

PICCADILLY LINE TRACK VISION

by John Hawkins

This article is based on a review of what is called a Track Vision produced around the end of 2011, but updated to mid-2015, and recently received from TfL. The similar 4LM End State Track Layout has changed from time to time, but only presents planned end-state layouts. This document presents alternative suggested layouts together with evaluations of feasibility and business case, with a final recommendation for some areas. Most Piccadilly Line track layouts remain essentially as they were when the 1933 extensions were added at each end.

Proposed new layouts may have to await commissioning of a new signalling system, although removal of crossovers, sidings, etc. can be easily done. That said, these proposals precede PICU that did not see any track simplification. The costs of plain-lining track and new auto-signals were probably beyond their budget, but could be part of preparing for the new train fleet. Both depots are due for extensive reconstruction for the larger fleet of new trains in the light of 4LM and Acton Works experience, but their new layouts are not shown in this document.

Back in PPP days, 92 new trains with new signalling, a line control centre at South Kensington, and additional platforms at Cockfosters and Oakwood promised a 20% capacity uplift by 2014. The Track Vision was drawn up at a time when the DTUP expected a 60% service uplift from new trains and signalling by 2026. Since cash is not available for new signalling, the uplift will only reach 27tph from 2026 with 94 new trains. I calculate this at around only 30% uplift with longer walk-through trains, which could allow delay in reconstruction of central area over-crowded stations as another cost saving measure.

At the recent LURS meeting on PICU we were told that new signalling is not now expected until 2034, bringing then a further 30% service uplift, allowing investment funds to be used on other projects in the meantime. A further seven trains would allow 33tph, or 15 trains could provide 36tph. The costs of a small production run at that time might prove prohibitive. The full 1995 and 1996 Tube Stock fleets were ordered, even though resignalling was long delayed. An economic case for Bakerloo Line train replacement could not be found, and it now forms part of the Lewisham extension proposal which, if funded, could complete by 2032. This might provide savings in production of more trains and in resignalling of the Piccadilly Line, with a planned joint signalling centre. Without the Bakerloo extension, the Piccadilly might have to carry costs alone, since significant modification to the current Central Line fleet under CLIP means that a new fleet and resignalling there looks more distant.

FROM THE EAST

At Cockfosters, the concern is around a single siding, No.26, which stands outside the station to the east of the westbound line. A decision is still to be made whether to remove the siding, or to add another outlet direct to the westbound line. The layout is shown as dependent upon the contracted signalling system meeting frequency requirements, which may be 15 years away. The trailing crossover at Oakwood is to be removed with runtime improvements, since reversal is available in the adjacent Depot. No new platforms now proposed at either station, as signalling capacity has greatly improved since PPP planning.

At Arnos Grove, no change to the sidings is shown, but the existing complex track arrangements between there and the platforms will be simplified. Only a connection with the western platform is to be retained, with the recommended option retaining the scissors crossover and trailing crossover south of the platforms. Alternatives considered were to replace these with a scissors crossover on the site of the current trailing crossover, or to remove the trailing crossover from the current scissors crossover. These proposals mean that reversal west to east will in future involve a mainline shunt 'south' of the station. All stabling will take place from the western platform. Again, this is shown as dependent upon any future contracted signalling system meeting frequency requirements.

At Wood Green, removal of the centre siding and connections will allow improved run times which offset reduced flexibility. Consideration was given to providing full service reversal at King's Cross by installing a scissors crossover west of the platforms where the current trailing crossover sits. This would require extensive tunnelling works with excessive costs and disruption. Consideration is now being given to relaying the former trailing crossover at York Road station, lifted in 1964, although the station closed to the public back in 1932.

At Holborn, the connection to Aldwych is to be removed in connection with major reconstruction of the station for capacity improvements. At Covent Garden, consideration was given to relaying the trailing crossover, decommissioned 1979, for emergency reversing but this was rejected since it would slow westbound trains below planned peak frequency. Consideration was also given to removal of Down Street siding and Hyde Park Corner trailing crossover, but any improvement was outweighed by passenger disbenefits. The replacement of the siding with a facing crossover was also considered but would require considerable tunnelling works with excessive costs and disruption.

The Hammersmith/Barons Court layout is under consideration for simplification to allow full service reversal and transfer of engineering trains between the District and Piccadilly lines. Two options are illustrated: either a scissors crossover to the east of Barons Court platforms to allow trains to terminate at Earls Court, with connections between the eastbound lines and westbound lines west of Barons Court, or else a scissors crossover midway to Hammersmith to allow Piccadilly Line trains to reverse from either station, and connections for engineering trains to the east of Barons Court platforms. However, further options are under development to retain the centre siding for lay-over of trains.

WEST LONDON REMODELLING SCHEME

If you recall, the Piccadilly Line is to provide the Ealing Broadway service, and the District Line will not operate west of the Richmond line. All trains will stop at Turnham Green for interchange. This is planned when the main service reaches 30tph, which will almost certainly require resignalling, so maybe from 2034! It will come as no surprise that the most interesting track proposals are west of Turnham Green, where the four-tracking is no longer required. Called the *West London Remodelling Scheme*, a drawing dated November 2014 shows Chiswick Park platforms built on the Richmond branch. The outer District Line tracks connect to the northern pair of platforms at Acton Town, whilst the centre Piccadilly Line tracks serve the southern pair of platforms there. Whilst Ealing Common Depot has the same connection at the west end for engineers' trains, District Line trains will use only the east end, where the access ramp is again doubled. Roads 1 to 8 are shown connected to the northern access road, whilst roads 9 to 20 connect with the southern road. A pair of crossovers allow access for either running road, and a scissors crossover east of the closed Acton Town platforms provides further flexibility. Crossovers in both directions link the westbound District with the eastbound Piccadilly Line for engineers' train transfers near the platforms.

With this layout, District Line trains will leave the east end of the Depot as now, via closed platform 4 at Acton Town, awaiting a path near closed Chiswick Park platform 2, to take up service at Turnham Green platform 4. The 'fly in the ointment' is westbound stabling District Line trains which will cease service at Turnham Green westbound with a quick detrainment. This can be checked at the current Chiswick Park westbound platform, which will be maintained for such purpose, any wayward travellers being directed through to the new westbound platform on the Richmond branch. The stabling train will then await a clear road to cross sharply across both Piccadilly Line tracks on the level to reach the current eastbound Piccadilly Line Acton Town platform 3, and so to Depot. Currently, 23 trains stable at Ealing between 19.23 and 01.35, with 15 of these after midnight, each in future requiring a path across the Piccadilly Line service operating in both directions. The cost of a flyover for such moves would probably prove prohibitive. I wonder whether this route will be for limited use, and stabling will rather take place from Richmond, or maybe from Turnham Green eastbound platform, signalled wrong road to Acton Town. These trains all currently run to Ealing Broadway and then back to depot, so this may add 10 minutes to their run.

It is clear that this is not the current plan for Depot trips. Both the 2016 and 2017 business cases referred to problems of fitting stabling District Line trains over Hanger Lane Junction, so no change to current track layouts in that regard! Also, the 2017 business case reverted to the idea of some Piccadilly Line trains serving the current Chiswick Park platforms, which would require the current four tracking to allow other Piccadilly Line trains to non-stop.

In the Track Vision, at Acton Town the Piccadilly Line is confined to the southern platforms 1 westbound and 2 eastbound with a single reversing siding to the east and a long facing crossover to the west which could stable a train. The Acton Works connection remains. The current connections to the Rayners Lane branch will be used, but the Heathrow branch will see the outer slow lines lifted. A concern is build-up of the Rayners Lane/Ealing Broadway services from Northfields Depot, which depends upon the number of trains stabled on those branches, and may require some reversing at Hammersmith as well as at Acton Town, or a longer build-up period in the absence of the current three eastern sidings.

At Northfields, the eastbound local line is lifted, all eastbound trains working via platform 3. This means the loss of the test track. However, on the westbound, both platforms will be retained, with platform 1

used for through trains and platform 2 for reversing moves. Entry to depot is from all platforms as now, but the centre siding is lifted. Two trailing crossovers east of the platforms allow eastbound departures from all platforms, and parallel moves eastbound from platform 2 with westbound into platform 1.

At Hounslow Central the crossover is to be removed, and at Hatton Cross both crossovers are to be removed for improved run times, all having seen little use in recent times. At Heathrow T2,3, consideration was given to dispensing with the crossover from the east into the eastbound platform, but retention was preferred to allow rationalisation at Hatton Cross. The connection from Heathrow T4 into the westbound platform will be removed to speed westbound movements.

At Ealing Broadway, no longer served by District Line trains, northern platform 9 can be removed, and two double-length sidings will be relaid next to the Central Line to permit stabling of four trains to reduce demand for reversing at Acton Town. Sidings in this area were only recently lifted, decayed from long disuse, and once provided a connection for engineer's trains to the Central Line before the Ruislip Siding connection was provided for the original Jubilee Line construction trains.



Left: *With the various proposals being discussed for the future of the layout at Acton Town, we take a look back to the mid-1950s when the layout (originating from 1932) was operationally very flexible. A District Line train of R Stock is entering service from the east end of Ealing Common Depot – the depot ramp at that end had two tracks. Much of the flexibility was lost because of programme machine signalling in 1965.*

Photo: *Alan A. Jackson*