

25 YEAR LU FLEET PLAN 2019

by John Hawkins

In preparation for the 2020/25 TfL Business Plan, a 25-year LU fleet plan has been revealed which reflects current thinking, although further funding will be essential to cover line upgrades. It is based upon a 40-year life for trains.

The Piccadilly Line is due first for new trains, with the current 44-year-old trains still managing 22,000km between failures, but any frequency uplift awaits additional trains. Siemens are contracted to provide the new generation trains between 2024 and 2028, with future maintenance dependent upon the specification. The Bakerloo Line retains the oldest mainland rail fleet, now 46 years old and travelling 10,000km between failures. A further build of the Siemens trains are expected between 2027 and 2030, subject to the Lewisham extension plans, but the current trains will require life extension works 2024-27 in any case.

The Central and Waterloo & City lines then expect a version of the Siemens trains in 2030-36. The current 26-year-old trains only manage 9,000km between failures, but the Central Line Improvement Programme (CLIP) in 2020-23 is intended to improve upon this. A programme lift is also due 2027-29 before the new fleet arrives.

The Jubilee Line expects the next build of trains in 2036-39, which is beyond the Siemens contract. The current 22-year-old fleet can only manage 19,000km between failures, less than the similar Northern Line trains, and less than the older Piccadilly Line trains. They will undergo a Programme Lift and TRIP (perhaps Train Reliability Improvement Programme?) from 2020 to 2024, followed by a life extension project from 2024 to 2029. They will then be due for Heavy Overhaul from 2031-34.

The Northern Line fleet travels 23,000km between failures at 21 years old. Being a leased fleet, perhaps planned maintenance is down to Alstom and is not revealed, apart from life extension works from 2031-2034, before replacement stock in 2038-2043.

The ten-year-old Victoria Line trains are the most reliable of all, achieving an average 75,000km between failures. There is a heavy maintenance schedule, with programme lift 2019-2021, door overhaul 2021-2023, programme lift 2024-2027, mid-life refurbishment 2029-2031, programme lift 2034-2037, and heavy overhaul 2040-2042.

The Metropolitan Line S8 stock trains achieve 38,000km between failures after nine years, much less than the 59,000km of the similar S7 fleet after seven years. The S8 are due for a programme lift with couplers and door overhauls from 2020 to 2023, followed by a programme lift of the S7 stock from 2023 to 2028, and a further programme lift of the S8 stock 2027-2028. The S8 will then receive a mid-life refurbishment in 2033-2036, moving on to the S7 fleet in 2035-2038. All S stock will then receive a heavy overhaul in 2042-2045 and beyond.

Line upgrade investments have each been split between baseline replacement of life-expired trains and signalling, and capacity improvements providing service enhancement. Other service enhancements listed are the Bakerloo Line extension to Lewisham and perhaps beyond, a DLR extension to Thamesmead, the Sutton (possibly tram) link, and an Overground West London Orbital link. Also mentioned are costs "to increase the frequency of Elizabeth Line services as demand increases over time".

Presumably because of its financial size, Crossrail 2 is accounted separately, and is still described as "a new railway that would link national services in Surrey and Hertfordshire with the Underground network via a tunnel under central London".