

Date: 21 February 2018

Item: London Underground Track Renewal Programme 2018/19 and 2019/20

This paper will be considered in public

1 Summary

LU Track Renewal Programme 2018/19 and 2019/20				
Existing Financial Authority	Estimated Final Cost (EFC)	Existing Programme and Project Authority	Authority Requested	Total Programme and Project Authority
£231.57m	£231.57m	£0m	£231.57m	£231.57m

Authority Approval: The Committee is requested to approve budgeted Programme and Project Authority of £231.57m for the LU Track Renewal Programme.

Outputs and Schedule: Delivery of the LU Track Renewal Programme for 2018/19 and 2019/20.

- 1.1 A paper is included on Part 2 of the agenda, which contains exempt supplementary information. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and the supplementary paper on Part 2 of the agenda and;**
- (a) **approve Programme and Project Authority of £231.57m (outturn including risk) for the LU Track Renewal Programme for 2018/19 and 2019/20; and**
 - (b) **approve Procurement Authority for the LU Track Renewal Programme for 2018/19 and 2019/20 as set out in the Part 2 paper.**

3 Track Programme Overview

- 3.1 LU track assets include track drainage, depots and long timber bridges. Track consists of 1,047km of track, which is 83 per cent on passenger routes and 17 per cent in depots and sidings. The track renewals programme plays a vital role in supporting line upgrades and maintaining day-to-day service levels and safety to meet the demands of intense train service patterns.

- 3.2 This programme supports the Mayor's strategic objective of 'providing a good public transport experience' and over time leads through to the 'improving public transport services' measure on the TfL Scorecard.
- 3.3 Continued investment is required to offset degradation of asset condition. Some current track forms date back to the early 1900s. These are being replaced with modern high integrity, long life, low maintenance track forms with far more predictable failure modes. This will provide a more stable and reliable asset base, in line with the LU track asset strategy.
- 3.4 The ultimate goal for the track asset strategy is to reach a state of 'predict and prevent' by ensuring that there is sufficient high quality data to inform decision making and result in lower service failure. Figure 1 below shows the current and planned progression by line to a modern track form. By 2023, 75 per cent of the network will have been modernised.

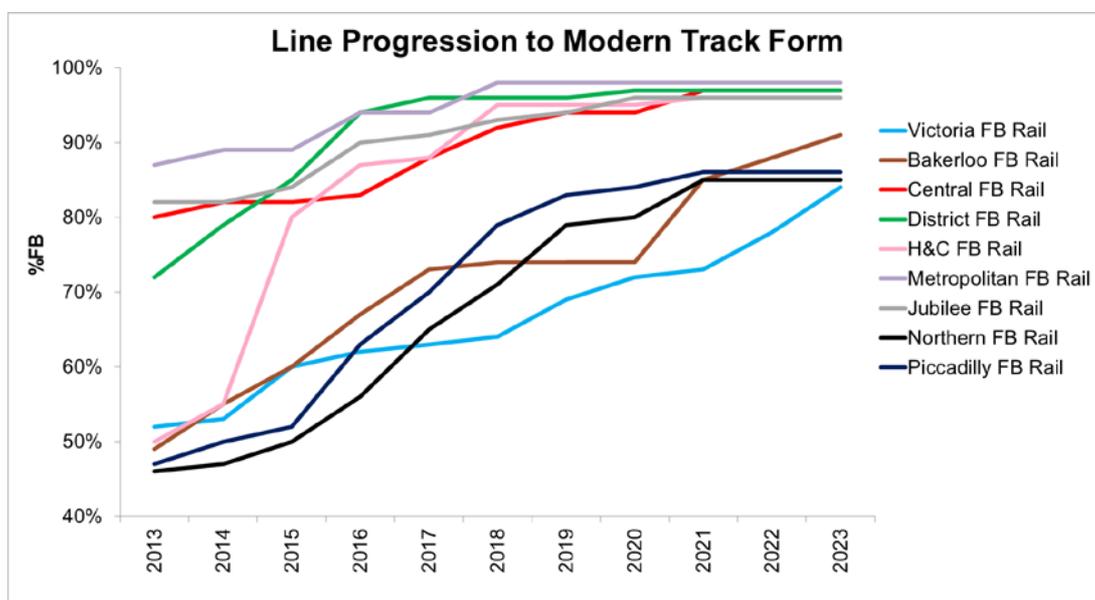


Figure 1: Progression to modern track form ie Flat-Bottom (FB) Rail, by line.

- 3.5 Track performance measured in Lost Customer Hours (LCH) has been steadily improving with a reduction of 75 per cent over the last 10 years. This has been achieved through sustained, year-on-year investment in track asset base, with more modern assets resulting in fewer, more predictable failure modes.
- 3.6 Maintaining these levels of performance requires a steady, ongoing level of investment. Even with this, current track performance predictions point to a general levelling of forecast LCH. This is due to the demands of a more intensive service to support population growth, which offsets the increased integrity of the track asset.

4 Delivery Approach

- 4.1 The Community of Metros (CoMET) undertook a benchmarking study in 2014. Their report concluded that LU had a depth and breadth of understanding relating to track investment which is regarded as best practice. It showed that LU has the greatest level of innovation among its peer group which includes the use of novel welding and construction techniques and modern materials to improve longevity, noise and

vibration.

- 4.2 For the Track and Track Drainage assets within the sub programme, there are detailed prioritised workbanks. These indicate which assets should be renewed or replaced in a given year. The workbanks take into account asset criticality, asset risk profiles, affordability constraints, and are planned to align with other projects, such as line upgrades. Most of the projects within the programme are repeatable items, with variations either due to site specific constraints, or opportunities to enhance the asset using a modern approach.
- 4.3 The priorities within the track workbank will evolve through the delivery period to take account of, for example, access opportunities and emerging condition concerns. These will be managed through change control taking into account the relative priorities and benefits of the individual workbank items.
- 4.4 The current delivery arrangements sees the design and delivery of Ballasted Track Renewals (BTR), replacement of Points and Crossings (P&C) and renewal of track drainage carried out under a contractual partnership arrangement with Balfour Beatty. Deep Tube Renewals (DTR) except P&C and renewals in the depot environment are undertaken by the in-house Track Delivery Unit (TDU).
- 4.5 The current contractual arrangements with Balfour Beatty are due to expire on 31 March 2018. Future delivery arrangements are described in the Part 2 paper.
- 4.6 The table below provides an outline of the volumes to be delivered over the course of the next two years (i.e. the period covered by this authority request). Further detail is shown in the Appendix to this paper.

Intervention	2018/19 km	2019/20 km	Total km
BTR	4.55	5.65	10.20
DTR	4.84	4.30	9.14
Drainage	1.00	5.99	6.99
Slab Track	0.60	0.12	0.72
Intervention	2018/19 no.	2019/20 no.	Total no.
P&C	6	27	33
Long Timber Bridges	Design only	1	1
Northern Line Joint Removal	0	930	930
Depots	Critical P&C and isolation	Critical P&C and isolation	Critical P&C and isolation

5 Proposal

- 5.1 The authority requested is fully funded within the 2018/19 TfL Business Plan as shown in the following table. It includes 6.3 per cent of embedded efficiencies totalling £59.19m following a review of the scope of the programme.
- 5.2 The cost estimate was built up using a pricing model from individual renewal sites based upon actual costs from the last four years. The model takes account of

constraints (such as access, engineering hours, engineering trains, plant and resources), track geometry and configuration, site length and renewal method.

Costs and Funding (£m)	Prior Years	2017/18	Sub Total	2018/19	2019/20	2020/21 to 2021/22	Total
Cost (Outturn)							
Estimated Final Cost	265.90	142.13	408.03	104.00	127.57	239.63	879.23
Original Budget/Plan Track	265.90	136.10	402.00	103.00	169.10	264.32	938.42
Plan Surplus/(Shortfall)	0	-6.03	-6.03	-1.00	41.53	24.69	59.19
Existing Authority	277.90	136.10	414.00	0	0	0	414.00
This Authority Request	0	0	0	104.00	127.57	0	231.57
Future Requests	0	0	0	0	0	239.63	239.63

6 Equalities Impact Assessment

- 6.1 The Programme will be delivered in accordance with the Equality Act 2010. Equality Impact Assessments are considered on all strategies, policies, business plans, change programmes or projects, with regard to our obligations under the public sector equality duty in section 149 throughout the delivery of the Programme.
- 6.2 As projects progress through feasibility and design, consideration will be given to the need for an Equality Impact Assessment for each one.

7 Financial Implications

- 7.1 The LU Track Renewal Programme comprises the following projects for the two year period of this authority - 2018/19 to 2019/20.

Description	Financial Authority	Estimated Final Cost (EFC)	Existing Project Authority	This Authority Request	Future Request 2020/21-2021/22
Track	221.02	221.02	0	221.02	227.33
Replacement Buses	5.00	5.00	0	5.00	5.00
Long Timber Bridges	0.60	0.60	0	0.60	2.10
Depots	4.95	4.95	0	4.95	5.20
Total for this submission	231.57	231.57	0	231.57	239.63

All figures £m include risk & inflation. The table includes all unapproved projects until end of 2021/22.

8 Assurance

- 8.1 A TfL Project Assurance (PA) and Independent Investment Programme Advisory Group (IIPAG) Assurance Review of the Programme has been completed and confirmed that there are no critical issues. Actions and management responses have been prepared for all recommendations.

List of Appendices

Appendix 1 Track Renewal Programme workbank

A paper on Part 2 of the agenda contains exempt supplementary information.

List of background papers:

IIPAG and PA Reports

Management response to IIPAG and PA Reports

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Appendix 1

A summary of the workbank content for the Track Renewal Programme is shown below.

Work type and selected key locations
10.20km Ballasted Track Renewal, including: <ul style="list-style-type: none">• Queens Park (Bakerloo line);• Hammersmith to Ravenscourt Park (District line);• Highgate Depot Reception Road (Northern line);• Wembley Park to Kingsbury (Jubilee line);• High Street Kensington to Earls Court (District line)
9.14km DTR, including: <ul style="list-style-type: none">• Baker Street to St Johns Wood (Jubilee line);• Knightsbridge to South Kensington (Piccadilly line);• Shepherds Bush to White City (Central line);• Paddington to Warwick Ave (Bakerloo line)
6.99km Drainage, including: <ul style="list-style-type: none">• West Kensington (District line)
0.72km Slab Track at: <ul style="list-style-type: none">• Baker Street to Finchley Road (Metropolitan line)
33 units P&C Renewal, including: <ul style="list-style-type: none">• Wimbledon (District line);• Camden (Northern line);• Aldgate (Circle, District, Hammersmith & City lines)
1 Long Timber Bridge Renewal at: <ul style="list-style-type: none">• Chiswick Park (District & Piccadilly lines)
Joint Removal: <ul style="list-style-type: none">• 930 joints (Northern line)
Depots: <ul style="list-style-type: none">• Ealing Common Depot Track renewal (District line)• Critical P&C and isolation (Various lines) <p>Note: Financial authority for Ealing Common Depot Track renewal is a transfer from the Four Lines Modernisation programme.</p>