



The Journal of
The London Underground
Railway Society

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THE ALEXANDRA PALACE BRANCH LINE.

J.Echlin

T.Milne

An interesting afternoon was recently spent at this one-time proposed extension of the LT system. A considerable amount can be seen from the adjoining land and bridges without going on the track.

The land at the southern end has been transferred from Eastern Region to LT and has been partly used for Wellington sidings, although the actual running track bed has not been incorporated. This depot closed on 4th June 1964. The ballast is now overgrown, but the sleeper beds can still be distinguished. For about half the length of the branch the trackside cable posts are still in position, although a number have been removed or damaged.

Adjoining the footbridge which leads to Highgate Woods a section of the track up to Cranley Gardens station has been acquired by the London Electricity Board for a sub-station. Cranley Gardens station was purchased by the Middlesex County Council in October 1960 for a school site. Some of the land fronting Muswell Hill Road is likely to be acquired by a church in due course. The station buildings are in a derelict state and have been badly burnt, although the platforms are in good repair. The track and yard are now used for soil tipping.

The route curves round the side of the hill presenting an excellent view of North London. The approach to the brick-arched viaduct over St James's Lane is through a small cutting. At the northern end of the viaduct an area of the track is likely to be used as a public open space by the Borough Council.

At this point the line is crossed by Muswell Hill, which in late 1957 was collapsed on to the track to form an embankment. A pedestrian subway has been driven under the road to allow children to cross the road to reach the school which is to be built on the Muswell Hill Station site, again purchased by the M.C.C. in June

1961. All the station buildings have been demolished leaving just the platforms. The LTB sub-station is still intact at the side of the goods yard.

The line then curves round in a cutting and enters the grounds of Alexandra Palace, crossing one of the park roads on a brick-arched bridge. At the London end of the old station IRB have built a new office block. The station buildings are still standing but in a poor state of repair. The wide steps crossing the platforms, giving access to the Palace are capable of being used. The old platforms and track, in a cutting at this point have been filled and metalled and are used for car auctions,

With the decimation of this line and the Aldenham extension there is only one of the pre-war proposed extensions still in working order. It will be interesting to see whether the Drayton Park-Highgate-Edgware line is to be included in the recent wave of publicity for extensions of the Underground.

UNIVERSITY OF LONDON

EXTENSION COURSES IN TRANSPORT 1964-65 SESSION

The Courses in Transport announced by the University for the forthcoming academic year are as follows:-

Study for the Certificate in Transport Studies

Three one-year courses, viz:-

Course 1 - Transport Economics

Course 2 - Transport and Economic Geography
in Great Britain

Course 3 - Studies in Contemporary Transport
Problems

The first two courses may be taken in either order, but the third course is primarily meant for those who have successfully completed the first two parts. Applications will be accepted from students not intending to take the certificate examination, and courses are held in various colleges on different nights.

Non-certificate Course on Problems of Living with the Motor Car in the next ten years - held on Tuesday evenings at TUC Headquarters, Gt Russell Street, W.C.1.

Non-certificate Course on The Problem of Traffic in Towns - An Economic Approach - held Wednesday evenings at Central Library, Shepherd's Bush Rd.

Non-certificate Course on London: the next forty years - held on Mondays at IT Headquarters, 55 Broadway.

Prospectuses are available from the Editor on request.

The extensions to the District/Circle Line station platforms at Westminster have now been completed, so that passengers no longer have to use the narrow "catwalks" to enter and leave the front or rear cars of eight-car trains.

The eastbound and westbound platforms have been lengthened by 87ft. and 79ft. respectively and now project beneath the seven-storey west building of New Scotland Yard and the pavement of the Victoria Embankment. For the first 40ft. to be occupied by the extension, the roof of the old railway tunnel was of brick jack arches and joists trimming into a massive plate girder spanning the railway at an angle of 30°. This girder, which was in very good condition, supported the main outer wall of the Scotland Yard building and must have been about 75 years old, as the building, designed by Norman Shaw, dates from 1891. It was 45ft. long and 8 ft. deep, with twin web plates, and weighed nearly 30 tons. Beyond the girder, a brick arch formed the tunnel roof.

Work started on 10th September, 1962, and one of the first tasks was to gain suitable access to the site from above. This was obtained by demolishing a single-storey annexe built out in front of the main west building of Scotland Yard. This was done carefully and the granite facings marked so that the annexe could subsequently be rebuilt with its original appearance. Additional access was obtained through the ground floor of the main building and part of the eastbound carriageway of the Victoria Embankment was closed off for use as a working site.

Two plane trees on the site, both fully grown, were lopped and, after their roots had been cleared, drawn out of the ground by crane. They were taken to the London Transport nurseries at Acton and replanted to keep them alive until they could be returned to the Embankment.

With the walls and roof of the original covered way remaining undisturbed, a new reinforced concrete station wall was built on the westbound side, using the French Soletanche process for what is thought to have been the first time in this country. The Soletanche process uses bentonite to form a stabilising slurry which prevents the collapse of the side of a trench dug for the wall - in this case 65ft. deep. The method differs from other bentonite processes in using a special excavator with a reverse circulation process for the bentonite. The trench is filled with the bentonite slurry as excavation proceeds. Prefabricated cages of reinforcement are lowered into the completed trench and, as in other bentonite

methods, concrete is placed by a tremie pipe until the bentonite has all been displaced.

The trench for the wall was largely in made ground made when the Embankment, the trunk sewer beneath it, and the Metropolitan District Railway were built in the 1860s. Such ground contains voids through which the bentonite can leak away, and it found its way into the railway tunnel with the risk of damage to railway equipment. To overcome this, a clay cement grout was injected at the back of the existing tunnel to act as a seal and prevent further seepage.

The new station wall on the eastbound side could not be cast in bentonite because it lay partly beneath New Scotland Yard and was difficult of access. It was built in eight bays to suit the stages of work and to avoid having an excessive length of trench open behind the existing tunnel walls at any one time. As the ground - silts and sands - had insufficient load-bearing capacity for this wall, which would take the load of the building above, good foundations were necessary. Site conditions prevented the construction of a raft, so nine 18in. and three 24in. diameter bored piles with reinforced concrete pile caps were constructed, the pile rigs being set up in the ground floor of New Scotland Yard. This section of the wall was to go down 30ft. and the piles a further 70ft. The section of the wall clear of Scotland Yard was not loaded to the same extent, and piling was not required.

To find out how much the piles, and thus the buildings above, would be likely to settle, a 73ft., 18in. was given a full-scale test. It was loaded to 125 tons - 25 tons more than the designed load - for 20 hours. In this test the maximum settlement was 0.11 in. and the residual settlement 0.03 in.

The ground water level in this area, very near the River Thames, is not far below the level of the railway, and chemical consolidation was necessary. The sites of the pits for piles were surrounded by consolidated material, using the Joosten process. The ballast within the curtain thus formed, through which the piles had to pass, was then given a softer consolidation by the Guttman process. Where piling was not needed, the ballast was consolidated by the Joosten process to a depth of 7ft, below the wall foundations.

The first part of the new station roof to be built was at the west end of the extension. This meant that the existing jack arches, trimmer joists and the large plate girder, supporting a load estimated at 800 tons, had to be removed and the building above suitably underpinned.

The underpinning operation began with the placing of steel joists horizontally across the semi-circular window arches in the wall of the Scotland Yard building. The arches were then filled with concrete from the crown to the lower flange of the joists and subsequently pressure grouted. This part of the wall rested on the large plate girder which was to be removed, and it was decided to carry the load temporarily on eight of the plate girders - each 3ft. 6in. deep with 18in. flanges and 43ft. long - intended eventually for use in the second half of the tunnel roof. The load was to be taken on the in-filling concrete in the wall arches, and to obviate any spreading of the arches when the load came on, two lin. diameter Macalloy bars were provided on the outer face of the wall at 2ft. centres and two others were placed on the inner face.

The eastbound (piled) retaining wall had been built to a height of 6ft. above the future station roof so that the temporary girders could be brought to a suitable height for the window arches. One was positioned along the top of the westbound wall to act as a spreader beam and short lengths of jacking beam, made for the purpose and resting on cross joists, were placed above it. The temporary girders, delivered by road, were threaded through the window opening and positioned with one end on the retaining wall and the other on the jacking beams. Freyssinet flat jacks of 40 to 112 tons capacity were placed between the jacking beams and spreader beam. As all jacks were on the westbound side, jacking control was simplified.

Observation targets were fixed to the ends of the underpinning girders, the new station walls, and the inside and outside faces of the building for control purposes. These were observed by dumpy levels. A precise level, reading to 0.001 in., was used to observe special check points on the main wall of the building.

Jacking began on July 29th after the hydraulic equipment had been thoroughly tested. Readings were taken and then 10 per cent. of the required load was applied to each of the seven jacks. Measurements and readings were taken and plotted and then another 15 per cent. load was added. Again readings were taken and plotted. With a quarter of the load now on, the two lower Macalloy bars were tensioned to $7\frac{1}{2}$ tons, then the upper two to 15 tons, and finally the tension on the lower pair was increased to the full 15 tons.

The seven jacks were then brought up to 50 per cent. load. At this stage the readings and measurements showed that everything was progressing as calculated and the loading was increased to 70

per cent. Then another 10 per cent. and finally 5 per cent. were added bringing the load to 85 per cent. in all.

Jacking was then stopped but during the night observations were taken in the tunnel. The next day, no change having taken place during the intervening 15 hours, it was decided to continue jacking. Two jacks at one end were brought up to 95 per cent. and one jack at the other end was increased to 90 per cent. The graphs then showed clearly that all the load was being carried on the temporary girders. The main wall of Scotland Yard had been lifted 0.046 in. The 75-year-old girder was now cut away with burners and had been completely removed by the following Thursday morning.

The new welded plate girders for the permanent roof could then be put in place. They were delivered by road at night, threaded by the site crane through openings in the new walls, and then lowered on to greased rails on top of the old tunnel walls. The first three each required a second night's work to slide them along rails and into slots cast for them in the new station walls, but the second three were lowered and placed in position in one night each. When the second girder was in place the first was concreted in. The first six girders were all in place by the early morning of August 23rd. The permanent spreader beam consists of a group of three 30 in. x 10 $\frac{1}{2}$ in. 132 lb. universal beams resting on the top flanges of the plate girders under the outer wall of Scotland Yard.

Jacking was then carried out to transfer the weight from the temporary girders to the permanent ones forming the tunnel roof.

The methods and plant used for this were similar to those for the underpinning work. A steel spreader beam was placed under the wall across the top flanges of six of the girders and a steel joist grillage, surrounded in concrete, was erected across this beam at each of the two jacking points. These points were under the piers between the three window arches. The jacking points were then loaded to 15 per cent. of the full load and 15 per cent. of the load on the underpinning girders was released. This procedure was continued, except that in subsequent stages the load on the jacks below the underpinning girder was reduced before the load was added to the jacks above the spreader beam, until the load was fully transferred from five of the underpinning girders, two in the arch at the end and three in the middle arch. The three underpinning girders in the third arch remained loaded for the time being. This enabled some of the underpinning girders to be placed in their final position ready to bear the load from the three girders in the third arch, and this was transferred in a similar fashion to that from the first five girders.

The roof of the new section of the station tunnel is formed of precast reinforced concrete units $3\frac{1}{2}$ in. deep carried on the top flanges of the girders. They span between the girders and have above them $6\frac{1}{2}$ in. of reinforced concrete, for which they formed the shuttering. The whole makes up a 10in. thick composite roof slab which is waterproofed by $1\frac{1}{2}$ in. of asphalt protected by 2in. concrete screed.

Reinstatement of the site included back filling to a depth of about 5ft. and the rebuilding of the Scotland Yard annexe. The two plane trees will not be replanted on the site until the autumn.

The extensions to the station platforms have made use of the base of the former tunnel walls, on which precast reinforced concrete units have been set.

The platform lengthening work at Westminster has been designed and supervised by the New Works Department of London Transport to the requirements of Mr C.E.Dunton, M.A. (Cantab.), M.I.C.E., Chief Civil Engineer, London Transport. The main contractors were John Mowlem & Co. Ltd., and subcontractors were:-

Soil Mechanics (Soletanche) Ltd	- Bentonite walls
Soil Mechanics Ltd.	- Bored piles
Joseph Westwood & Co. Ltd	- Structural steelwork

SIMULATOR FOR TRAINING MOTORMEN

LTB will be installing a specially-built simulator early in 1965 at the White City Training School, to help train their motormen. This is being built for them now by General Precision Systems Limited of Aylesbury, and will be very realistic.

Sitting in a replica driving cab, the trainee will look ahead at a screen which will show a full colour film of journeys through tunnels and open sections which are complete in detail. The film and cab controls will be linked through a computer which will regulate the apparent speed of the train from 0-45 m.p.h., according to the pupil's handling of the controls. All instruments will operate correctly, and the controls will feel right. The cab will also move to give the effect of braking or acceleration and the sway of the train, and all the sounds associated with a stationary or moving Underground train will be reproduced. In addition, by operating a control panel, the instructors will be able to make red or green signals appear ahead of the train, cause faults in equipment or create emergencies - the last-mentioned being a particularly useful feature.

LONDON TRANSPORT INSTALLS FIRST SILICON RECTIFIER BALHAM SUBSTATION CHOSEN FOR TRIALS

London Transport Underground trains on the southern section of the Northern Line are now being fed with power through a 1,500 kW silicon-diode rectifier installed at Balham substation. This is the first time that a semi-conductor rectifier has been used by London Transport for traction purposes and it is believed to be only the second silicon-diode rectifier to be used in a substation for this purpose in Great Britain.*

The new rectifier is much smaller than the two mercury arc units of similar rating which share its duties: it is expected to need little attention, making it particularly suitable for an unmanned substation such as Balham. If experience with this unit is satisfactory, as it has been during the three months it has been in operation, rectifiers of this type may be adopted as the standard replacement for life-expired rectifier equipment at London Transport's substations.

The silicon rectifier incorporates 144 individual silicon-diodes in two three-phase bridge circuits. The transformer has a delta primary winding and has two secondary windings, one delta connected and the other star connected, giving 12 phase operation by arranging the secondary phase of one circuit to be 30° out of phase with those of the other.

Each of the individual diodes is protected by a fuse but as the failure of any one diode would have no serious effect on the operation of the rectifier, it has not been thought necessary to arrange for any remote indication of a blown fuse: fuses have striker pins which give a visible indication that they have blown, and replacements can be made on the regular routine inspection visits.

The rectifier has a continuous rating of 2,400 A., with some margin for surge demands. It can withstand three times the full load for one minute, and a short circuit long enough for the protective devices to come into operation.

Balham substation, opened in 1926 when the City & South London Railway, now part of London Transport's Northern Line, was extended from Clapham to Morden, has recently been modernised under London Transport's £27 million programme of improvements for the Underground power supply system. The original 1,500 kW rotary converters were replaced in stages by three mercury arc rectifiers with new transformers and switchgear. One of the mercury arc

installations was regarded as a temporary measure, and it is this temporary rectifier which has been replaced by the new silicon-diode rectifier. All the transformers and the silicon-diode rectifier are closed air-circuit cooled.

The substation is at present remotely controlled from South Wimbledon substation, as it has been since it was opened, but later this year new equipment will be installed and it will then be remotely controlled from Charing Cross substation. The present 11,000V. 50 c/s supply from the London Electricity Board will give way to a supply from London Transport's own generating stations when the modernisation of the supply network has progressed far enough to make a 50 c/s supply available.

The silicon-diode and mercury arc rectifiers, and the associated transformers, were designed and installed by the Hackbridge & Hewittic Electric Co. Ltd., to the requirements of Mr L.A.M. Ginger, Chief Electrical Engineer, London Transport. The d.c. switchgear was supplied by Bertram Thomas (Engineers) Ltd., and the 11 kV. switchgear by the General Electric Co. Ltd.

*Note: The first, a 1,250 kW. 750 V. unit, is in a British Railways, Southern Region, substation.

LETTERS TO THE EDITOR

28th June, 1964

Dear Sir,

I would be very interested to know something more about the extra long trains run on the Barnet Line of the Northern Line just after or at the end of the 1939-45 war. I can well recall the guard having additional switches or plungers and light signals above the communicating door.

How were these trains worked, what were the operating problems? How many of such trains were there and what section did they cover? What were the periods of operating (all day or peak hours) and what were the dates? Which car did the guard occupy and what was the nature of the additional equipment?

I hope these questions may be answered in your excellent journal.

Yours sincerely,

139 Brighton Road,
PURLEY, Surrey.

A.G. Newman.

Dear Mr Davis,

On a recent visit to the Bluebell Line I was naturally very interested in the "Ashburys" running there. Unfortunately the Society has seen fit to remove all numbers in the course of repainting the outsides, while the doors have been so moved around as to be no guide - the compartment I travelled in had one each of 516 and 515! I therefore endeavoured to read the old numbers through the paint, and formed the opinion that the set was marshalled 512, 516, 515, 518, though I was a trifle uncertain of 516 and 515. I therefore endeavoured to check my findings: the only certain points being that (a) these four coaches went to Bluebell, (b) the two ex-compos were marshalled with ex-first class ends adjacent. Imagine my surprise, then, to read (p.78 of June 1963 issue) that the Centenary train was formed 512-515-516-518. I then went to my photographs of the Chesham sets and found that they were there formed (1) 512-516-519, (2) 513-515-518, with the ex-firsts adjacent respectively to 519 and 513. This clearly favours my own reading, for if B.R./L.T. retained 519 and 513 for museum purposes, the obvious thing was to attach the remaining part-sets together, which would bring the ex-firsts together as 512-516-515-518. Nor is there any reason to presume any later remarshalling. Therefore, was the Centenary set misreported, or had the trailers been reversed to bring the third class ends adjacent? Perhaps you would care either to pass this on to an expert or publish as a query in "Underground"? The reply might also be of sufficient interest to publish. There would appear to be something curious going on.

38 Bromyard Road,
St Johns,
Worcester.

Yours faithfully,

J.E.Cull

Editor's Note

The Programme issued by London Transport to their guests at the Centenary Parade does not list the vehicle numbers, but the official press information from LT for the occasion deals with this particular train as follows:-

"Vehicles shown: No. 512 (formerly 2761) built in 1898, converted to electric working - motor coach - 1908; No.515 (formerly 9702) built 1898 as 1st class coach, converted to electric working 1906; No.516 (formerly 9705) built as 1st class coach 1900, converted to electric working 1924; and No. 518 (formerly 6702) built 1900, converted to electric working in 1906 and became control trailer in 1930s." Comments anyone?

NF 311 The rebuilding of the Western Region station at Ealing Broadway is to be resumed. Work on this was commenced over three years ago, but after demolition of the old station buildings and staircases all further activity was suspended, and the District Line station adjoining has been used for access to the Central Line and Western Region platforms, and for all booking office facilities. Now a multistorey office block is to ^{be} built on a concrete raft extending 135 ft east of the overbridge spanning the WR tracks. This building will span the tracks itself of course, and will have a new booking hall at slightly below road level; from this hall there will be direct access to a new passenger footbridge linking Western Region, Central and District platforms - the last-mentioned having been quite separate before rebuilding commenced in 1961.

NF 312 The London Transport Board, now in process of introducing the 24 hour clock for all passenger purposes, began to use this system for its own domestic purposes from 00.01 hrs, 1-7-1964. The changeover is not yet complete, however, as it is reported that Traffic Circulars for weeks after that date were still prepared on the a.m. and p.m. method.

NF 313 There has been a considerable increase in non-smoking accommodation on Underground trains this year. During May, non-smoking cars were increased from 3 to 4 per train, as follows:- on the Bakerloo Line, during the weekend of 16/17; Northern Line, 23/24; Piccadilly Line, 30/31. The increase on the District Line to 5 non-smoking cars per 8-car train was made in two stages:- on Q and CP stock it was put into effect during the weekend of 13/14 June; and on R stock over the 20/21st June. All District stock is now arranged as follows:- West End NS-S-NS-NS-S-NS-S-NS East End. This enables the allocation to be standardised for basic 4-car Q stock units, additional 2-car Q units, basic 6-car R stock, additional 2-car R units, all 3-car CP stock and for additional 2-car CP units.

NF 314 At a hearing of the Transport Tribunal in June 1964, it was stated that London Transport and British Railways are preparing a completely new fares structure, allowing for discriminatory fares on certain services in place of the present standard price scheme.

NF 315 Wellington Sidings were closed on Thursday 4-6-1964, and the connection was taken out of commission on that day between 11 a.m. and 4 p.m.

NF 316 East Finchley Goods Yard closed w.e.f. Thursday, 11-6-1964.

NF 317 With effect from the weekend of 13/14-6-1964, Holborn Viaduct terminus of British Railways (Southern Region) has been closed at weekends from 2 p.m. Saturdays to midnight on Sundays. All trains which would normally start or terminate there are now scheduled to start or terminate at Blackfriars - except one, which now starts from Victoria. Blackfriars BR station, though it has more terminal than through platforms, has not been much used for terminating trains in recent years, though it is served by the Underground (District and Circle Lines), which does not go to Holborn Viaduct..

NF 318 (See NF 300) It has been reported by LT that all the six steam coaches, stored at Neasden after the Centenary Celebrations, have now been sold to Thos. W. Ward Limited - but on 6-7-1964, coaches 427 Brake-3rd, 465 3rd and 509 ex-1st were still at Neasden. Why was the train split for disposal? Information still very welcome.

NF 319 Also seen round the back at Neasden depot on 6-7-1964, apparently awaiting disposal, all standing together, were ex-District locomotives L30 and L31, tool van 702, crane C604 and Jib Carrier J682.

NF 320 (See NF 307) The automatic car park at Finchley Road station did not, in fact, open as scheduled on 8-6-1964. The actual opening date was Monday, 20-7-1964. The charge is 2/6d, and the machine will accept any combination of 6d, 1/-, 2/- coins to make up this amount, as well as taking half-crowns - but it will not give change.

NF 321 It is believed that the 24 hr clock is to be used for Working Timetables from some time this month (September 1964).

NF 322 The coal staiths and goods shed at Ruislip are being demolished, Coal trains have not visited Uxbridge since March 1964.

NF 323 Owing to a track circuit failure at Turnham Green on morning of Friday 1-5-1964, westbound District Line trains were worked over the fast road between Hammersmith and Acton Town. Passengers for Chiswick Park were directed to the eastbound at Acton Town; intending passengers westbound from Chiswick Park were conveyed via Turnham Green.

NF 324 The tramway tunnel at Blackfriars, referred to in a note in the May 1964 issue, p.71, was actually stopped up during the first week of April this year. The work was done by Thomas Fletcher and Company Limited, of Mirfield.

NF 325 The official date for the closure of British Railways' Kensington High Street Goods and Coal Depot for all rail purposes was 25-11-1963. Note the subtle difference of name - the LT passenger station there is called High Street Kensington.

BOOKS

Douglas, Hugh; Crossing the Forth; Robert Hale Limited, London; 1964; 191 pp., including 2 Maps and Index, + 12 pp. plates, containing 18 illustrations; 21/-; obtainable from the Society - send 21/- to General Sales Manager at address on p.104d (July).

This book, the second by our member Hugh Douglas, well maintains the excellent impression given by "The Underground Story" a few months ago; there can be no doubt that the author is proving himself an authoritative, perceptive and readable writer on transport subjects - and doing so in an unusually short time too.

The Forth crossing has troubled the Scots, their visitors and invaders from the time of the Romans right up to the present, and the whole history of the crossing is told here. The story ranges in time from the founding of the Queen's Ferry, named after Margaret, consort of Malcolm of Scotland, who came to Scotland in 1069 and used the crossing for both herself and her pilgrims when they went to the shrine she loved at St Andrews, right down to the building of the Forth Road Bridge, now being completed after a Parliamentary battle waged spasmodically over many years. In fact, events before the days of Margaret are touched upon, and the following years yield a rich hoard of schemes both successful and abortive, concerned with overcoming this major obstacle to Scotland's communications.

At first sight, there might appear to be no Underground connection with the crossing of the Forth, but the link is there, and a strong one it is; John Fowler, Engineer of the Metropolitan Railway at the time of its building, was also joint engineer with Benjamin Baker of the Forth Railway Bridge, which stands today as the major engineering achievement of the Victorian era, and earned Fowler a baronetcy and many other honours.

An enjoyable book, which can be safely recommended.

Hampstead and the Broad Street Line; written for and published by the Save the Broad Street-Richmond Line (Hampstead) Committee; London; 1964; 52 pp., including Tables, Appendices and some Illustrations; plus a folding Map; 2/6d; obtainable from - A. Miller (Dove Bros.), 21 South End Road, London, N.W.3, for 3/- including postage.

This is an excellently-prepared and well-presented report on the effects of closure of the line named in the title on

the Hampstead area. It has been drawn up after exhaustive research, by interview and observation, by questionnaire and investigation, followed by careful examination of the results.

The clear outcome of this is a complete and inescapable condemnation of British Railways' expressed intention to close the line. It is clear that closure would have a very serious effect on communication in North London, and if ever there was a case where rail closure could be described as indefensible, this is it.

The compilers of the report have used the "Social Benefit" approach to the closing of the line - the same technique as was used for assessing the value of the Victoria Line before it was sanctioned. Naturally, the results are overwhelmingly in favour of retaining the railway, the social loss brought about by closure being shown as many thousands of pounds in excess of the alleged operating losses now said to be incurred by BR. The argument is carried further, however, and it is suggested that, in fact, no loss is actually being made at the present time, and there may be other reasons for the Board wishing to close the line.

Incidentally, although the Report is in favour of the line being shown on London Transport route maps, it is not in favour of LT actually taking the line over operationally - rather a curious conclusion, perhaps, but not a fundamental one; it is not important who operates the line provided it is operated by someone.

This is essential reading for all those interested in the problem of communications in London, and a very praiseworthy effort on the part of its publishers.

RADIO

Must Everything Pay? Talk by Bernard Hollowood, Editor of Punch; BBC Home Service: reprinted in The Listener of Thursday 30th April 1964.

A talk by an economist referring in a pertinent manner to the present state of British Life - summarised by the speaker as one of private affluence amid public squalor. The talk covered a range of amenities, of which Transport received a good coverage in the time available. The whole trend of the speaker's thinking was another indication that thinking people are now prepared to consider the spending of money on public amenities in a way which would have been unthinkable a few years ago.

At an invitation Film Show in Wembley Town Hall on the evening of Thursday, 21st May, 1964, the following films were given their first cinema performance after an Introduction by Anthony Bull, a Member of the London Transport Board. All were made for LT by the British Transport Film Unit, and together they covered a wide range of LT activities. One Hundred Years Underground is the film first shown on television at the time of the Centenary, and already noted in these pages. Seen in the surroundings of the cinema, the film seemed to make a greater impact than it did on the small screen, and provided pleasantly nostalgic entertainment. All That Mighty Heart is a colour film of a day in the life of London Transport, its staff and passengers. Unusual in that it covers the whole range of LT activities, some of the photography is remarkably good; the only criticism that could be made is that the film is, in parts, rather too episodic - but it certainly succeeds in its object of conveying to the general public the full scope of LT. A Day For Remembering is the colour-film record of the Centenary Parade at Neasden in May 1963. Good filming, well presented, this can be safely recommended to all Underground enthusiasts.

SOCIETY NOTICES

Underground Owing to the Postal Strike, Production Team Vacation and Editorial Holiday all following each other in uncomfortably quick succession, this issue of the journal has been prepared of necessity in much greater haste than usual. The Editor apologises for any lack of balance in the contents, which is a direct result of using material already to hand in printable form, rather than risk delay in getting other papers into shape for publication.

Photographs The Photograph Sales Manager, David Waddingham, would be pleased to hear from members who have photographs of Underground interest and reasonably good technical quality, and who would be willing to allow the Society to supply sets to members. The usual way to offer these is, as readers will know, in sets of six, so that any offers of sets on a given subject will be particularly welcomed. Any interesting picture will be acceptable however, and so will complete collections to be offered in a catalogue. David's address is:-
11 Broomfield Road, West Ealing, London, W.13.

L44
Electric Railway Society The Editor has received from Mr G.W.Launders, Meetings Secretary of the ERS, an open invitation to all members of TLURS to attend any meeting of the ERS. The London meetings are normally held on the first Wednesday of each month from October to May, in the Fred Tallant Hall, 153 Drummond Street, London, N.W.1 at 7 p.m. Light Refreshments are available from about 6.30 p.m.

THE TIMETABLE

Friday 11th September 7 p.m. CAXTON HALL, CAXTON STREET, S.W.1. PLEASE NOTE CHANGE OF MEETING PLACE - now Caxton Hall. Paper presented by Hugh Douglas, author of "The Underground Story" and "Crossing the Forth", entitled "The Building of the Metropolitan Railway - Opened in 1863". This is a very important paper, and well illustrated; it should be heard by all Underground enthusiasts. Visitors are welcome, so bring as many friends as you can.

Saturday 19th September Visit to the Channel Tunnel workings at Abbots Cliff and Folkestone Warren; there are a few places left in this party; apply immediately to the Editor at 62 Billet Lane, Hornchurch, Essex, enclosing a stamped addressed envelope.

Sunday 20th September 10 a.m. Visit to the Open Day of the London Railway Preservation Society at their Luton siding. L44 is kept at this siding, and it is hoped to steam the loco on this day. No booking is necessary for this visit, and all members and friends will be welcome. Meet under the clock on St Pancras main line station concourse, at 10 a.m. - but do not book tickets until you have seen the party leader.

Wednesday 7th October 7 p.m. Meeting of the Electric Railway Society at Fred Tallant Hall, 153 Drummond Street, London, N.W.1. A special invitation is extended to our members for this meeting which will be addressed by our Secretary, Norman E.W.Fuller, on "Postwar Rolling Stock Development on the District Line".

Friday 9th October 7 p.m. Talk on some aspect of Underground Tickets, by B.P.Pask, of The Transport Ticket Society. This will be given in Caxton Hall, Caxton Street, S.W.1.

Provisionally, it is hoped that it will be possible to arrange some outdoor events in October, but plans are not far enough advanced at present to justify a detailed announcement. See this column next month.

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