, Hemel Hempstead, Herts, HP1 1ND.

Information Officer

About two years ago, the Society appointed an Information Officer, to answer members' queries on London Underground subjects. During this time, Steve Tish has successfully dealt with a number of members' questions. Because of personal commitments, Steve has had to resign from this position, and the Society expresses its thanks to him for the research carried out for members.

Our Chairman, Piers Connor, is now taking over this task. Members who have questions to ask about London Underground subjects can write, enclosing an SAE, to Flat 1B, 1 Marchwood Crescent, Ealing, London, W.5. Please do not send your questions to the Editor of this journal.

Members who have queries about Society matters are, of course, requested to contact the relevant Society Officer.

ADDITIONAL TIMETABLE ITEMS

at the LT Museum

16 June to 5 December

Small exhibition to mark the 30th anniversary of the end of London's tramways. This will include the first public appearance of an unrestored horse tram, found in a farmyard.

26/27 June and 24/25 July

Working steam railway, giving rides to visitors.

28/29/30 August

Working model trams.

Please note that the normal opening hours and admission charges apply to the above events at the LT Museum.

NLTS Annual Walk

Sunday 4 July

NLTS members are invited to join in the North London Transport Society's fourth annual memorial walk of the Northern Heights extensions from Finsbury Park to Alexandra Palace, Highbury and beyond. Further details can be obtained by writing, enclosing an SAE, to Mr. A. Hayward, 48 Grange Road, Orpington, Kent.

ROLLING STOCK ALTERATIONS

April, 1982

CO/CP Stock

From Ealing Common to Ruislip (condemned cars)

53249-013272-53235 8th

R Stock

From Ealing Common to Ruislip (condemned cars)

22572-22649+23524-22608 16th

21110-23319-23412 19th

23527-22642+23527-22614 19th

21135-23336-23435 23rd

23502-22602+23535-22639 26th

23521-22673+23541-22638 29th

23518-22628+23506-22609 30th

From Ruislip to Booths, Rotherham, for scrap

23221 23342 23442 23566 23237 22658 21150 23250 23350 21st

CO/CP/R Stocks

From Ruislip to Booths, Rotherham, for scrap

53249 013272 53235 54035 23524 22608 22649 23572 28th

D Stock

From Metro-Cammell, Birmingham, delivered to Ruislip

7106-17106-8106+8107-17107-7107 15th

From Ruislip to Ealing Common for commissioning

8102-17102-8102 1st

8105-17105-7105 3th

7104-17104-8104 20th

8107-17107-7107 26th

Uncovered service, District Line

7100-17100-8100+8101-17101-7101 20th

7098-17098-8098+8099-17099-7099 26th

7102-17102-8102+8103-17103-7103 30th

Miscellaneous Movements

2294-2297-1295 Acton to Golders Green (ex-collision and overhaul) 5th
L44-514-L26 Northfields to Ruislip 23rd

Units to Acton for Overhaul

Northern 1314-2314-1315 5th
Jubilee 3232-4232-4332-3332 6th
Central 1662-2662-9663-1663 7th
Northern 3425-4525-3525 16th
Metropolitan 5088-6088-6089-5089 21st
Central 1600-2600-9601-1601 22nd
Northern 3221-4221-4321-3321 28th
Northern 1306-2306-1307 29th

Units from Acton after Overhaul

Jubilee 3246-4246-4346-3346 6th
Central 1734-2734-9735-1735 7th (trailer 2734, ex-2718. See below).
Northern 3426-4526-3526 16th
Metropolitan 5128-6128-6129-5129 21st
Metropolitan 5559-6559 22nd
Central 1730-2730-9731-1731 22nd
Northern 3218-4218-4318-3318 28th
Metropolitan 5570-6570 29th
Northern 1310-2310-1311 29th

Reformations

From	To
<u>1967 Tube Stock</u>	
3010-4010-4143-3143	3010-4010-4110-3110
3043-4043-4110-3110	3043-4043-4143-3143
<u>1973 Tube Stock</u>	
152-514-352	152-552-352
<u>CO/CP Stock</u>	
53249-013272)	53249-013272-53235 (see NF 93/82)
53235)	
<u>R Stock</u>	
21144-23246-23240-23338-23441	21144-23246-23338-23441
23543-22601	23543-23240-22601

R Stock available for service on 30.4.82: 22 trains.

R Stock booked for service on 30.4.82: 10 trains.

Renumbering of 1962 Tube Stock Trailers

2718 renumbered 2734 3rd

NEWSFLASHES

NF 106/82 On the morning of Wednesday 14 April 1982, Metropolitan Line train 12, the 06.39 departure from Rayners Lane (06.27 ex-Uxbridge), accepted the wrong signal and proceeded towards South Harrow on the Piccadilly Line. Here, passengers were detrained while the 8-car A stock train reversed east to west by shunting beyond the station. Passengers returned to Rayners Lane, and thence to Harrow-on-the-Hill, where the train reversed for its next north-bound working, the 07.35 to Uxbridge.

NF 107/82 Further to NF 64/82, a sudden shortage of guards on the Northern Line has become apparent. The average number of cancellations in each peak period varying between 15 and 20 - just like times past! In the evening off-peak on 17 May 1982, 16 out of the 45 scheduled for service were cancelled.

- 108/82 ~~1973 stock trailer 514, which has not yet carried fare-paying passengers,~~ but has been fitted with experimental ventilation equipment for 1983 tube stock in the form of seven ceiling-mounted fans, took part in tests on the Jubilee Line between 15 and 19 March 1982, having been formed temporarily into unit 152. On 23 March, after return from Neasden, a special trip was made from Northfields to Arnos Grove, crush-loaded with 160 'passengers' - alias LT staff. The car has since returned to Metro-Cammell's for converting back to a standard 1973 stock car. On its return, it is hoped that the rest of the unit (114, 314) will be ready to enter service for the first time, having been delivered on 25 October 1974. This unit (with 115) went to Cöck-fosters on 21 May 1975 for crew training purposes, after which it was stored, returning to Northfields on 16 April 1978.
- 109/82 D stock three-car unit 7502-17502-7503, formerly the C.M.E. Design Division test train, is now being commissioned for passenger service. Whilst on a test trip from Taling Common to Ruislip on 12 May 1982, the unit failed between Alperton and Sudbury Town on the westbound. When movement was eventually obtained, the unit was put into South Harrow sidings for the rest of the day. A 40-minute delay ensued.
- 110/82 Track recording has taken place again, on the 'tube' lines, as follows:
- | | | |
|------------------|-------------------------------|---|
| Sunday 9 May | Jubilee and Bakerloo Lines |) |
| Monday 10 May | Piccadilly and Northern lines |) 3-car unit of 1973 |
| Tuesday 11 May | Northern Line |) stock: 888/9. |
| Wednesday 12 May | Piccadilly Line |) |
| Thursday 13 May | Central Line | - 4-car unit of 1962 tube stock 1538 |
| Friday 14 May | Victoria Line | - 3-car train of 1967 stock, units 3007/75. |
- 111/82 About four R stock trains have been noted with unofficial (?) red LT roundels applied to the front cab doors.
- 112/82 A fallen tree on the track east of Woodford on the Central Line caused a 68 minute delay on Saturday afternoon, 1 May 1982. Four trains were reversed east to west at Woodford, one train worked a shuttle service between Loughton and Epping.
- 113/82 On the 'information' part of the northbound train describer at Clapham South, a new style of notice has been seen. Being paper pasted onto hardboard, it has an orange background with black lettering, stating 'When no through train via the Charing Cross branch is indicated, passengers should travel by the first train and change at Kennington'. The heading of 'Charing Cross Trains' is supplemented by a picture of a tube train in tunnel. It is not known whether this is something of the future, or whether it is a 'one-off' replacement of a damaged predecessor.
- 114/82 In the light of the threats to the Bakerloo Line, and to Broad Street station, the Jubilee and Bakerloo Lines Users' Committee has been doing some intensive spells of service monitoring recently. One Thursday morning, the monitor ensconced himself at Regents Park only to find that he was joined after a little while by a London Transport employee engaged on exactly the same function for LT. At the end of another similar spell at Edgware Road (Bakerloo), the JABLUC monitor left by the lift which promptly broke down less than a lift's height above the lower landing. The passengers were duly rescued by a shaft transfer. Trying to count passengers at Queens Park whilst dodging in and out of all the scaffolding during the morning peak had a nightmarish quality. But the contrast between the good timekeeping of the Bakerloo trains and the wayward timings of BR trains was most marked - the latter's average was 5.3 minutes.
- A JABLUC spokesman was interviewed on 2 April on LDC Radio, concerning that Committee's recent appeal to the Secretary of State for Transport to intervene to see that the 1962 Transport Act's provisions were applied to LT's proposal to withdraw all its passenger services from the eleven stations north of Stonebridge Park.
- 115/82 1938 stock trains have been observed with the red/green notices posted on communicating doors. Most other stocks are being similarly dealt with.

- HF 116/82 In the British Rail timetable supplement for Easter 1982, the following phrase appears under Sunday 11 April, 'The following special service operates on the Isle of Wight Railway'. The Isle of Wight Railway ceased to exist on 1 January 1923, when it was merged into the new Southern Railway!
- HF 117/82 The South Kensington museum subway was closed from 19 April 1982, and is not due to reopen until the end of May. It will also be closed at 'certain other times', 'as necessary', later. This is to allow the construction of a new connecting subway to the new Ismaili Centre in Exhibition Road.
- HF 118/82 A look behind the hoardings at Earls Court (high level) recently showed that panelling for the upper level of the lifts from the Piccadilly Line was nearly finished, in an attractive colour scheme of brown and beige. A poster at the station says that it is hoped to reopen the lifts in May, but there is not much external evidence of progress at platform level.
- HF 119/82 The 'down' escalators to the Bakerloo and the southbound Northern Line at Embankment have both been taken out of service for many months for modernisation. On 6 April it was noted that all passengers to the Bakerloo (both directions) and the northbound Northern line platform were routed from the intermediate-level concourse via the spiral staircase. The weight of passenger traffic caused considerable congestion. By 15 April it was noticed that, at least in the evening peak, Northern Line passengers were directed to use the escalator which normally takes passengers 'up' from the northbound Northern Line platform, which had been reversed. Passengers leaving this platform were directed to the subway that leads through to the Bakerloo, then via the 'up' Bakerloo escalator. The same arrangements applied on 21 April.
- HF 120/82 On the Keighley & North Valley Railway, the boiler of O-6-GPT 189, and its tanks and cabs have been removed for replacement. The firebox is in a poor condition and the boiler and other parts will be replaced by those from GNR O-6-GPT 4612, obtained from Barry scrapyard for this purpose. Parts from both engines will be used to create a good one - hopefully to be painted as an LT pannier tank?
- HF 121/82 The Spring 1982 issue of the Wembley History Society Journal includes a two-page article by Robert Barker on 'Wembley Village', the former Metropolitan Railway staff colony. Details of the journal can be obtained from the Hon. Editor, 25 Forty Avenue, Wembley, Middlesex, HA9 3JL.
- HF 122/82 A recent visit to the Wollaton Industrial Museum at Nottingham found one exhibit of London Transport interest. This was a circle of cast iron tunnel segments for the Victoria Line, manufactured and presented by Stanton and Stavely Ltd.
- HF 123/82 It is recorded (London Transport Magazine, Vol.23, No.4. - July 1969, pages 10-11) that for the benefit of M.P.s living in St. Ermin's Hotel, a division bell was installed there; and that there was a private corridor entrance from the hotel to St. James's Park station. Can anyone please supply further information??
- HF 124/82 On Monday 26 April 1982, observed at the south end of No.2 platform at Baker Street, in poster position 294, a District Line timetable poster T8 showing times of trains to Upminster from Barchin. A bit out of place - for it was changed by 30.4.82 by the more usual Bakerloo timetable for this position.
- HF 125/82 Noted on 6.5.82 staked-fencing round the remaining part of Willesden Green Permanent Way sidings (as was). This now seems to have been sold off as since that date, excavators have moved in. It is believed that the some of the new houses built further south are now occupied.
- HF 126/82 Harrow-on-the-Hill station lighting, south end of pl. Forms: Tops were on the standards of 3/4 on 10.5.82 and lights switched on morning of 13.5.82. Tops were on standards on lights on 5/6 on 13.5.82, and those too were switched on soon after.
- HF 127/82 1962 stock NDM car 9/17 on the Central Line has one central area diagram with no colours for the Metropolitan and East London lines, also the District Line but has full station names in position!

- NF 128/82 An occasional defect that occurs on trains from time to time is that of 'gassing batteries', which is not dangerous. It gives off rather an offensive smell. One such occasion was on 19 March 1982, when Metropolitan Line train 4 was withdrawn from service at Rickmansworth at 06.11. When the train was being checked by rolling stock staff, underneath the seat on car 5053 was found - a de-composed chicken!
- NF 129/82 Further to NF 105/82, it is reported that the Waterloo & City Line cuts on Saturdays came into effect from 16 January 1982. This not only involved an earlier finish, but a later start. According to the new BR timetable, the Saturday service is now every 15 minutes - sufficient to be run with only one train?
- NF 130/82 A large model of a new D stock train has now taken its place alongside its full-size predecessors of all ages at the London Transport Museum. The model was formally presented to the Museum on the morning of 7 May 1982 by Mr. Donald Whitehouse, director and general manager of Metro-Cammell Ltd., makers of the new trains which are now operating on the District Line. The detailed model is three feet long and illuminated. It was received on behalf of the Museum by Mr. Kenneth Pope, a member of the Museum's management board.
- NF 131/82 It has been suggested that an LT rail tour might take place later in the year using BR Mk2F coaching stock. On Sunday 25 April 1982, battery locomotives L18 and L38 travelled to Wimbledon to couple to one such coach for gauging purposes on parts of the District Line. The coach was W6125, an air-conditioned T50. The special train was scheduled to visit the north and south sides of the Circle, Upminster, Northfields and Harrow-on-the-Hill. However, after several hic-cups, the train worked from Wimbledon to Barking and back to Wimbledon only.
- NF 132/82 It is reported that L.T. will purchase 15 trains of 1983 tube stock, comprising 30 three-car units, all of the double-cab type. It thus seems unlikely that the option for a further 13 trains will be taken up.
- NF 133/82 A60 stock EM car 5064 now has painted panels beneath the passenger windows instead of the usual formica panelling.
- NF 134/82 Twelve flat wagons have been sent to W.H. Davis & Sons for refurbishing, although two (F337 and F376) are to be scrapped there. The ten to be modernised are: F344, F353, F357, F358, F364, F366, F369, F373, F381, F394. These are in addition to the six already modified with concrete mixers, in 1981.

.....

TAIL PIECE

Shortly after the Metropolitan Extension line was opened at Aylesbury, a stolid country labourer entered one of the small stations and approached the ticket office diffidently. In front of him was another 'Hedge' who laid down his money and asked for his ticket - 'Chorley Wood, single.'

The stolid one made a mental note of this, and, when it came to his turn, he amazed the booking clerk by shouting through the window, as he laid down a shilling -

'John Jones, married!!'

From: 'The Quiver', Vol. XIII, December 1900 to May 1901.

.....

Underground News is printed and published by the London Underground Railway Society. Correspondence for this journal should be addressed to the Editor Underground News, 'Heidi', 13 Castleton Road, Eastcote, Ruislip, Middlesex, HA4 9QQ. Members requiring a reply to their correspondence are asked to enclose a stamped addressed envelope. When writing to any Society Officer, please quote your membership number on all communications, including applications for visits.

For non-receipt of journals and changes of address, correspondence should be sent to the Registrar and Despatch Officer, 67 Welton Road, Luton, Bedfordshire, LU3 2TN.