

Agenda

Meeting: Programmes and Investment Committee

Date: Wednesday 21 July 2021

Time: 10:00

Place: Microsoft Teams

Members

Prof Greg Clark CBE (Chair)
Dr Nelson Ogunshakin OBE (Vice-Chair)
Heidi Alexander
Mark Phillips

Dr Nina Skorupska CBE
Dr Lynn Sloman MBE
Ben Story

Government Special Representative

Becky Wood

Copies of the papers and any attachments are available on [tfl.gov.uk How We Are Governed](https://www.tfl.gov.uk/how-we-are-governed).

How decisions will be taken

The 2020 regulations that provided the flexibility to hold and take decisions by meetings held using videoconference expired on 6 May 2021.

While social distancing measures will be lifted ahead of this meeting, there has not been sufficient time to prepare for a return to physical meetings, therefore Members will attend a videoconference briefing held in lieu of a meeting of the Committee. Any decisions that need to be taken within the remit of the Committee will be discussed at the briefing and, in consultation with available Members, will be taken by the Chair using Chair's Action. A note of the decisions taken, including the key issues discussed, will be published on [tfl.gov.uk](https://www.tfl.gov.uk).

As far as possible, TfL will run the briefing as if it were a meeting but without physical attendance at a specified venue by Members, staff, the public or press.

- Papers will be published in advance on [tfl.gov.uk How We Are Governed](https://www.tfl.gov.uk/how-we-are-governed)
- Apart from any discussion of exempt information, the briefing will be webcast live for the public and press on [TfL's YouTube channel](https://www.youtube.com/channel/UCv8v8v8v8v8v8v8v8v8v8v8).
- A guide for the press and public on attending and reporting meetings of local government bodies, including the use of film, photography, social media and other

means is available on www.london.gov.uk/sites/default/files/Openness-in-Meetings.pdf.

Further Information

If you have questions, would like further information about the meeting or require special facilities please contact: Jamie Mordue, Senior Committee Officer; email: v_JamieMordue@tfl.gov.uk.

For media enquiries please contact the TfL Press Office; telephone: 0343 222 4141; email: PressOffice@tfl.gov.uk

Howard Carter, General Counsel
Tuesday 13 July 2021

**Agenda
Programmes and Investment Committee
Wednesday 21 July 2021**

1 Apologies for Absence and Chair's Announcements

2 Declarations of Interests

General Counsel

Members are reminded that any interests in a matter under discussion must be declared at the start of the meeting, or at the commencement of the item of business.

Members must not take part in any discussion or decision on such a matter and, depending on the nature of the interest, may be asked to leave the room during the discussion.

3 Minutes of the Meeting of the Committee held on 19 May 2021

(Pages 1 - 10)

General Counsel

The Chair, following consultation with the Committee, is asked to approve the minutes of the meeting of the Committee held on 19 May 2021 and to sign them.

4 Matters Arising and Actions List (Pages 11 - 16)

General Counsel

The Committee is asked to note the Actions List.

5 Use of Delegated Authority (Pages 17 - 20)

General Counsel

The Committee is asked to note the paper.

6 Investment Programme Report - Quarter 1 2021/22 - To Follow

Director Major Projects and Managing Directors London Underground and TfL Engineering, and Surface Transport

The Committee is asked to note the paper and exempt supplementary information on Part 2 of the agenda.

7 Independent Investment Programme Advisory Group Quarterly Report (Pages 21 - 24)

General Counsel

The Committee is asked to note the Independent Investment Programme Advisory Group's Quarterly Report and the Management Response, and exempt supplementary information on Part 2 of the agenda.

8 TfL Project Assurance Update (Pages 25 - 28)

General Counsel

The Committee is asked to note the paper and exempt supplementary information on Part 2 of the agenda.

9 London Underground Four Lines Modernisation Programme
(Pages 29 - 36)

Director Major Projects

The Chair, following consultation with the Committee, is asked to note the paper and exempt supplementary information on Part 2 of the agenda, and approve authority.

10 Piccadilly Line Upgrade - Stage 1 Progress Update (Pages 37 - 48)

Director Major Projects

The Chair, following consultation with the Committee, is asked to note the paper and exempt supplementary information on Part 2 of the agenda, and approve authority.

11 Docklands Light Railway - Housing Infrastructure Funding
(Pages 49 - 56)

Director Major Projects

The Chair, following consultation with the Committee, is asked to note the paper and exempt supplementary information on Part 2 of the agenda, and approve authority.

12 Public Transport Programme (Pages 57 - 74)

Managing Director Surface Transport

The Chair, following consultation with the Committee, is asked to note the paper and approve authority.

13 Healthy Streets 2021/22 Programme (Pages 75 - 88)

Director Investment Delivery Planning

The Chair, following consultation with the Committee, is asked to note the paper and approve authority.

14 Members' Suggestions for Future Discussion Items (Pages 89 - 92)

General Counsel

The Committee is asked to note the forward plan and is invited to raise any suggestions for future discussion items for the forward plan and for informal briefings.

15 Any Other Business the Chair Considers Urgent

The Chair will state the reason for urgency of any item taken.

16 Date of Next Meeting

Wednesday 13 October 2021 at 10.00am.

17 Exclusion of the Press and Public

The Committee is recommended to agree to exclude the press and public from the meeting, in accordance with paragraphs 3 and 5 of Schedule 12A to the Local Government Act 1972 (as amended), in order to consider the following items of business.

Agenda Part 2

18 Investment Programme Report - Quarter 1 2021/22 - To Follow

Exempt supplementary information relating to the item on Part 1 of the agenda.

19 Independent Investment Programme Advisory Group Quarterly Report (Pages 93 - 100)

Exempt supplementary information relating to the item on Part 1 of the agenda.

20 TfL Project Assurance Update (Pages 101 - 102)

Exempt supplementary information relating to the item on Part 1 of the agenda.

21 London Underground Four Lines Modernisation Programme (Pages 103 - 112)

Exempt supplementary information relating to the item on Part 1 of the agenda.

22 Piccadilly Line Upgrade - Stage 1 Progress Update (Pages 113 - 120)

Exempt supplementary information relating to the item on Part 1 of the agenda.

23 Docklands Light Railway - Housing Infrastructure Funding (Pages 121 - 126)

Exempt supplementary information relating to the item on Part 1 of the agenda.

Transport for London

Minutes of the Programmes and Investment Committee

Teams Virtual Meeting
10.00am, Wednesday 19 May 2021

Members

Professor Greg Clark CBE (Chair) (until Minute 27/05/21)
Dr Nelson Ogunshakin OBE (Vice-Chair) (in the Chair from Minute 27/05/21)
Heidi Alexander
Mark Phillips
Dr Nina Skorupska CBE (from Minute 26/05/21)
Dr Lynn Sloman MBE

Executive Committee

Andy Byford	Commissioner (until Minute 19/05/21)
Howard Carter	General Counsel
Stuart Harvey	Director of Major Projects

Staff

Alexandra Batey	Director of Investment Delivery Planning
Andrea Clarke	Director of Legal
Patrick Doig	Finance Director, Surface Transport and Major Projects
Lorraine Humphrey	Interim Director of Risk and Assurance
Tony King	Group Finance Director and statutory Chief Finance Officer
Caroline Sheridan	Director of TfL Engineering Delivery
Shamus Kenny	Head of Secretariat
Jamie Mordue	Secretariat Officer

Independent Investment Programme Advisory Group (IIPAG) Attendance

Alison Munro	Chair, IIPAG
Kenny Laird	IIPAG Member

18/05/21 Apologies for Absence and Chair's Announcements

Apologies for absence had been received from Ben Story and an apology for lateness had been received from Dr Nina Skorupska CBE. Andy Lord, Managing Director London Underground and TfL Engineering, and Gareth Powell, Managing Director Surface Transport, were unable to attend the meeting. The Chair had also indicated that he would need to leave the meeting after item 10, at which point the Vice-Chair would chair the meeting.

The Chair welcomed everyone to the meeting. The meeting was being broadcast live on YouTube, except for the discussion of the information on Part 2 of the agenda, which was exempt from publication. The flexibility of meetings regulations, which applied to TfL from August 2020 and enabled it to take decisions via videoconference, expired on 6 May 2021. As the Committee was unable to meet in person due to social distancing measures, any decisions required would be taken by Chair's Action, following the discussion of the item with Members.

The Chair reminded those present that safety was paramount at TfL and encouraged Members to raise any safety issues during discussions on a relevant item or with TfL staff after the meeting. No matters were raised.

The Chair announced that Tony King was attending his last meeting of the Committee before he left TfL for a new role. On behalf of the Committee, the Chair thanked Tony King for his contribution and service to TfL, in particular in helping to steer TfL through the difficult funding challenges and negotiations with Government. It was noted that the Board had approved the appointment of Patrick Doig as the interim statutory Chief Finance Officer until a permanent appointment was made.

The existing funding arrangements with the Department for Transport (DfT) had been extended from 18 May to 28 May 2021. A new budget would be presented to the Board in July 2021, once a new funding arrangement had been approved.

TfL's financial model was dependent on fare revenues, which had been greatly reduced as a result of the coronavirus pandemic. Short-term funding agreements had an impact on TfL suppliers, TfL's ability to optimise cash savings over time and investment in the system. TfL had presented a Financial Sustainability Plan (FSP) to Government, which set out how TfL could become financially sustainable and contribute to recovery, levelling up and to decarbonisation.

The Commissioner hoped to have a sensible and mutually acceptable funding agreement with Government, lasting until the Comprehensive Spending Review expected in autumn 2021. TfL understood national financial position but there could not be a UK recovery without a London recovery.

TfL had not received a response to the FSP, which it produced as a condition of the 2020/21 H2 agreement. TfL had offered a long-term partnership that demonstrated how it could work with Government to achieve Government objectives. While the FSP had set out £770m in savings, it was essential that TfL had sufficient investment to maintain its assets in a state of good repair.

The Chief Finance Officer said that short-term agreements impacted TfL's ability to enter into longer-term contracts and commitments. In order to deliver services and capital programmes in an efficient and effective way, TfL needed the same certainty of funding as other agencies, such as Network Rail and Highways England. Liquidity had been carefully managed and a robust approach to what could be committed had to be taken. It was hard for TfL to give confidence to its supply chain partners, in the absence of longer-term funding certainty.

Members noted that the lack of certainty meant increased inefficiencies and costs over the longer-term. The lack of longer-term funding meant TfL had to prioritise maintaining safety critical assets, which potentially put important programmes at risk, such as those that improved London's air quality or promoting active travel.

19/05/21 Declarations of Interests

Members confirmed that their declarations of interests, as published on tfl.gov.uk, were up to date and there were no interests to declare that related specifically to items on the agenda.

20/05/21 Minutes of the Meeting of the Committee held on 3 March 2021

The Chair, in consultation with Members, approved the minutes of the meeting held on 3 March 2021 as a correct record. The minutes would be provided to the Chair for signature at a future date.

21/05/21 Matters Arising and Actions List

Howard Carter introduced the paper, which set out progress against actions agreed at previous meetings of the Committee.

The Committee noted the actions list.

22/05/21 Use of Delegated Authority

Howard Carter introduced the paper, which provided an update on the use of delegated authority by the Committee, through the use of Chair's Action or of Procurement Authority and Programme and Project Authority, in respect of matters within the Committee's remit, granted by the Commissioner and the Chief Finance Officer.

Since the meeting on 3 March 2021, there had been one use of Chair's Action, in relation to the Healthy Streets 2021/22 Programme (Periods 1 and 2). The Commissioner had approved one Procurement Authority request for £31.3m on 14 April 2021, relating to the Taxi and Private Hire Re-let.

There were no Mayoral Directions to TfL within the Committee's remit.

The Committee noted the paper.

23/05/21 Investment Programme Report – Quarter 4 2020/21

Stuart Harvey introduced the paper, which set out the progress and performance in Quarter 4 2020/21 of a range of projects that will deliver world-class transport services to London.

Members noted that there was good performance on safety, with a 45 per cent reduction in injuries over the past year. Levels of staff self-isolation, owing to coronavirus related issues, remained low.

On the Piccadilly line trains, the steelworks for the new train manufacturing facility in Goole had been started, which highlighted that investment in London generated jobs in other parts of the country. In addition, Siemens was working with local schools to encourage more young people into engineering.

Members welcomed the progress made on the Northern Line Extension (NLE), which was scheduled to open in September 2021, following trial operations in July. The escalators for the NLE had been run for 24 hours and the installation of ticket machines and the gate-line had begun. Significant signalling, power and ventilation testing took place over the Easter weekend.

Forty-three new Docklands Light Railway (DLR) trains had been ordered; 10 additional trains and 33 to replace existing stock. The manufacturing of the trains had started with the first three bodysHELLS and associated infrastructure changes to the DLR was making good progress. In relation to the Piccadilly line trains, detailed design freeze with Siemens had been achieved and the manufacturing process would begin shortly. Siemens had erected the steelwork for the new factory in Goole, where 50 per cent of the new trains would be manufactured.

On the Silvertown Tunnel project, works on utilities diversions had started, there were several piling rigs operating across the site and the tunnel boring machine was being manufactured.

Final decking on the viaduct structures to support 4.5km of track slabs at the Barking Riverside Extension (BRE) had been completed. Track had started to be laid and systems works in the station and rail systems had begun. The station was nearing completion and the focus would now be on the electrical and mechanical fit out.

TfL continued to work with stakeholders to safeguard the new station at Elephant and Castle and was committed to safeguarding the site.

Alexandra Batey told the Committee that the installation of 1.5km of new mainline ballasted track had been successfully installed on the London Underground (LU) Track Renewals Programme.

On the LU Rolling Stock Programme, the Rail Vehicle Accessibility Requirement project on the Bakerloo line fleet had commenced and work was ongoing for the design and early parts manufacturing processes. The first Metropolitan line S8 train had been lifted into heavy overhaul and the first bogies built. The Victoria line fleet overhaul continued to plan and was 75 per cent complete.

The key purpose of the LU Renewals Programme was to ensure that assets remained safe and operable. A key highlight during the last quarter was the installation and commissioning One-Person Operation CCTV cameras on platforms across Leytonstone, Stratford, West Ham and Holborn stations on the Central line, and the prioritisation of works at Waterloo to address safety concerns and to provide safer access to and from the trains.

On the Power and Cooling Programme, the conversion of traditional fluorescent lights to low energy LED lighting had been completed at 17 stations, which had improved efficiency and reduced ongoing maintenance costs. The equipment manufacture and software development for the systemwide power control system

replacement project was nearing completion, the delivery of the project would improve safety and reliability.

The Asset Management Information Systems (AMIS) platform had been successfully developed and was being consolidated into a single platform for LU and Trams. It was anticipated that other business areas would migrate to AMIS over the coming years. Caroline Sheridan told Members that the system was scalable and adaptable, and the first step in creating a pan-TfL environment with a single source of data for assets.

TfL and the boroughs were committed to improve active travel options and continued to monitor temporary Healthy Streets and active travel schemes, incorporating new guidance on monitoring, consulting and the use of experimental schemes. A new data led approach to Healthy Streets had been developed over the previous year, which proposed a number of Healthy Streets corridors with multiple outcomes for safety and sustainable travel.

Under the Air Quality Programme, tighter Low Emission Zone standards were successfully implemented for buses, coaches and lorries, in line with the requirements for the central London Ultra Low Emission Zone. The Direct Vision Standard now required all Heavy Goods Vehicles over 12 tonnes to hold a safety permit to operate in London.

TfL's core bus fleet now met or exceeded Euro VI standards. The number of zero emission buses was expected to be 700 by the end of 2021, including hydrogen buses, subject to funding.

TfL signed a Grant Determination Agreement with the Ministry of Housing, Communities and Local Government and the GLA in August 2020 to begin work on the East London line project. Since then, TfL had taken the design work through option selection and commenced concept design, which was anticipated to conclude in autumn 2021. Works had finished on site at White Hart Lane, West Hampstead and Crossrail stations.

Feasibility work was underway to replace the life expired CR4000 Trams fleet, which experienced declining reliability and had one of the lowest states of good repair across TfL fleets. Work was ongoing on a Correct Side Door Enable technical solution to mitigate the risk of tram doors opening on the wrong side of the platform. Members noted that it was not currently possible, under EU and UK procurement law, to make it a requirement that new trams be built in the UK.

A number of critical improvements across the Surface Technology Programme had been delivered, including body-worn video cameras for over 6,000 frontline colleagues.

Members asked what lessons had been learnt from complex projects with commercial issues, such as BRE and Bank Station Upgrade. Stuart Harvey told the Committee that the relationship with the contractor was fundamental to achieving a successful outcome. A 'lessons learnt' exercise was taking place and would be shared with the Committee once completed. **[Action: Stuart Harvey]**

The Committee stated that, whilst the number of charging points for electric vehicles (EV) was an important metric, it was also important to understand the utilisation of the charging points. This would enable TfL to determine if there were any pinch points on the EV charging network and stay ahead of the curve. Alexandra Batey told Members that work to review the usage data and strategy for EV charging was expected to be completed by the end of the year.

Members requested further information on how and where TfL would concentrate its expansion of the Santander Cycle Hire scheme. **[Action: Alexandra Batey]**

The Committee noted the paper and exempt supplementary information on Part 2 of the agenda.

24/05/21 Independent Investment Programme Advisory Group Quarterly Report

Lorraine Humphrey introduced the paper and the supplementary information on Part 2 of the agenda. The paper provided an update on the work undertaken by the Independent Investment Programme Advisory Group (IIPAG) since the last meeting of the Committee on 3 March 2021.

The Committee noted the update on the work undertaken since the last report. A review had been undertaken on London Underground Enhancements and crosscutting work continued.

Members noted that work was ongoing to develop a tracker for estimated final costs. The Chief Finance Officer and Director Major Projects would discuss how best to report on capital activity outside of the Major Projects directorate; baselining activity was underway, including business cases, benefit-cost ratios and estimated final costs. A note would be provided on proposed changes to reporting. **[Action: Simon Kilonback]**

In relation to IIPAG's work on Crossrail, TC Chew and other members of the IIPAG CRL Sub-Group brought valuable experience. The Sub-Group was now well established and reported to the Elizabeth Line Committee.

The Committee noted the report and the exempt supplementary information on Part 2 of the agenda.

25/05/21 TfL Project Assurance Update

Lorraine Humphrey introduced the paper and the supplementary information on Part 2 of the agenda, which provided an update on Project Assurance work undertaken between 23 January and 12 April 2021.

Ten project assurance reviews were undertaken, with the Independent Investment Programme Advisory Group (IIPAG) involved in three reviews. Four critical issues were found by Project Assurance, which had all been agreed with the respective project teams. There was one overdue critical issue which was being progressed.

There was a recurring issue with resourcing, which had been added to the continuous assurance tracker to determine whether there were any trends.

The number of overdue IIPAG recommendations and Project Assurance recommendations had been reduced in the quarter and subsequently, since the publication of meeting papers.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda.

26/05/21 London Underground Four Lines Modernisation Programme

Stuart Harvey introduced the paper, which provided an update on the progress on the London Underground (LU) Four Lines Modernisation (4LM) Programme, which included signalling, trains, track and depot works. The Programme covered around 40 per cent of the LU network and replaced critical life-expired assets as well as being an upgrade Programme. Work on the trains, track and depots had largely been completed and the substantial part of the remaining works involved signalling.

Signalling Migration Area (SMA) 3 and 4 had been successfully completed, incorporating lessons learned from SMA2 and there had been a period of 20 days without any delay minutes. To date, a total of 35 stations and three complex junctions had been delivered by the 4LM Programme, which was more than on the entire Jubilee line.

The next area of focus would be SMA5, which would complete works on the Circle line. In September 2021 a new timetable would be introduced for the north section of the Circle line, which would provide run time improvements and additional trains per hour.

A further paper would be submitted to the next meeting, highlighting challenges in enabling works, software issues and the impact of the coronavirus pandemic on the Programme. The further work would ensure that the Programme was robust and help to provide an update on time and cost.

SMAs that had been descoped were identified as areas that provided the least benefit and the timetabling potentially conflicted with signalling work by Network Rail.

TfL Project Assurance had worked with the 4LM team in a collaborative manner. Project Assurance was fully aware of commercial issues and pleased to see realistic dates for SMA7 and SMA8. Additional assurance work would be completed before the next meeting of the Committee. The Independent Investment Programme Advisory Group confirmed that there was broad confidence up to SMA7 but timetables beyond SMA8 were more challenging.

The Committee noted the paper and exempt supplementary information on Part 2 of the agenda.

27/05/21 London Underground Enhancements Programme

Alexandra Batey introduced the paper, which provided an update on the London Underground (LU) Renewal and Enhancements Fleet and Access Programmes (with the Access Programme incorporating projects from the former Engineering Vehicles Programme). The purpose of the Programme was to improve LU assets, primarily around accessibility and congestion relief. The two main constituents of the Programme were the LU Accessibility and LU Enhancements projects.

Work on most project sites had restarted; LU initiated a Safe Stop on all sites, in line with Government guidance, and subsequently reprioritised delivery into 2021.

A new ticket hall and step-free access to the LU platforms had been delivered at Finsbury Park station, which provided significant journey time improvements and reduced maintenance costs. At Bromley-by-Bow station, an enlarged ticket hall and step-free access had been delivered. While delays had occurred on the scheme, a business case review had been completed and it still remained value for money. At Tottenham Hale station, TfL was actively reviewing costs and alternate possession strategies and a design review change to mitigate delays and a related increase in the estimated final costs. The detailed design stages for Colindale station had been completed and, subject to Government funding, the Committee was asked to approve income from a third party to support delivery.

On the Step-Free Access Programme, work on a further four stations were due to be completed by summer 2021. Subject to funding, a decision to restart works on three further stations would be taken in summer 2021.

Lessons learnt from Tottenham Hale and Finsbury Park stations had been undertaken. Across the Programme, a review had taken place to ensure a more consistent delivery approach and stronger engagement with the supply chain. A progressive design build approach was being implemented, which incorporated appropriate design points in the life cycle, to give greater flexibility and cost control.

The importance of achieving long-term certainty in funding was highlighted. TfL's Financial Sustainability Plan and the strategy to decarbonisation by 2030 involved significant further investment in additional step-free access and accessibility provision on the LU network. However, under more financially constrained scenarios this would not be possible. Further to this, strategic developments, such as at Elephant and Castle, would be increasingly difficult to deliver. Members noted that TfL was unable to apply to the Government's Access to All fund for making LU stations step-free and so had to find alternative funding.

The Independent Investment Programme Advisory Group noted the good progress and highlighted the importance of taking the lessons learnt and embedding them across the Programme. It also noted that there could be more focus on longer-term planning for station enhancements, in the hope that funding would be made available for that.

Members welcomed the progress made on the Step-Free Access Programme. The Committee asked about the process of determining the prioritisation of step-free access and associated engagement with the public and campaign groups. TfL had an increasing focus on equity of investment and ensuring that the right level of

consultation, which reached all members of the community, was fed into TfL's prioritisation process and design standards.

A note would be provided to update Members on Walthamstow Central station, where planning consent for a new station entrance was granted.

[Action: Alexandra Batey]

Aside from the request for additional Authority, most of the movement of funds was as a result of baselining in the Programme. Work was ongoing to set out all third-party funding, to better understand each investment opportunity and to determine what the consequence of not delivering a scheme was, including the impact on job generation and housing provision. Without long-term funding certainty, it was difficult for TfL to commit to schemes.

Members noted that TfL had reached the milestone of being in receipt of £1bn of Mayoral Community Infrastructure Levy and Section 106 funding. A note would be provided to the Committee on third-party contributions across the whole of TfL, rather than at Programme level.

[Action: Alexandra Batey]

Work on refining and improving the prioritisation tool for step-free access would build on the existing tool, consider the impact of the coronavirus pandemic and incorporate lessons learnt, with an increased focus on value for money. While the tool was anticipated to be complete by April 2022 efforts would be made to complete its development sooner.

Across the LU Enhancements Programme, there was movement of staff from one project to another. This enabled staff to share lessons learnt, particularly on procurement and cost estimation. Peer reviews and deep dives helped to develop understanding further.

As the Chair of the Committee had left the meeting before consideration of this item, the decision would be taken by Chair's Action after the meeting.

Members endorsed the recommendations in the paper for the Chair to:

- 1 approve additional Programme and Project Authority of £41.19m for the London Underground (LU) Enhancements Programme, bringing the total Programme and Project Authority to £652.35m up to and including 2022/23, representing:**
 - (a) expenditure of:**
 - (i) £16.98m (outturn including risk) for completion of the remaining stations in the Accessibility Programme (resulting total Authority of £120.47m);**
 - (ii) £24.21m for all Stations Programmes, which includes £17.21m for construction of Colindale station works;**
- 2 note that the authority includes income of £35.72m from funding partners;**
- 3 approve the transfer of £56.58m of existing authority from LU Enhancements Programme to Major Stations Programme for Elephant and Castle and High Speed 2 schemes; and the transfer of Leyton within the Programme from Accessibility to Stations; and**

- 4 note that the matters for which Authorities are sought above include commitments that extend beyond the period of the Business Plan and Budget approved by the Board on 16 March 2021 and provision will, therefore, need to be made for those commitments in future Business Plans and Budgets.

28/05/21 Members' Suggestions for Future Discussion Items

Howard Carter introduced the current forward plan for the Committee.

The Committee noted the paper.

29/05/21 Any Other Business the Chair Considers Urgent

There was no urgent business.

30/05/21 Date of Next Meeting

The next scheduled meeting was due to be held on Wednesday 21 July 2021 10.00am.

31/05/21 Exclusion of the Press and Public

The Chair, following consultation with the Committee, agreed to exclude the press and public from the meeting, in accordance with paragraphs 3 and 5 of Schedule 12A to the Local Government Act 1972 (as amended), when it considered the exempt information in relation to the items on: Investment Programme Report – Quarter 4 2020/21; Independent Investment Programme Advisory Group Quarterly Report; TfL Project Assurance Update; and London Underground Four Lines Modernisation Programme.

The meeting closed at 12.56pm.

Chair: _____

Date: _____

Programmes and Investment Committee



Date: 21 July 2021

Item: Matters Arising and Actions List

This paper will be considered in public

1 Summary

1.1 This paper informs the Committee of progress against actions agreed at previous meetings.

2 Recommendation

2.1 **The Committee is asked to note the Actions List.**

List of appendices to this report:

Appendix 1: Actions List

List of Background Papers:

Minutes of previous meetings of the Programmes and Investment Committee.

Contact Officer: Howard Carter, General Counsel
Email: HowardCarter@tfl.gov.uk

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Programmes and Investment Committee Action List (reported to the meeting on 21 July 2021)

Actions from the meeting of the Programmes and Investment Committee held on 19 May 2021

Minute No.	Description	Action By	Target Date	Status note
23/05/21 (1)	<p>Investment Programme Report – Quarter 4 2020/21: Complex projects with commercial issues Lessons Learnt</p> <p>Members asked what lessons had been learnt from complex projects with commercial issues, such as BRE and Bank Station Upgrade. Stuart Harvey told the Committee that the relationship with the contractor was fundamental to achieving a successful outcome. A ‘lessons learnt’ exercise was taking place and would be shared with the Committee once completed.</p>	Director Major Projects	To be scheduled	On forward plan.
23/05/21 (2)	<p>Investment Programme Report – Quarter 4 2020/21: Santander Cycle Hire expansion</p> <p>Members requested further information on how and where TfL would concentrate its expansion of the Santander Cycle Hire scheme.</p>	Director Investment Delivery Planning	Ongoing	Members will be provided with further briefings following approval of the revised Budget and Long-Term Capital Plan by the Board on 28 July 2021. A note to Members will provide details on the Cycle Hire scheme Expansion.
24/05/21	<p>Independent Investment Programme Advisory Group (IIPAG) Quarterly Report: Capital activity</p> <p>The Chief Finance Officer (CFO) and Director Major Projects would discuss how best to report on capital activity outside of the Major Projects directorate; baselining activity was underway, including business cases, benefit-cost ratios and estimated final costs. A note would be provided on proposed changes to reporting.</p>	CFO / Director Major Projects	October 2021	The format of the quarterly Investment Programme Report is being revised and will address this request.

Minute No.	Description	Action By	Target Date	Status note
27/05/21 (1)	<p>London Underground Enhancements Programme: Walthamstow Central station</p> <p>A note would be provided to update Members on Walthamstow Central station, where planning consent for a new station entrance was granted.</p>	Director Investment Delivery Planning	May 2021	Complete. A note was sent to all Members on 28 June 2021.
27/05/21 (2)	<p>London Underground Enhancements Programme: Third party contributions</p> <p>A note would be provided to the Committee on third-party contributions across the whole of TfL, rather than at Programme level.</p>	Director Investment Delivery Planning	July 2021	Complete. Information was provided to Members at the Committee briefing on 2 July 2021.

Actions from previous meetings of the Committee

Minute No.	Description	Action By	Target Date	Status note
11/03/21	<p>Surface Transport Asset Renewals Programme: capital funding scenarios</p> <p>Members requested a Board briefing on the potential outcome of some of the capital funding scenarios being raised in the discussions with Government on TfL's long-term funding.</p>	CFO	May 2021	Complete. This was provided as part of the briefings ahead of the funding settlement in May 2021. The Long-Term Capital Plan will be considered by the Board on 28 July 2021.
64/12/20	<p>IIPAG Quarterly Report: gateway and performance review functions</p> <p>Members requested information on how the gateway and performance review functions worked and best practice and the principles that guided this, including the work done to embed value for money within TfL.</p>	Director Major Projects / Director Investment Delivery Planning	October 2021	A paper will be provided to coincide with IIPAG's updated report to the next meeting of the Committee.
72/12/20	<p>Healthy Streets Programme, H2 2020/21: monitoring</p> <p>Further monitoring results were expected to be available in the next 12-18 months. Members asked that longer term assessment of the impacts of the Programme be conducted, with the results shared with the Committee, when available.</p>	Director Investment Delivery Planning	Ongoing 2022	Updates on monitoring were provided in the Chair's Action paper to the Committee on 19 April 2021 and the paper on the agenda for this meeting. The long-term assessment will be included in the annual Health Streets updates.

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Programmes and Investment Committee



Date: 21 July 2021

Item: Use of Delegated Authority

This paper will be considered in public

1 Summary

- 1.1 This is a standing item on the agenda to inform the Committee of any use of delegated authority by the Committee, through Chair's Action or of Procurement Authority and Programme and Project Authority (in respect of matters within the Committee's remit) granted by the Commissioner and the Chief Finance Officer in accordance with delegated authorities under TfL's Standing Orders since the last meeting of the Committee. The paper also provides information on Mayoral Directions to TfL within the Committee's remit.
- 1.2 Since the last meeting of the Committee, on 19 May 2021, there have been:
- (a) no uses of specific authority delegated by the Board;
 - (b) one decision taken by Chair's Action, in relation to the London Underground (LU) Enhancements Programme (discussed at the last meeting but approved by the Chair after the meeting as he was not present for the discussion of that item);
 - (c) no Mayoral Directions within the Committee's remit;
 - (d) two approvals of Procurement Authority by the Commissioner, relating to the building of a workshop in Acton depot, and to the purchase of components for the LU Fleet Heavy Overhaul; and
 - (e) four approvals by the Chief Finance Officer, all of which related to the purchase of various components for the LU Fleet Heavy Overhaul.
- 1.3 A similar report is submitted to the Finance Committee in respect of the use of Chair's Action and of Procurement Authority and Land Authority granted by the Commissioner and the Chief Finance Officer in respect of matters within the Finance Committee's remit, together with relevant Mayoral Directions.

2 Recommendation

2.1 The Committee is asked to note the paper.

3 Use of authority delegated by the Board

3.1 There have been no uses of authority delegated by the Board since the last meeting of the Committee.

4 Use of Chair's Action

4.1 Under Standing Order 113, in situations of urgency, the Board delegates to each of the Chair and the Chairs of any Committee or Panel the exercise of any functions of TfL on its behalf, including the appointment of Members to Committees and Panels. Any use of Chair's Action is reported to the next ordinary meeting.

4.2 There has been one use of Chair's Action since the last meeting of the Committee.

London Underground Enhancements Programme

4.3 At the meeting of the Committee on 19 May 2021, Members considered a paper on the LU Enhancements Programme, which delivers enhancements to safety, accessibility, reliability, capacity, sustainability and customer experience whilst reducing maintenance costs and extending the operating life of station assets.

4.4 As the Chair of the Committee had to leave the meeting before the item was considered, his approval was sought and confirmed after the meeting.

4.5 The Chair of the Committee, following consultation with Members, noted the paper and:

(a) approved additional Programme and Project Authority of £41.19m for the LU Enhancements Programme, bringing the total Programme and Project Authority to £652.35m up to and including 2022/23, representing:

(i) expenditure of:

i. £16.98m (outturn including risk) for completion of the remaining stations in the Accessibility Programme (resulting total Authority of £120.47m),

ii. £24.21m for all Stations Programmes, which includes £17.21m for construction of Colindale station works;

(b) noted that the authority includes income of £35.72m from funding partners.

(c) approved the transfer of £56.58m of existing authority from LU Enhancements Programme to Major Stations Programme for Elephant and Castle and High Speed 2 schemes; and the transfer of Leyton within the Programme from Accessibility to Stations; and

(d) noted that the matters for which Authorities were sought above included commitments that extend beyond the period of the Business Plan and Budget approved by the Board on 16 March 2021 and provision would, therefore, need to be made for those commitments in future Business Plans and Budgets.

Healthy Streets Programme

4.6 Following the use of Chair's Action in April 2021, a Chair's Action for Authority relating to this Programme was made in June 2021. Given, however, further revisions required, this authority will be superseded by a revised Authority request that is the subject of a paper elsewhere on the agenda.

5 Programme and Project Authority Approvals

- 5.1 To enable an appropriate level of governance, processes are in place for the authorisation, control and reporting of projects.
- 5.2 Programme and Project Authority will normally be granted by the Committee for all programmes and projects as part of the defined Programmes within the overall Investment Programme. Where individual programmes or projects have a value in excess of £50m and have not already received full approval as part of a Programme, requests will be submitted to the Committee for consideration. Those programmes and projects with an estimated final cost of £50m or below, which have been approved by the Commissioner or the Chief Finance Officer, will be reported to subsequent meetings of the Committee.
- 5.3 Where the main contract has not yet been awarded, the Financial Authority and Estimated Final Cost may not be stated because they are commercially confidential.

Approvals by the Commissioner

- 5.4 Since the meeting of the Committee, the Commissioner has not approved any Programme and Project Authority requests within the Committee's remit.

Approvals by the Chief Finance Officer

- 5.5 Since the meeting of the Committee, the Chief Finance Officer has not approved any Programme and Project Authority requests within the Committee's remit.

6 Procurement Approvals

Approvals by the Commissioner

- 6.1 Since the meeting of the Committee, the Commissioner has approved two Procurement Authority requests in respect of matters within the Committee's remit, relating to the building of a workshop in Acton depot, and to the purchase of components for the LU Fleet Heavy Overhaul.

Approvals by the Chief Finance Officer

- 6.2 Since the meeting of the Committee, the Chief Finance Officer has approved four Procurement Authority requests in respect of matters within the Committee's remit, relating to the purchase of various components for the LU Fleet Heavy Overhaul.

7 Mayoral Directions to TfL

- 7.1 The Greater London Authority Act 1999 (as amended), permits the Mayor to issue to TfL general directions as to the manner in which TfL is to exercise its functions or specific directions as to the exercise of its functions (or not to exercise a power specified in the direction). Directions are also often made in relation to the implementation of matters in respect of which the Mayor delegates statutory powers to TfL.
- 7.2 The Mayor makes Mayoral Directions through Mayoral Decisions. Papers for Mayoral Directions set out the financial and other implications. If those implications change over time, that will be reported to the GLA.

- 7.3 All Mayoral Decisions are issued in writing, with the information that is not exempt from publication included on the GLA's Decisions Database on its website: <https://www.london.gov.uk/about-us/governance-and-spending/good-governance/decisions?order=DESC>.
- 7.4 Mayoral Directions fall into three broad categories: those addressing technical issues relating to statutory powers; those related to commercial development activities; and those related to projects and programmes. Mayoral Directions relating to TfL are reported to the Board's Committees for discussion as soon as possible after they are received by TfL or published. Regular reports will list the relevant Directions for as long as they are applicable.
- 7.5 Annually the Audit and Assurance Committee considers the list as part of its consideration of the annual audit plan to ensure that appropriate audit resource is applied to assurance on TfL's work in implementing Mayoral Directions. This will also be kept under review at each quarterly meeting of that Committee.
- 7.6 A summary of current Mayoral Directions to TfL is maintained on the "How we are governed" page on our website, with links to the relevant Mayoral Decisions: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/how-we-are-governed>. That page will be updated as and when further Directions are made.
- 7.7 Mayoral Directions to TfL related to projects and programmes are reported to this Committee. No Mayoral Directions to TfL within the Committee's remit have been published since the last meeting.

List of appendices to this report:

None

List of Background Papers:

None

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Programmes and Investment Committee



Date: 21 July 2021

Item: **Independent Investment Programme Advisory Group
Quarterly Report**

This paper will be considered in public

1 Summary

- 1.1. This paper presents the Independent Investment Programme Advisory Group (IIPAG) quarterly report for July 2021. It describes the work undertaken since the last report presented to the Committee in May 2021.
- 1.2. 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 this meeting.

2 Recommendation

- 2.1 **The Committee is asked to note the Independent Investment Programme Advisory Group's quarterly report, the management response set out below and the exempt supplementary information on Part 2 of the agenda.**

3 IIPAG Quarterly Report

- 3.1 Under its Terms of Reference, IIPAG is required to produce quarterly reports of its advice on strategic and systemic issues, logs of progress on actions and recommendations and the effectiveness of the first and second lines of project and programme assurance. IIPAG's quarterly report for July 2021 is included as Appendix 1 to this paper.

4 Management Response to IIPAG Quarterly Report

- 4.1 The IIPAG annual report on benchmarking is welcomed by TfL. Our view is that the current model of how TfL has been conducting benchmarking has been working well and is owned by the business. Similar to the role that the Business Strategy functions take for the coordination and direction of international studies, this could evolve to centrally direct and facilitate the greater sharing and visibility of more strategic benchmarking activity across the organisation which is something that we will look to explore. A forward view of the investment programme will be used to direct this strategic benchmarking, through the Transport Infrastructure Efficiency Taskforce and other forums, to focus on the largest opportunities.

- 4.2 TfL is continuing to focus on bringing together activities and adopting a pan-TfL approach to the way that it views its assets, performance and its costs which is enabling TfL to take a more holistic view and enable better internal comparisons. Some examples include the significant work underway internally to formalise our approach to capital efficiencies and enable different parts of TfL to consistently compare performance and approaches. Using historical data to conduct internal benchmarking is an important part of creating an environment of efficiency in TfL's capital programme. We have also brought together asset management activities into one function and as a result are working to mature our approach allowing us to compare and understand the cost and performance outcomes across our asset base.
- 4.3 In its report IIPAG refers to issues with respect to staff resources. The TfL Project Assurance team is discussing these matters with the relevant Directors across TfL and will provide a fuller update to the Committee at its meeting in October 2021.

List of appendices to this report:

Appendix 1: Independent Investment Programme Advisory Group - Quarterly Report July 2021

A paper containing exempt supplemental information is included on Part 2 of the agenda.

List of Background Papers:

None

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Independent Investment Programme Advisory Group – Quarterly Report July 2021

This paper will be considered in public

1. Introduction

- 1.1. This report to the Committee describes IIPAG's activities in the period from May to July 2021. It contains no new strategic recommendations.

2. IIPAG activity

- 2.1. We have engaged in a number of reviews ahead of the July meeting of the Committee:

Sub-Programmes

Public Transport

Healthy Streets

Piccadilly Line Upgrade

Four Lines Modernisation (continuous assurance)

Targeted Reviews

Grid to Gate

- 2.2. We have also been briefed on Road User Charging and the DLR Housing Infrastructure Fund bid. We will be reviewing the submission to the Committee on Elephant and Castle Station.
- 2.3. The accompanying paper from TfL Project Assurance describes management progress in implementing IIPAG's recommendations from sub-programme and project reviews.

3. Cross-cutting work

- 3.1. We have completed our annual review of Benchmarking in TfL, which we submitted to the June meeting of the Audit and Assurance Committee. The year was, of course, unusual, with Covid-19 heavily influencing the benchmarking agenda. We concluded that the organisation remains committed to learning from others and that the level of investment in benchmarking is appropriate. We have recommended somewhat more central coordination of the more strategic benchmarking, without inhibiting valuable ad-hoc enquiries. We have also drawn attention to the potential for more internal benchmarking of asset management, operational performance, and costs.
- 3.2. We have a number of other pieces of cross-cutting work which will complete over the next couple of months:
 - a) Asset Information: the report is complete and awaiting final review by TfL senior management.

- b) TfL Contract Form: we have completed the interview stage and are awaiting analysis from the external expert before drafting of the report itself. We are targeting the end of July for completion.
 - c) First and Second Lines of Defence: report in preparation.
 - d) Progress report on value for money: most of the groundwork is complete and the report is in preparation.
- 3.3. In relation to the Silvertown Tunnel procurement review, IIPAG will be undertaking an independent procurement lessons-learned exercise and an update will be provided to the Committee in October 2021.
- 3.4. In most of the Sub Programme and targeted reviews we have undertaken issues have been raised about staff resources. Shortages have been reported in several areas, notably engineering, commercial, and sponsorship. We have not raised a new recommendation, but we expect that TfL leadership will be seeking to address these shortages. The Committee may wish to seek an update on this issue at its next meeting in October.

Contact Officer: Alison Munro, Chair of IIPAG
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Programmes and Investment Committee

Date: 21 July 2021

Item: TfL Project Assurance Update



This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on the project assurance work undertaken between 5 April and 26 June 2021. Four programme reviews were undertaken during this time, with the Independent Investment Programme Advisory Group (IIPAG) involved in all four reviews. In the same time frame 11 project assurance reviews were undertaken, with IIPAG involved in five of these.
- 1.2 These reviews gave rise to a total of 57 recommendations being made, of which one was considered to be critical issue. Critical issues are those that the TfL Project Assurance team or IIPAG believe should be addressed before projects proceed to the next stage.
- 1.3 Key findings from the reviews undertaken are similar to those reported to the previous Committee meeting in May 2021, these being;
 - (a) resource availability and capability issues across a number of projects, in particular commercial and engineering resources; and
 - (b) the need to ensure that business cases are of a high quality and clearly demonstrate assessment of value for money.
- 1.4 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 this meeting.

2 Recommendation

- 2.1 **The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda.**

3 Background

- 3.1 The TfL Project Assurance update provides the Committee with a summary of the second line assurance, provided by TfL's Project Assurance team, and third line assurance, provided by IIPAG.

4 Summary of Project Assurance Activity

- 4.1 From the reviews undertaken, a total of 42 recommendations were made by TfL Project Assurance. These consisted of 41 general recommendations and one critical issue, with all these having been agreed with the respective project teams. Appendix 1 shows the critical issue that was raised.
- 4.2 IIPAG made 15 general recommendations with all of these agreed with the respective project teams.
- 4.3 The following graphs show the number of open recommendations, the number that are overdue, and the number closed in the last three quarters. The overdue recommendations include two overdue critical issues. These both relate to the General Data Protection Regulation Project and require the project to ensure that there is a fully validated cost estimate and that the business case demonstrates value for money. There are no overdue IIPAG critical issues.

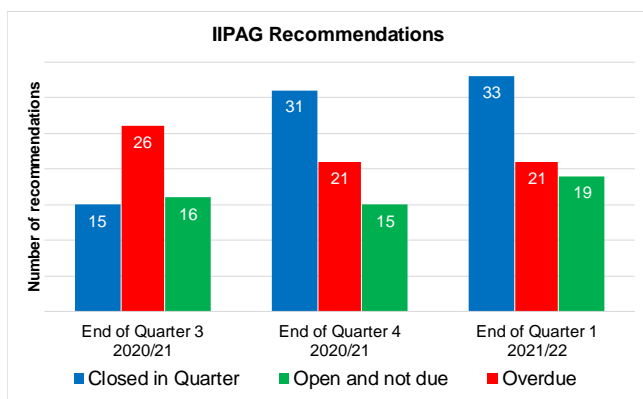


Figure 1: IIPAG Recommendations

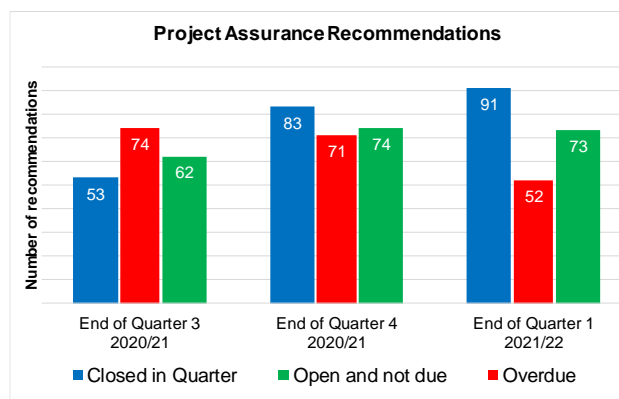


Figure 2: Project Assurance Recommendations

List of appendices to this paper:

Appendix 1: New Critical Recommendations

List of background papers:

None

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Appendix 1: New Critical Recommendations

Shown below is the critical issue raised and agreed with the project team.

Project: Bus Intelligent Speed Assistance (ISA)		
Raised by	Critical Issue	Management Response
Project Assurance	The project does not deliver value for money, with a benefit to cost ratio of 0.13:1 to 0.4:1, and nor is the level of contribution to achieving Vision Zero made.	<p>It is agreed that the benefit to cost ratio (BCR) indicates that retrofitting ISA does not offer value for money purely in terms of monetised safety benefits.</p> <p>The Vision Zero approach, adopted by the Mayor and TfL, states that it is neither inevitable nor acceptable that anyone should be killed or seriously injured when travelling in London. When considering whether to proceed with the ISA retrofit the BCR should not, therefore, be considered in isolation.</p> <p>Further, the BCR does not take account of several unquantified benefits, which are explained in detail in the business case narrative.</p> <p>ISA's contribution to the Vision Zero target that no one is killed on or by a bus by 2030 has now been quantified. The benefits of ISA are estimated to represent one per cent of the safety benefits that will be realised if this target is met.</p>

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Programmes and Investment Committee

Date: 21 July 2021

Item: London Underground Four Lines Modernisation Programme

This paper will be considered in public

1 Summary

- 1.1 The purpose of this paper is to update the Committee on the benefit delivery and programme of the London Underground (LU) Four Lines Modernisation (4LM) Programme.
- 1.2 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 Chair, following consultation with the Committee, is asked to note the paper and the exempt supplemental information on Part 2 of the agenda and:**
- (a) approve additional unbudgeted Programme and Project Authority for the sum set out in the paper on Part 2 of the agenda;**
 - (b) note that additional Financial Authority will be granted following approval of the Budget by the Board in July 2021; and**
 - (c) note that the matters for which Authorities are sought include commitment that extends beyond the period of the Business Plan and Budget to be approved by the Board on 28 July 2021 and appropriate provision will, therefore, need to be made for those commitments in future Business Plans and Budgets.**

3 Background

- 3.1 The LU Sub-surface Railway (SSR) consists of four lines – the Metropolitan, District, Hammersmith & City and Circle lines. Pre-pandemic, the four lines carried 1.3 million passengers per day, which represented a quarter of overall LU ridership
- 3.2 The 4LM Programme is in the process of replacing, modernising and integrating life-expired assets (Signalling, Rolling Stock, Track, Power and Depots) on the SSR. This will add capacity (through improved train frequency) and improve journey time. The 4LM Programme is the largest single upgrade in the history of the network. Due to its scale and interoperation with other LU lines, Train

Operating Companies and Network Rail, it has a high level of complexity. Although we already have Automatic Train Control on the Victoria, Jubilee, Northern and Central lines on the LU network, the scale and complexity of upgrading these four lines in one programme is a global first and will transform the overall experience for our customers.

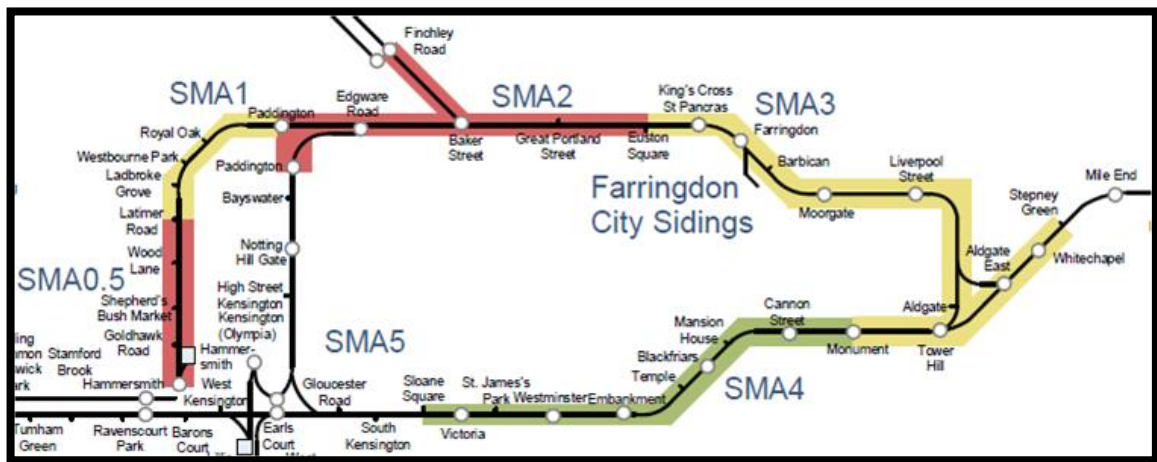
- 3.3 The renewal of life-life expired assets is essential to ensure we have a reliable asset base which can be maintained at an affordable cost. Future demand and operational costs will determine the timing of timetable introduction dates once the capability the new signalling delivers is commissioned.
- 3.4 In July 2015 the Board approved Programme and Project Authority of £5.4bn to undertake the Programme, with the full benefits realised by 2023. The authority consists of 192 new trains, infrastructure changes, upgrades to three depots which will maintain the trains and new signalling (and associated signalling works). With the completion in 2016, of the introduction of the new fully walk through, air-conditioned trains, most of the work is complete except for the signalling works.
- 3.5 A contract was awarded in July 2015 to Thales Rail Signalling Solutions to signal the SSR with an automatic, modern signalling system. The system is similar to the one that has been successfully installed on the Jubilee and Northern lines. Given the scale of the programme, the SSR has been split into sections (known as Signal Migration Areas) for the purpose of introducing the new signalling system. Work is well advanced in the design and installation of the new signalling system and the delivery of the supporting infrastructure.
- 3.6 As reported to the Committee in May 2021 while the infrastructure works have made good progress a combination of factors (linked to software development, installation and subsequent impact of the coronavirus pandemic) has delayed the signalling. An extensive review of cost and time has been undertaken which has informed the requested change in Authority. A further update is to be provided to the Committee when high risk development of software on the interoperable sections of the Metropolitan line has been progressed.

4 Project Update and Challenges

Go-Live

- 4.1 The successful launch of SMA3 and SMA4 was reported to the Board, at its meeting in May 2021. The recent reliability performance continues to be better than forecast.

Figure 1: map showing sections of the SSR now operating with ATC



Programme

- 4.2 As previously reported, the 4LM Programme has been under pressure and, in common with other TfL projects, it was delayed further in 2020 due to the impacts of the coronavirus pandemic. This included a safe stop from March to June 2020. The project restarted in phases from June 2020.
- 4.3 In line with the current programme of continued roll out of new signalling, we plan to progressively introduce timetable improvements. Current service levels are between 22 and 27 trains per hour (tph) on the central area (Circle line) of the SSR with the aim of reaching up to 32tph by the end of the programme.
- 4.4 The Programme is currently on track to deliver journey time improvements by approximately 10 per cent on the north side of the Circle line in September 2021 (originally planned for May 2021, when the project was authorised in 2015). This will be accompanied by a 1tph frequency increase during the morning and evening peak. As an example, this would mean a journey between Paddington and Moorgate would be reduced by 2 minutes. Aside from the introduction of the new trains, this will be the first key benefit to be delivered for our customers, utilising the capability of the new Automatic Train Control signalling.
- 4.5 This will be followed by a new timetable in May 2022 which will make improvements to customer journey times in a wider area, up to SMA5. At this time the entire Circle line will benefit from the improved journey times the new signalling enables. This timetable was not part of our plans in 2015. However, due to the reduction in ridership and the need to carefully manage the operating costs associated with timetable enhancements a decision was made to improve journey times without any uplift to the trains per hour.
- 4.6 Subject to the same evaluation of the balance between demand and operating costs the 30tph timetable will then be introduced in May 2023.

Figure 2: Movement of planned dates set at Programme and Project Authority in 2015

Timetable Milestones	Current Forecast Date	2015 Planned Date	Capability Available Date
Runtime Improvements (SMA3)	Sep 2021	May 2021	Mar 21
Runtime Improvements (SMA5)	May 2022	N/A	Nov 21 – Jan 22
30 trains per hour in Central Area	May 2023*	Dec 2021	Feb 22 – Mar 22
32 trains per hour in Central Area	TBC, subject to ongoing reviews of demand	May 2022	July 23 – Feb 24**
24 trains per hour Metropolitan Line	TBC, subject to ongoing reviews of demand	Dec 2021	Feb 22 – Mar 22
26 trains per hour Metropolitan Line	TBC, subject to ongoing reviews of demand	Dec 2022	Jul 23 – Feb 24
28 trains per hour Metropolitan Line	TBC, subject to ongoing reviews of demand	May 2023	Oct 23 – Oct 24

* Time set due to post pandemic recovery

** Acceleration of these dates are under review and are dependent on Aldgate junction performance

We will continue to review the implementation dates based upon balancing demand with operational costs, Network Rail timetable introduction dates, operational readiness and the dates at which capability becomes available.

Infrastructure Works

- 4.7 We have completed all the planned 29 track layout changes. These changes allow trains to run faster and deliver maintenance cost savings by installing modern track.
- 4.8 All the trackside signalling assets have now been installed on the District, Circle and Hammersmith & City lines.
- 4.9 The installation of the final signalling migration area, the Uxbridge Branch, commenced in June 2021 and is complete as far west as Wembley Park today. When the Uxbridge Branch completes in mid-2022 the installation of the trackside signalling assets will be complete.
- 4.10 We have built 37 signal equipment rooms ready for Thales to install the signalling equipment. The final room is in progress and is planned to be completed by September this year.
- 4.11 The installation of the new cable route management system is nearing completion with 235km of the 241km total installed which represents more than 97 per cent of the total. The signalling cable installation is in progress with 1200km remaining from a total of 5935km, meaning this work is 80 per cent complete. Completion is expected in July 2022.
- 4.12 Upgrade works at Ealing Common Depot bringing new facilities to allow maintenance of the new train stock are now substantially complete. The final fit out of EC1 shed was delayed by the Safe-Stop but will be completed this year. Along with the already completed upgrade of Upminster we will have then delivered casualty and planned maintenance facilities for the District, Hammersmith & City and Circle line trains.

- 4.13 The Heavy Maintenance Facility works at Neasden Depot have re-mobilised and good progress is being made with the delivery in the Long Shed with the completion of track works and installation of cable routes. Planned activities for this financial year include construction works in the Long Shed and the Heavy Lifting Shed completion. When complete in 2023 this facility will enable planned overhaul of the Metropolitan line trains.

Figure 3 – Track works and Neasden Depot Long Shed

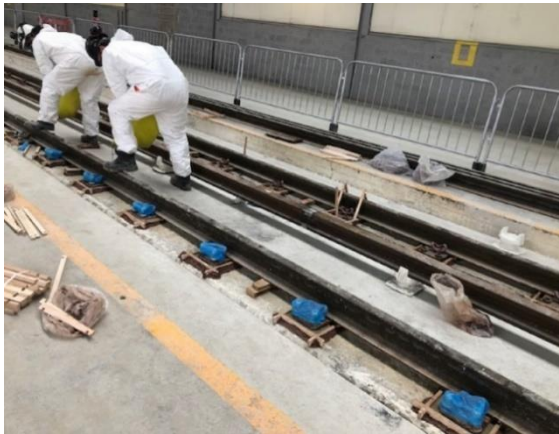


Figure 4 – Cable Route installation at Uxbridge



Train Fitment

- 4.14 We continue to progress with the fitment of signalling equipment to our fleet of Engineering Vehicles. All the 29 Battery Locomotives have been completed enabling the fleet to run across the entire SSR. One of the Rail Adhesion Trains has been fitted with the second in progress now and due to be completed by January 2022.

During 2020 we successfully closed the new trains manufacturing contract which introduced 192 S-Stock trains across all four lines which represents a major milestone for the Programme. The new trains have been well received by our customers and represent a step change in passenger comfort and safety.

District Line Branches

- 4.15 Following a review assessing and challenging costs and schedules, the western branches of the District line will not be re-signalled. This means sections of the District line south of East Putney and west of Stamford Brook will remain under the existing signalling. Journey times in these sections will remain unchanged, however, we can still increase frequencies to up to 16 trains per hour, as originally planned. We will continue to assess whether we can convert this signalling in the future.

Metropolitan line Branches

- 4.16 We have also examined the case to continue with the re-signalling of the Metropolitan Line north of Finchley Road. The re-signalling of the Metropolitan line differs from the District Line because:

- (a) the existing signalling on the Metropolitan line is older than the District line. If it is not replaced the ongoing renewal and maintenance costs are significant and greater than the District line.

- (b) our planned step-change in passenger experience relies on the line being re-signalled. If we retain the legacy signalling, then we will be unable to either reduce passenger journey times or increase train frequencies; and
- (c) as we are close to completing the installation works our opportunity to save costs by reducing scope are limited and outweighed by the ongoing renewal and maintenance costs of retaining the existing signalling.

4.17 Though we may be able to achieve some immediate savings by not signalling the Metropolitan line branches, in the medium term we will spend more than we save and not achieve any customer benefits. Despite the challenges the Programme has faced investing in the capability of the new signalling continues to represent good value for money. The business case remains strong and replacing life-expired signalling is key to achieving cost effective management of our asset base.

5 Benefits and Value

5.1 The introduction of the 192 new trains has delivered 25 per cent of the programme benefits which include:

- (a) the first step up in capacity while maintaining the current train service frequency as the new trains are longer and carry more passengers;
- (b) an improved customer experience with walk through gangways, in-car CCTV, air conditioning, a Rail Vehicle Accessibility Regulations compliant saloon and improved Customer Information Systems; and
- (c) the opportunity to recover more than £10m per annum of energy through regenerative braking.

5.2 The introduction of the new signalling will deliver 75 per cent of the programme benefits, which include:

- (a) the ability to run trains closer together increasing service frequency up to 32tph; and
- (b) speed increases which reduce journey times between stations.

6 Assurance

6.1 TfL Project Assurance and Independent Investment Programme Advisory Group (IIPAG) have undertaken their review of the 4LM Programme via continuous assurance the last 18 months. They have received detailed briefings from the project team and the Director of Major Projects and are fully aware of the issues and challenges on 4LM and support the request for authority increase at this time.

List of appendices to this report:

A paper containing exempt supplemental information is included on Part 2 of the agenda.

List of background papers:

None

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Programmes and Investment Committee



Date: 21 July 2021

Item: Piccadilly Line Upgrade - Stage 1 Progress Update

This paper will be considered in public

1 Summary

Piccadilly line Upgrade Stage 1				
Existing Financial Authority*	EFC	Existing Programme and Project Authority	Additional Authority Requested	Total Authority
£ 2,910m	£ 2,902m	£ 3,294m	£ (300m)	£ 2,994m

Authority Approval: The Committee is asked to approve a £300m reduction in Programme and Project Authority, to a total of £2,994m, to reflect efficiencies achieved since authorisation in May 2018.

*Note: Financial Authority is only up to 2022/23 based on the March 2021 TfL budget, for future years will need to be reserved in future Business Plans. The Authority sought includes commitments that extend beyond the period of the Business Plan and Budget to be approved by the Board on 28 July 2021 and appropriate provision will, therefore, need to be made for those commitments in future Business Plans and Budgets.

Outputs and Schedule: Procurement of 94 new design trains, with increased capacity and air-cooling to replace the existing, life-expired, Piccadilly line fleet.

Infrastructure upgrades and enabling works to support the introduction of the new trains between 2024 and 2026. This is the first stage of the Piccadilly line Upgrade which will increase peak capability from 24 to 27 trains per hour from 2027.

- 1.1 This paper updates the Committee on progress with delivery of Stage 1 of the London Underground (LU) Piccadilly Line Upgrade (PLU), following its authorisation in May 2018, and the previous annual update in March 2020.
- 1.2 A paper is included in 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 this meeting.

2 Recommendations

- 2.1 The Chair, following consultation with the Committee, is asked to note the paper and the exempt supplemental information on Part 2 of the agenda and approve a reduction in Programme and Project Authority of £300m for the Piccadilly line Upgrade Stage 1 Programme, giving a total revised Programme and Project Authority of £2,994m.

3 Background and Context

- 3.1 The Piccadilly line generates more than 10 per cent of LU's total ridership with approximately 202 million trips annually, providing key transport links between North and West London serving Heathrow Airport, the West End and St Pancras International.
- 3.2 The existing rolling stock fleet on the Piccadilly line was introduced in the mid-1970's and is over 45 years old. The upgrade of the Piccadilly line is a TfL priority in view of very high levels of historic and projected demand, limited fleet size, the age and condition of the existing rolling stock, and the inherent capacity constraints of the existing signalling system.
- 3.3 The Piccadilly Line Upgrade (PLU) was established as part of the wider Deep Tube Upgrade Programme to replace life-expired trains and signalling systems and to maximise capacity on the Piccadilly line to accommodate existing and future demand. The PLU is scheduled to be delivered in two key stages:
- (a) **Stage 1** – Infrastructure upgrades and enabling works to support the introduction of 94 new trains to replace the existing rolling stock fleet; and
 - (b) **Stage 2** – Replacement of existing signalling system and procurement of seven additional trains to provide high frequency, automatic train operation.
- 3.4 In May 2018, the Committee approved:
- (a) Programme and Project Authority of £3,294m for the procurement of new rolling stock and associated infrastructure enabling works for the introduction of new trains on the Piccadilly line; and
 - (b) Procurement Authority of £1,657m for the award of a contract for the design, manufacture and supply of 94 new Piccadilly line trains to Siemens Mobility Limited (SML) with a Fleet Services Agreement for whole life maintenance support.
- 3.5 Since the previous update to the Committee in March 2020, the TfL Business Plan and Budget has been under severe financial pressure following the impact the coronavirus pandemic has had on its ridership and revenues. This disruption has placed further pressure on the delivery of PLU Stage 1 and the schedule for introduction of the new trains.

- 3.6 Despite this disruption, good progress has been made with the Piccadilly line Upgrade through collaboration, innovation and new ways of working to achieve completion of the new train design and to mobilise resources and the supply chain to commence infrastructure works on site.
- 3.7 This paper provides a summary of progress achieved since March 2020 and outlines the measures taken to mitigate schedule delays and improve efficiency.

4 Programme Benefits

- 4.1 Stage 1 of the PLU addresses essential asset renewals with the replacement of the life-expired Piccadilly line trains.
- 4.2 The new, higher capacity Siemens trains will be fully accessible and feature walk-through interiors, saloon air-cooling (for the first time on a deep tube train) and all-double doorways to improve boarding and alighting. Modern audio/visual communication systems will include digital display screens for customer information and advertising, a new CCTV system for the train operator to view the platform and train interface from the driving cab and improved customer security cameras.
- 4.3 The programme aims to deliver the following key benefits:
- (a) longer, more spacious and fully accessible walk-through trains;
 - (b) an uplift of peak services from 24 trains per hour (tph) to 27tph, with the increased fleet size, to achieve a 23 per cent overall increase in peak capacity from today's service;
 - (c) improved service performance and very high levels of reliability from modern rolling stock and sub-systems;
 - (d) a greatly enhanced customer experience through the introduction of air-cooling, improved customer information and security systems; and
 - (e) improved energy efficiency, reducing annual energy consumption by more than 20 per cent compared with today's Piccadilly line service, enabling decarbonisation.
- 4.4 Prior to the pandemic, significant crowding was already prevalent on the Piccadilly line due to the capacity constraints of the existing trains and signalling. As tube demand recovers, peak crowding is expected to return to pre-pandemic levels and to increase further as population and employment grows with economic recovery.
- 4.5 Stage 2 of the PLU, which is currently unfunded, will deliver further service enhancements through a line-wide signalling upgrade, including:
- (a) significant reductions in customer journey times;
 - (b) improved service reliability through automatic train operation;
 - (c) capability for a peak service of up to 36 tph in the central area to achieve a

64 per cent overall increase in peak capacity from today's service; and

(d) up to 15 additional trains to provide a 36tph peak service.

- 4.6 PLU Stage 1 and the planned Stage 2 signalling upgrade will contribute to wider economic growth, both in London and across the UK through the supply chain. Improved services will support the construction of more than 61,000 new homes in the vicinity of Piccadilly line stations and more than 25,000 jobs across the capital.

5 Programme Delivery in 2020/21

- 5.1 The introduction of 'lockdown' restrictions in response to the pandemic from March 2020 severely disrupted continuity and availability of TfL and supply chain resources, restricting physical progress across TfL's Capital delivery programme.
- 5.2 In line with reduced funding availability for 2020/21, the planned commencement of infrastructure enabling works for the Piccadilly line Upgrade was deferred by 6-months. Following rescheduling, work started on these projects from October 2020 in line with resource and funding availability.
- 5.3 Whilst Siemens Mobility Limited has been subject to similar disruption and restrictions, the trains contract has continued to deliver to schedule. This has been possible through collaboration between TfL and Siemens teams using on-line communications platforms for remote working. A key milestone was successfully achieved in March 2021 with completion of the Final Design of the new train ahead of the original Tier 1 Milestone target.
- 5.4 The six-month delay to the commencement of the LU infrastructure upgrading and enabling works has placed further pressure on the schedule for new train introduction previously planned for Autumn 2024. Consequently, the first train is currently forecast to enter passenger service in 2025. We are however exploring opportunities to recover some of this time through strong supplier collaboration, innovation and delivering current scope more efficiently.

New Trains

- 5.5 The new, higher capacity Siemens trains will be fully accessible and feature walk-through interiors, saloon air-cooling (for the first time on a deep tube train) and all-double doorways to improve boarding and alighting. Modern audio/visual communication systems will include digital display screens for customer information and advertising, a new CCTV system for the train operator to view the platform and train interface from the driving cab and improved customer security cameras.
- 5.6 The train design has been refined in line with feedback from stakeholders on the original concepts. In January 2021, the interior design proposals were shared with the Independent Disability Advisory Group (IDAG) to inform the finalised design including the layout of the accessibility features and wheelchair positions. As a result, a new seating moquette design has been produced to improve the colour contrast with interior grab poles.

- 5.7 Through entirely virtual working, Final Design was successfully achieved in March 2021 and Siemens is currently mobilising its supply chain and establishing new production facilities in Vienna for the commencement of train manufacture in early Autumn 2021.
- 5.8 In May 2020, Siemens commenced construction of a c.£200m UK train manufacturing facility in Goole, East Yorkshire. Opening in 2023, this facility will create an estimated 700 skilled jobs with a further estimated 250 jobs created in construction and up to 1,700 indirectly in the supply chain. The new rail manufacturing facility will support around 80 graduates and apprentices and will be complemented by an Innovation campus for rail industry research and development. Once completed, it is expected that approximately 50 per cent of the new Piccadilly line trains will be assembled at the new UK facility.

Infrastructure works

- 5.9 Despite the coronavirus pandemic, teams have been mobilised in TfL and the supply chain and have successfully adopted new ways of delivery to enable work to commence on the key infrastructure upgrades and modifications required for new train introduction on the Piccadilly line.
- 5.10 Work is underway to modify the existing signalling system to ensure compatibility with the new trains. These works include the re-positioning of lineside signals to ensure visibility from the new, longer trains.
- 5.11 Survey and designs are underway for the localised platform modifications needed to provide level access to the designated wheelchair position in the new trains at step-free stations in line with to meet Rail Vehicle Accessibility Regulations (RVAR) requirements.
- 5.12 Following a competitive procurement, a contract was awarded to Panasonic Marketing Europe in September 2020 for the supply and maintenance support of a new One Person Operation Closed Circuit TV (OPO CCTV) system. This will improve safety through transmission of high-quality digital images of the Platform-Train Interface (PTI) to both the train operator and the line control centre to ensure the safe departure of the train from the platform.
- 5.13 Concept designs have been completed for the upgrading of the train maintenance depots at Northfields and Cockfosters. Detailed design is now underway on modern, efficient and environmentally sustainable train maintenance and stabling facilities for the expanded fleet of new trains. The upgraded depots will feature 'green roof' designs for rainwater harvesting and storage to provide 'grey' water for depot services and train washing. Large roof-mounted solar panel arrays will provide low voltage power supplies for heating and lighting in the depot complex.
- 5.14 Site clearance and construction works have commenced at South Harrow sidings to upgrade and expand the site, from the current 8 train provision to 12 longer sidings. Upgrading of power supplies, security fencing, track drainage and access walkways is underway. Whilst the expansion of the site has required the removal of some vegetation, the final scheme will increase biodiversity by 48 per cent compared with today through creation of new grassland, scrub enhancement and replanting.

Operational Readiness

- 5.15 Planning and preparation have commenced for train operator and maintenance staff training in readiness for the introduction of new trains on the Piccadilly line. Operational readiness plans are progressing in conjunction with the new train design and delivery schedule with Operational leads working closely with the project team and Siemens to develop the training and skills development needed to equip Train Operators and maintenance staff for the new train equipment and technology.

Innovation opportunities

- 5.16 We are currently working with Siemens to formalise our involvement as a Partner within their Google Innovation Centre which is due to open in 2022. This will support the realisation of innovation opportunities which are expected to drive further efficiencies into the PLU delivery estimates as well as the future Deep Tube Upgrades.
- 5.17 Development funding has been secured from Innovate UK for the PLU Programme to join the National Skills Academy for Rail (NSAR) Transport Infrastructure Efficiency Strategy (TIES) 'Living Lab' initiative. This funding is for three demonstrator projects to be delivered in 2021/22 focusing on Technology and Modern Methods of Construction:
- (a) **Scalable Modular Equipment Rooms** – a prototype installation of scalable, factory made equipment enclosures which offer faster, safer and more efficient site installation with potential for 30 per cent savings over conventional constructions;
 - (b) **Deep Tube Cooling Panel** – a prototype, low maintenance platform cooling solution for deep tube stations for installation and testing in a live station environment; and
 - (c) **Automated Cable Management Design** - software development for automated design of complex cable management and support systems to reduce design costs by up to 70 per cent and associated safety and sustainability through reduced time on site.
- 5.18 PLU has recently been awarded an additional £0.5m grant from Innovate UK to progress the design and development of a multi-user web application to display the deep tube environment in a simple and accessible format as a 'digital twin' of the railway.

6 Efficiencies and savings

- 6.1 Since the March 2020 update, the PLU Programme has continued to refine the scope, specification and cost of Stage 1 delivery to identify further efficiency savings, risk and uncertainty reductions. The Stage 1 EFC has been reduced by £55m since March 2020, with headline movements as below:

Table 2: PLU Stage 1 EFC position and movements since March 2020.

Authority Position	£(m)'s	
Original Authority	£	154
Stage 1 - Authority (May 2018)	£	3,141
Total Authority	£	3,294
Changes between Authority and March 2020 Committee update	-£	337
March 2020 - reported EFC	£	2,957
EFC Movements since March 2020	£(m)'s	
Scope/specification refinement /additional costs	£	21
Scope transfers from Stage 2 - (Enabling systems for Train Introduction)	£	24
Cost Reductions - (Revised Indexation guidance)	-£	24
Efficiencies - (Uncertainty release and staffing adjustments)	-£	8
Scope transfers to Stage 2 - (DC power scope, Test Facilities, Resources)	-£	42
Risk / Uncertainty reductions	-£	17
High probability opportunities	-£	8
Current Stage 1 - EFC	£	2,902
Variance from original Authority	-£	392

- 6.2 Through active management of risk and opportunities, reducing uncertainty and the progressive maturing of the PLU scope and design, the programme has achieved a net Stage 1 EFC reduction of £392m since authority was granted in May 2018. This represents 13.5 per cent of the current Cost of Work to Go (COWG).

7 Proposal

- 7.1 To reflect the progressive reductions in Estimated Final Cost for the Stage 1 PLU Programme since authority in May 2018, it is now proposed to reduce the overall Programme and Project Authority by £300m, from £3,294m to a total of £2,994m.
- 7.2 By reducing the authority by £300m, the revised authority value remains above the current EFC by £92m. This represents 3.2 per cent of the COWG. It remains prudent to not align EFC and authority completely as the EFC is dynamic and fluctuates period on period, predominantly through the active review and management of risk and opportunity.
- 7.3 Although the EFC trajectory is expected to reduce over the medium to long term, there remains the possibility that the EFC may increase from period to period over the short term. To prevent a situation whereby the Programme temporarily

breaches the reduced authority, a circa 3 per cent COWG margin for EFC fluctuation is proposed.

8 Financial Implications

- 8.1 Table 3 below shows the financial impact of the Programme by year. The table includes the EFC and Financial Authority in line with the March 2021 Budget. The Financial Authority beyond 2024/25 is subject to revision and review in future Business Plans and Budgets.

Table 3: Phased and Project breakdown (all figures in £m outturn values)								
Costs and Funding (£m)	Prior Years	2021/22	2022/23	2023/24	2024/25	2025/26	All Future Years	Total all years
Financial Authority (gross)	273	195	322	521	667	541	391	2,910
Programme and Project Authority								
Existing Authority	387	205	350	579	638	618	517	3,294
Transfers in/out [one row for each - describe]	0	0	0	0	0	0	0	0
This Authority Request	-114	-41	-21	-42	26	-54	-54	-300
Total Programme and Project Authority	273	164	329	537	664	564	463	2,994
Future Authority Requests		0	0	0	0	0	0	0
Total EFC (Gross) Capex and IP Opex	273	164	329	537	664	564	372	2,902

9 Benefits and Value

- 9.1 As authorised in May 2018, the business case for Stage 1 implementation, relative to the “Do Nothing” base, had a Benefit-Cost Ratio (BCR) of 5.3:1. At the previous update in March 2020, the Stage 1 BCR had increased to 5.6:1 following reductions in the estimated final cost achieved to that point.
- 9.2 Since March 2020, the Stage 1 business case has been further refreshed to reflect savings and efficiencies achieved in the Estimated Final Cost (EFC), in addition to a 6-month deferral in benefits and revenue generation resulting from the revised Stage 1 delivery schedule.
- 9.3 With these cost and schedule impacts, the Stage 1 BCR has improved slightly, to 5.9:1 relative to the ‘Do Nothing’ case and the overall Stage 1 NPV has slightly reduced from £2,314m to £2,307m.

10 Assurance

- 10.1 An annual Project Assurance Review has been undertaken, led by TfL Assurance as part of the continuous assurance process for this programme. The review highlighted the availability of internal resources in view of the high number of vacancies in key areas required to deliver the programme.
- 10.2 These vacancies are reflected in the key risks and issues currently being experienced by the programme, with commercial and engineering resources

identified as a constraint on the PLU team's ability to deliver.

- 10.3 Key recommendations include the escalation of this issue within TfL business areas providing key resources (e.g. commercial, engineering etc) to unlock any blockages and to procure external resources should this be necessary. Additionally, a recruitment plan should be developed that identifies and addresses the resource needs of the programme in a prioritised manner.
- 10.4 A management response to the recommendations made has been provided and all recommendations have been accepted.

List of appendices to this report:

Appendix 1: New Siemens Piccadilly line trains: Design images

A paper containing exempt supplemental information is included on Part 2 of the agenda.

List of Background Papers:

Independent Investment Programme Advisory Group (IIPAG) Report and Management Response
TfL Project Assurance Report

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Appendix 1: New Siemens trains - Design images

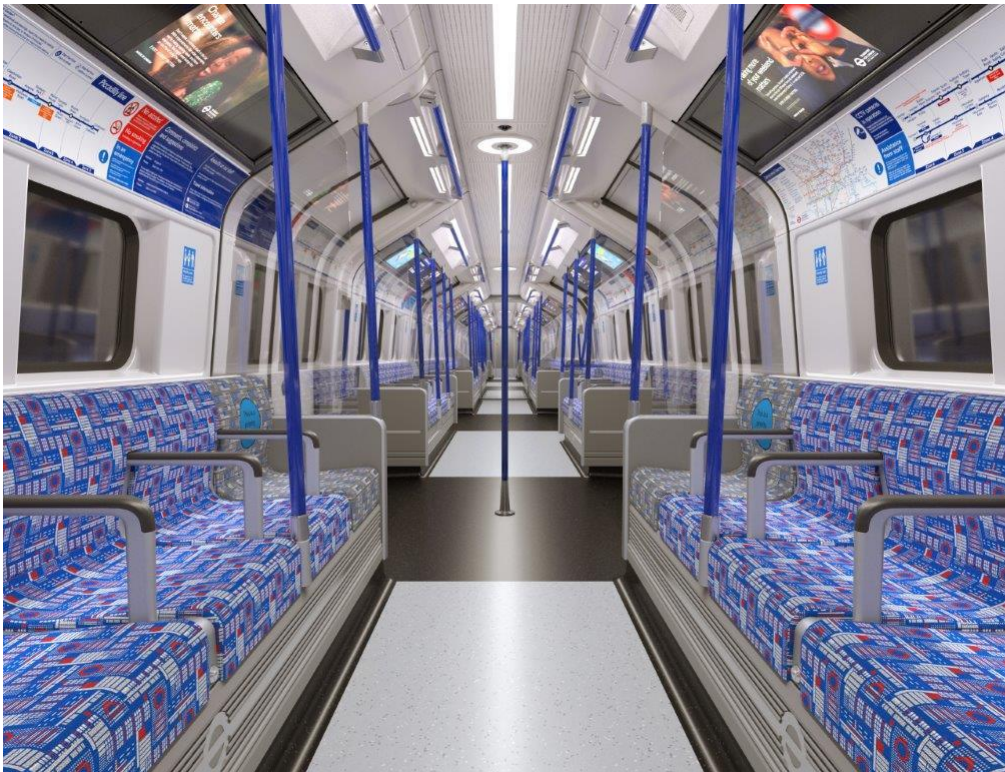
1. Train Exterior showing driving cab



2. Train exterior showing wider all-double doorways



3. Walkthrough Train interior showing digital information screens



4. Saloon seating area showing windows, grab-poles and priority seats



5. Saloon interior showing designated wheelchair space and tip-up seating



6. Saloon interior showing flooring and multi-purpose area for luggage and push chairs



Programmes and Investment Committee



Date: 21 July 2021

Title: Docklands Light Railway - Housing Infrastructure Funding

This paper will be considered in public

1 Summary

Existing Financial Authority (£m)*	EFC (£m)	Existing Programme and Project Authority (£m)	Additional Authority Requested (£m)	Total Authority (£m)
£281.0m	£281.0m	£281.0m	£0m	£281.0m
<p>* Financial Authority is based on the authorities granted to the DLR HIF programme in December 2020. This allows the project to enter into transactions up to this amount. TfL will receive £281m in funding and so the net position to TfL will be zero.</p> <p>Authority Approval: The Committee is asked to approve Procurement Authority of the sums requested in the paper on Part 2 of the agenda for up to 14 additional third-party funded trains required to support housing growth in East London.</p> <p>Outputs: Delivery of up to 14 additional trains under the DLR Rolling Stock Replacement Programme, associated land and infrastructure for stabling and enabling funding for an over-site development at DLR Poplar by 2027.</p>				

1.1 This paper provides an update following approval by the Committee of Financial Authority and Programme and Project Authority on 11 December 2020 enabling Transport for London (TfL) to enter into a conditional grant determination agreement (GDA) with the Greater London Authority (GLA) and the Ministry of Housing, Communities and Local Government (MHCLG) to receive £281m Housing Infrastructure (HIF) Funding to supplement the Docklands Light Railway (DLR) Rolling Stock Replacement Programme (RSRP). This is to facilitate new housing developments in East London by:

- (a) purchasing up to 14 additional DLR trains, bringing forward circa 10,000 new homes;
- (b) procuring the expansion of the Beckton DLR depot and for Docklands Light Railway Limited (DLRL) or TfL (as applicable) to acquire the land required to facilitate that expansion; and
- (c) contributing to the cost of enabling works at DLR Poplar depot required to facilitate a wider TfL Commercial Development scheme, delivering up to 1,740 new homes in the area.

(together the HIF Programme).

1.2 When seeking approval from the Committee in December 2020, we committed to provide an update on these matters before 31 July 2021, when the GDA becomes

unconditional. This paper sets out that update and seeks endorsement of the proposed approach of continuing with delivery of the HIF Programme.

- 1.3 A paper is included on Part 2 of the agenda, which contains exempt supplementary information. This information is exempt by virtue of paragraphs 3 and 5 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to business affairs of TfL. Any discussion must take place after the press and public have been excluded from this meeting.

2 Recommendations

- 2.1 **The Chair, following consultation with the Committee is asked to note the paper and the exempt supplemental information on Part 2 of the agenda and:**
- (a) endorse that the grant determination agreement (GDA) becomes unconditional on 31 July 2021 (or such later date as may be agreed between the parties to the GDA if an extension is required to confirm the final number of additional Housing Infrastructure Fund (HIF) trains) as described in this paper, noting that this commits TfL to deliver the HIF Programme and to repay all grant funding received under the GDA if TfL defaults on its obligations;**
 - (b) approve Procurement Authority up to the maximum amount stated in the paper on Part 2 of the agenda (noting that this amount includes provision for movement in exchange rates) for DLRL to exercise pre-priced options under the following existing contracts with the train manufacturer, Construcciones y Auxiliar de Ferrocarriles S.A:**
 - i. a manufacture and supply agreement (MSA) for the design, supply and manufacture of replacement DLR trains;**
 - ii. a fleet support agreement (FSA) for the supply of spares and supporting services, expiring in 2061, and a fixed and variable scope, which allows DLRL to call off spares supply and services as required;**
 - (c) note that Procurement Authority for the other elements of the HIF Programme will be sought in accordance with Standing Orders; and**
 - (d) note that the matters for which Authorities are sought include commitments that extend beyond the period of the Business Plan and Budget to be approved by the Board on 28 July 2021 and appropriate provision will therefore need to be made for those commitments in future Business Plans and Budgets.**

3 Background

- 3.1 On 11 December 2020, the Committee approved the relevant authorities for TfL to jointly enter into the GDA with the GLA and MHCLG to receive £281m HIF grant funding – the GDA was entered into by MHCLG, TfL and the GLA on 23 December 2020. At the same time, the GLA and TfL also entered into a Memorandum of Understanding, setting out how the parties will work together in

respect of the delivery of their respective obligations under the GDA. The GDA requires that TfL draws down all HIF money by March 2024, achieving delivery milestones both before and after this date.

- 3.2 It was agreed that the Committee would be updated before significant financial commitments are made, to confirm they can be supported given the ongoing uncertainty around TfL's long-term financial support available from Government and post-coronavirus pandemic demand forecasts. This commitment to proceed with the GDA on an unconditional basis is required by 31 July 2021 and is the focus of this paper.

4 DLR HIF Progress Since Entering into the GDA

- 4.1 Progress on the HIF project since the GDA was signed in December is satisfactory; the project team has fully mobilised, ground investigation surveys have been undertaken for the required land, the heads of terms and draft contract for the land acquisition are nearly complete and discussions have commenced with the manufacturer in relation to exercising an option to purchase the additional trains.
- 4.2 Progress on the DLR RSRP (providing the base order trains) also remains good. There have been some concerns regarding the design and construction supply chains around the world affected by the coronavirus pandemic, but impacts are estimated to be in the order of a few months and deemed manageable at this stage.
- 4.3 On the Poplar depot oversite development (OSD) project, regular discussions are taking place between the GLA, TfL and London Borough of Tower Hamlets (LBTH), to ensure the Poplar development can be incorporated into LBTH's emerging South Poplar masterplan. Discussions are also progressing between TfL and adjacent landowners to determine if a joint development is possible and in the best interests of all parties.
- 4.4 The main risk to the HIF Programme is the continued uncertainty of the short-term (capital) and long-term (operational) funding of TfL and the impact of the coronavirus pandemic on passenger demand. On 18 May 2021, the Government and TfL agreed a funding and financing package that runs until 11 December 2021. While this does not provide assurance on TfL's longer-term financial position, it does enable the organisation to continue with the RSRP base order of 43 new DLR trains.
- 4.5 Since December 2020, the coronavirus pandemic has continued to impact on travel patterns. Consequently, TfL has produced two demand scenarios based on the 2021 Railplan modelling forecasts. The first, used in TfL's Financial Sustainability Plan - known as the 'hybrid' demand forecast – is the basis of our long-term planning assumption. The second is a shorter-term forecast, that reflects the demand recovery rates that are being experienced recently on DLR's services.
- 4.6 The results of this modelling are presented in paragraph 5 of this paper and, in summary, demonstrates that the business cases for both the RSRP and HIF

Programme continues to be strong with positive benefits; even if the short-term falls in demand are extended over a longer period.

- 4.7 The assessments to date show that under the hybrid demand forecast conditions, at least 11 and perhaps up to the original 14 HIF trains are required to provide sufficient capacity to bring forward the expected new homes in East London, leading to the recommendations to the Committee within this paper to continue with the HIF Programme.
- 4.8 A TfL Project Assurance and the Independent Investment Programme Advisory Group (IIPAG) follow-up review of the HIF element of the DLR RSRP took place on 22 June 2021 to provide assurance that the recommendation to endorse the GDA becoming unconditional is appropriate. TfL Project Assurance and IIPAG were satisfied with the information provided and agreed with the proposed approach. No additional recommendations were made.

5 Demand and Finance

- 5.1 The hybrid demand model, using Railplan 2021 data and adding a 'Covid-impact' forecast, predicts that it will take until 2031 to recover to 2016 levels of demand. Using this data, explained in more detail in the paper on Part 2 of the agenda, TfL is confident that the base order of 43 trains is still required (it is a pre-requisite of the GDA that TfL fulfils the base order to qualify for the HIF funding) and congestion continues to be prevalent on the DLR, particularly on the lines where the HIF housing is due to come forward.
- 5.2 With the introduction of an additional 14 HIF trains (making new 57 trains in total), all DLR lines are forecast to have sufficient capacity to service the hybrid demand estimates, with some headroom should the actual demand recover more quickly.
- 5.3 However, given the continued uncertainties over forecasting future demand, the project team has also considered if an alternative number of trains (below 57) may provide sufficient capacity; scenarios linked to practical service planning were modelled for 47 and 49-train options and neither are able to provide enough capacity. A further option of 54 trains is currently still under review.
- 5.4 From a capital cost assurance perspective, the project team has continued to validate the original bid estimates and is satisfied that, despite Brexit and the coronavirus pandemic, the HIF Programme remains deliverable within the authorities of £281m previously granted by the Committee. Details of this, the financial implications of the Hybrid forecast and how it compares to TfL's draft Budget and short-term income recovery forecasts, is contained within the paper on Part 2 of the agenda.

6 Delivery and Commercial

- 6.1 TfL is finalising the contractual negotiations with National Grid to secure the required land south of DLR Beckton to expand the depot to stable the additional HIF trains. In parallel, we are undergoing MHCLG's due diligence process, ensuring compliance with the conditions set out in the GDA are achievable. Under the GDA, TfL need to commit to the land acquisition shortly after it becomes unconditional.

- 6.2 Following commitments to the land, TfL will also be required to procure the exercise of an option under the MSA to order the additional HIF trains. The MSA entitles DLRL to exercise an option to add the HIF trains to the base order at a fixed price (subject to exchange rate fluctuations). Cash forecasts have been received from CAF to prepare for this order however it will first be necessary for TfL to determine with MHCLG if either a 54 or 57-train option is most appropriate; a decision to be endorsed by the relevant TfL officers.
- 6.3 If it is clear before 31 July 2021 that a change from 57 to 54 trains is required, the GDA will require minor amendments to reflect this. TfL, the GLA and MHCLG have been discussing how this could be achieved with minimal contract change, allowing the GDA to become unconditional in the process. If it is still not confirmed whether 54 or 57 trains is most appropriate by 31 July 2021, it has been agreed in principle between the parties that a short extension will be required, delaying the unconditional date, so that the necessary contractual changes can be made and the GDA progresses.
- 6.4 This paper requests the Procurement Authority required for the HIF-funded trains for the amounts stated in the paper on Part 2 of the Agenda, reflecting the maximum of 14 trains that may be required, including a provision for exchange rate fluctuations. Land Authority was previously granted by the Committee in December 2020 for the Beckton depot expansion. Procurement Authority for other elements of the HIF Programme will be sought in accordance with Standing Orders as and when required.
- 6.5 Discussions between TfL and LBTH (with GLA support) and between TfL and adjacent landowners continue in order to validate if the Poplar Over-Site Development (OSD) is likely to come forward to receive the GDA enabling works funding. This is subject to a separate validation process with MHCLG in November 2021. TfL are reporting progress to MHCLG on a periodic basis; given the number of potential homes (c.1700) both parties remain committed to progressing with Poplar OSD as part of the GDA scope. However, if this not possible, the remainder of the HIF Programme will be unaffected. Future decisions on Poplar will be agreed with MHCLG and approved by the relevant TfL officers.
- 6.6 Upcoming key milestones for the HIF Programme remain intact and are shown in Table 1.

Key Milestone	Target Date	Forecast Date	Key Risks	Mitigations / Actions
Commit to Land Acquisition	Aug 2021	Aug 2021	GDA requires TfL to enter into land agreements 28 days after becoming unconditional. Failure to do so puts TfL in breach of the GDA. See the paper on Part 2 of the agenda for more details.	Keep MHCLG abreast of land negotiations and get early agreement from MHCLG of a milestone extension if required.
Enter Contractual Option for Additional HIF trains with CAF	Sep 2021	Sep 2021	GDA requires TfL to enter into the option to purchase additional trains 28 days after land acquisition is committed to.	Keep MHCLG abreast of progress with the exercise of the option and get early agreement of milestone extension for option if required.
Joint venture for Poplar OSD selected	Dec 2021	Subject to ongoing discussions	LBTH masterplan restricts Poplar OSD ambition.	Representations with LBTH by GLA and TfL planning specialists.
Submission of Planning Permission for Beckton HIF Land	Apr 2022	Apr 2022	Delayed completion of feasibility work and option selection delays planning permission.	Early decision on procurement approach to achieve preferred option.

Table 1: GDA milestones in the next 12 months

7 Equalities Implications

- 7.1 The new train stock will be an improvement on the existing train design with On-board audio and visual information improvements. In addition to wheelchair spaces, trains will have multi-use areas which will accommodate pushchairs and bicycles.
- 7.2 As with the current DLR fleet, train-to-platform access will be compliant with the Rail Vehicle Accessibility (Non-Interoperable Rail System) Regulations 2020.
- 7.3 An Equality Impact Assessment including consultation with specialist groups has been undertaken for the new DLR rolling stock. Comments were received from the Independent Disability Advisory Group and we have worked with them, making several improvements to the train design. The other workstreams of the DLR HIF Programme are in the early stages of the project lifecycle. As they progress through the feasibility and design, Equality Impact Assessments will be undertaken.

8 Assurance

- 8.1 TfL Project Assurance has been undertaking continuous assurance on the DLR Rolling Stock Replacement Programme (DLR RSRP) and DLR HIF Programme on a periodic basis. Regular briefings with the Independent Investment Programme Advisory Group (IIPAG) have also been carried out. Two previous assurance recommendations remain open with good progress being made. No critical issues have been identified in the areas reviewed as part of the continuous assurance.
- 8.2 On 22 June 2021, a follow-up review of progress on the DLR HIF programme was carried out with TfL Project Assurance and IIPAG, with particular focus on the financial risks to TfL of the GDA becoming unconditional. The team displayed a thorough approach to the testing of different options for the number of trains to be procured with good analysis of the risks. No additional recommendations were made.
- 8.3 An Integrated Assurance Plan for the DLR RSRP has been agreed with TfL Project Assurance for the next 12 months and is updated quarterly. It is planned to undertake a detailed assurance review as part of the annual DLR RSRP Sub-Programme review prior to the next submission to the Committee (which is currently planned for October 2021).

List of appendices to this report:

A paper containing exempt supplemental information is included on Part 2 of the agenda.

List of Background Papers:

Papers submitted to the meeting of the Committee on 11 December 2020.

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Programmes and Investment Committee



Date: 21 July 2021

Title: Public Transport Programme

This paper will be considered in public

1 Summary

	Existing Financial Authority ¹	Estimated Final Cost (EFC) ²	Existing Programme and Project Authority	Additional Authority Requested	Total Authority
	2017/18-2022/23	2017/18-2024/25	2017/18-2022/23	2017/18-2022/23	2017/18-2022/23
Gross	£593m	£965m	£395m	£104m	£499m
Income	£71m	£65m	£18m	£15m	£33m
Net	£522m	£900m	£377m	£89m	£466m

Table 1: Summary of Programme and Project Authority Request to 2022/23

¹ Financial Authority is based on approved budget to 2022/23

² EFC exceeds Financial Authority as it extends to 2023/24 and 2024/25, with these later years containing significant construction activities

Authority Approval: The Committee is asked to approve additional budgeted Programme and Project Authority of £104m, giving a total of £499m for the continuation of the Public Transport Programme to 2022/23.

Outputs and Schedule: The Programme will maintain and promote a safe, operable and reliable Surface public transport service. The Programme will also undertake those improvements required across stations, signalling, vehicle fleets and other assets to support housing growth and other strategic objectives.

- 1.1 This paper sets out the request for Programme and Project Authority for the continuation of the Public Transport Programme (the Programme) into 2022/23. It is the fourth annual submission of the Programme to the Committee.
- 1.2 All Surface public transport modes are within the scope of the Programme. These are the Docklands Light Railway (DLR), London Overground, London Trams, Cycle Hire, Cable Car, London River Services, London Buses and Dial-a-Ride. The Cycle Hire, Cable Car and London River Services modes are subsequently referred to collectively as 'Sponsored Services'.
- 1.3 This paper:
 - (a) presents an update of the Programme's success in delivering projects since the previous annual submission to the Committee in March 2020;

- (b) summarises the planned delivery in 2021/22 and 2022/23, as well as key challenges and opportunities for the year ahead;
- (c) provides assurance to the Committee on the progress of the Programme in terms of delivery and in setting up robust arrangements for future years; and
- (d) submits a detailed cost and funding breakdown, including third party elements (as summarised in Table 1 and detailed further in Table 3 and Appendix 1).

2 Recommendations

2.1 The Chair, following consultation with the Committee, is asked to note the paper and:

- (a) approve additional budgeted Programme and Project Authority of £104m, giving a total of £499m for the continuation of the Public Transport Programme in 2021/22 and 2022/23;**
- (b) approve the transfer of the Woolwich Ferry Resilience and Renewal project into the Public Transport Programme from the Surface Assets Programme;**
- (c) note that Procurement Authority for matters within this programme will be sought at officer level in accordance with Standing Orders;**
- (d) note that additional Financial Authority will be granted following approval of the Budget by the Board in July 2021; and**
- (e) note that this paper excludes any request for additional Programme and Project Authority for the East London Line Housing Infrastructure Fund beyond that approved in June 2020. Any further request will be presented in a separate paper to the Committee in December 2021.**

3 Background

3.1 The Programme, through the coordinated and prioritised delivery of capital projects, maintains and promotes a safe, operable and reliable Surface public transport service. The Programme also undertakes those improvements required across stations, signalling, vehicle fleets and other assets to support housing growth and other strategic objectives.

3.2 The Programme supports delivery of the Mayor's Transport Strategy (MTS), with a strong alignment to the two central themes of 'A Good Public Transport Experience' and 'New Homes and Jobs'. This second theme is primarily supported through delivery of the Programme's third-party funded rail enhancement projects. The Programme also seeks to contribute to the third central theme of the MTS, 'Healthy Streets and Healthy People', particularly by facilitating cycling in London.

Programme Composition

- 3.3 The Programme comprises three delivery elements:
- (a) Rail and Sponsored Services Renewals;
 - (b) Rail and Sponsored Services Enhancements; and
 - (c) Bus Renewals and Enhancements.
- 3.4 The Programme is part of TfL's wider investment in Surface public transport modes. Other investment, which reports separately to the Committee, includes:
- (a) DLR Rolling Stock Replacement Programme;
 - (b) London Overground Barking Riverside Extension; and
 - (c) projects within the Cycle Hire and London Bus portfolios delivered through other TfL Programmes such as Surface Assets and Surface Technology.

Project Transfers

- 3.5 The Woolwich Ferry Resilience and Renewal project is proposed to transfer into the Programme from the Surface Assets Programme to improve delivery and operational alignment. The project will sit within Rail and Sponsored Services Renewals. This follows replacement of the vessels in 2019, and transfer of the service into TfL and the London River Services mode on 1 January 2021.
- 3.6 Previous Programme and Project Authority for any renewals on the Woolwich Ferry was provided through the Surface Assets Programme, however this is no longer applicable. The Public Transport Programme is therefore seeking approval of budgeted authority of £7m as part of this request.
- 3.7 Opportunities to improve the delivery and operational alignment of projects will continue to be explored. This is an area of focus within Bus Renewals and Enhancements. Where a potential transfer into or out of the Programme is identified, approval will be sought from the Committee in the next submission.

4 Programme Delivery Performance

- 4.1 The coronavirus pandemic impacted delivery of the Programme soon after the Committee approved the previous annual submission in March 2020. TfL brought all project sites to a temporary safe stop.
- 4.2 In addition, a significant proportion of project staff were furloughed as part of the Government's coronavirus job retention scheme. While this had an impact on project design and delivery, activities were prioritised to ensure support to the most critical schemes. This included working closely with the supply chain, which similarly faced varying degrees of disruption.

- 4.3 In accordance with corporate governance and delivery controls, design and delivery activity gradually resumed across the Programme throughout 2020/21. This enabled the Programme to utilise 62 per cent of its approved Programme and Project Authority in 2020/21.

Rail and Sponsored Services Renewals – Delivery Performance

- 4.4 Asset renewal projects to address obsolescence and end of life issues continued across all asset groups. On the DLR, a resilience change moved the signalling borders of the railway from the most complex area of the network to a plain-line approach. Cold commissioning works started to remove a single point failure identified in the power system, and water ingress and damp issues were rectified through replacement of the Woolwich Arsenal station roof.
- 4.5 In London Trams, feasibility studies commenced on the programme to replace all 24 CR4000-model trams, which are experiencing declining reliability and have one of the lowest States of Good Repair categorisations across TfL's fleets. Lessons learnt from other internal and external fleet replacements have been collated to help inform project requirements and to prepare for early market engagement to procure a new fleet.
- 4.6 On London Overground, a kilometre of track was re-railed in the Thames Tunnel and the asset management information system was successfully migrated from SAP to Maximo. This aligns with TfL's corporate asset management approach (all TfL networks are moving to Maximo), with the legacy system now being archived following completion of Maximo documentation, training and user acceptance.
- 4.7 On Sponsored Services, 1,777 bikes were purchased to replace aging Cycle Hire bikes (a further 1,350 lost, stolen or damaged bikes were also replaced), and six Cycle Hire docking stations were relocated. All IT systems for the Woolwich Ferry were migrated to support the transfer of the service to TfL on 1 January 2021, and physical works included replacing damaged fenders and modifying the vessel belting to help prevent wear when mooring the vessels to the pontoons.
- 4.8 Not all delivery progressed as planned in the last submission. On the Emirates Air Line, a planned shutdown was paused in order to keep the service open to support London during the coronavirus pandemic. This prevented planned asset renewal activity, which has been rescheduled for 2021/22. On the DLR, a project to replace the existing ticket vending machines is now paused, pending the outcome of a wider TfL consultation on cashless ticket vending. These machines are now at significant risk of failure to the moving parts and the operating system is only supported until March 2023.
- 4.9 Increasingly asset modelling and historic performance trends will be used to assess the 'State of Good Repair' achieved by investment.

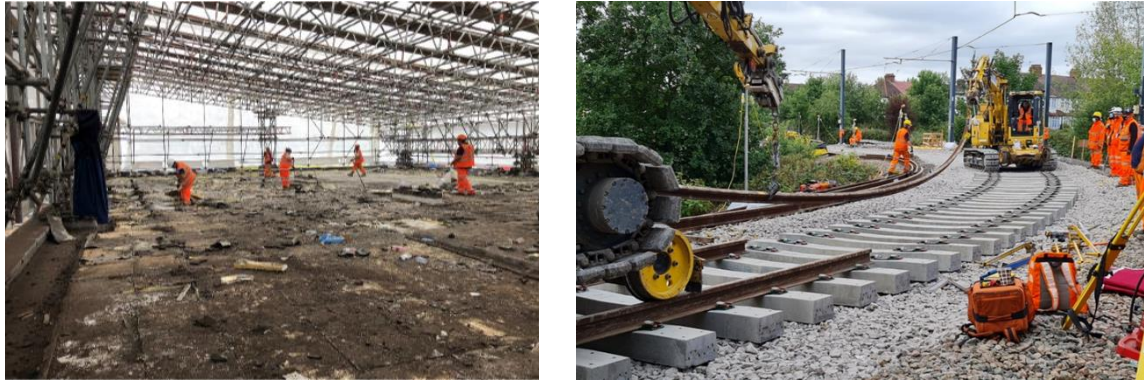


Figure 1: Replacing Woolwich Arsenal DLR station roof (left) and undertaking track renewals on the London Tram network (right)

Rail and Sponsored Services Enhancements – Delivery Performance

- 4.10 Construction activities continued at Custom House DLR station during the TfL safe stop to support the NHS Nightingale hospital at ExCel. The new areas of the upgraded DLR station are now open. Progress also continued on the programme of initiatives following the Croydon tram overturning at Sandilands, including deployment of correct side door enabling (CSDE) technology on the Stadler trams and development of iTram speed warning alerts. These initiatives are beyond the scope of the Rail Accident Investigation Branch recommendations but remain crucial in improving safety on the network. The victims and all others affected by the Croydon tram overturning incident remain in our thoughts.
- 4.11 A signalling upgrade project on London Overground’s East London Line was rescheduled from 2020 to 2022 to align with recovering demand. This project, which supports the wider East London Line Housing Infrastructure Fund upgrades (see 4.13(a) below), will enable a train frequency increase from a 16 trains per hour (tph) peak to 18 tph between Dalston Junction and Surrey Quays stations.
- 4.12 Of the three London Overground “Access for All” third-party funded step free access projects that formed part of the last submission, continuation of the Brondesbury station project awaits a DfT decision, required due to the increased complexity and cost of the scheme, and Network Rail will now be progressing the next stages of both the Hackney Downs station and Seven Sisters station projects. TfL will maintain a project interface role to support the projects and assist the specification of new assets, including the new lifts.
- 4.13 Performance of the Programme’s three largest Enhancements is as follows:
- (a) **East London Line Housing Infrastructure Fund.** TfL entered into a funding agreement with the Greater London Authority and the Ministry of Housing, Communities and Local Government in August 2020. Since then, design work has progressed on a new accessible London Overground station on Surrey Canal Road, a new accessible entrance at Surrey Quays London Overground station, and additional train stabling and power projects. The first phase of the programme concludes at the end of 2021, once all projects are at the end of concept design. A paper is then scheduled for the Committee in December 2021.

- (b) **Royal Docks Station Upgrades.** Since November 2019, design work has progressed on a number of DLR station upgrade projects which support the Royal Docks Enterprise Zone and which are funded through a joint initiative between the Mayor of London and Mayor of Newham (the Royal Docks Team). Due to increased cost estimates for delivery of all of the projects, design works were paused in March 2021. The Royal Docks Team will take the decision on whether to restart selected project design work in August 2021.
- (c) **Rotherhithe to Canary Wharf Crossing.** Due to the catastrophic impact of the coronavirus pandemic on TfL's finances, it was necessary to reprioritise the investment programme, which included pausing several projects such as the Rotherhithe to Canary Wharf Crossing. In April 2020, design work was stopped, and the project remains paused, but it remains a longer-term aspiration.



Figure 2: Stairs to new mezzanine level at Custom House station (left) and impression of the new accessible entrance at Surrey Quays station (right)

Bus Renewals and Enhancements – Delivery Performance

- 4.14 The delivery of projects on the existing bus fleet continued despite temporary disruption due to the coronavirus pandemic. The New Routemaster Revenue Modification project was completed, restricting passenger boarding to the front of all 1,000 New Routemaster buses, thereby protecting revenue.
- 4.15 The Sutton and Ealing Demand Responsive Bus Trial completed. The report summarising the outcome of the trial was published in July 2021.

5 Planned Delivery

- 5.1 This paper requests approval of additional budgeted Programme and Project Authority to continue Programme delivery to 2022/23. Highlights of planned Programme delivery are presented in the following subsections with a more detailed overview provided in Appendix 1.
- 5.2 A number of schemes across Rail and Sponsored Services will be supported by a new procurement framework. The contract was awarded in May 2021 following a Programme-wide lessons learnt review to improve commercial relationships, as noted in the Programme's previous submission in March 2020. By providing visibility of the future project pipeline, among other measures, the procurement

framework intends to encourage more collaborative working with the supply chain and enable earlier contractor involvement in projects to improve estimating.

Rail and Sponsored Services Renewals – Planned Delivery

- 5.3 Asset renewal projects to address obsolescence and end of life issues will continue across all asset groups. Benefit cost ratios are calculated for complex renewals. All renewals seek to minimise whole life costs, while maximising the benefits provided by the assets and aligning with core asset strategies. The Programme is working across business areas to develop a consistent solution to quantifying the benefits and costs for renewals to maintain a safe and reliable network.
- 5.4 Guiding Mind groups are being established for each mode, bringing asset strategy, engineering and asset operations teams into alignment. Prioritisation approaches will align to asset strategies, be consistent across all delivery areas and include a continuous improvement cycle. Across Rail and Sponsored Services Renewals, asset condition assessments will be harmonised in relation to the investment programme under the State of Good Repair approach agreed with the DfT, which will lead to a common approach to risk-based investments across TfL’s asset base.
- 5.5 State of Good Repair describes the condition in which TfL seeks to maintain assets to provide a safe and reliable network that minimises whole life costs and, where appropriate, meets customer expectations. The State of Good Repair is based on industry standard condition measures which differ by asset type, for example the standard that describes the condition of a bridge is different to the condition for carriageways. Where the State of Good Repair is low it reflects the need for renewals investment to deliver a reliable network and reduce the risk of restrictions and closures.
- 5.6 Table 2 shows the current and predicted State of Good Repair for two example asset groups within Rail and Sponsored Services. These are currently the two lowest scoring asset groups in the combined pan-TfL scorecard measure, highlighting the impact of investment; in this case, for example, the replacement of the original CR4000 tram fleet (note this range extends beyond the request in this submission).

Asset Group	2021/22	2022/23	2023/24	2024/25	2025/26
Tram Fleet	33	33	33	36	83
DLR Lifts and Escalators	31	36	54	70	77

Table 2: State of Good Repair (per cent improvement), Selected Examples

- 5.7 The biggest risk is the resource capacity and capabilities to deliver the asset renewal projects. The Programme is taking an agile approach to resource management and over-programming delivery against spend as mitigating actions, but this remains a constant challenge.

Rail and Sponsored Services Enhancements – Planned Delivery

- 5.8 Over the next two years, the outstanding initiatives from Sandilands Programme will be progressed and completed. Design development is expected to restart on several of the Royal Docks Station Upgrades projects pending a decision by the Royal Docks Team in August 2021. This decision may also request some additional minor early design work on a new Thames Wharf DLR station that would support housing growth in the planned Thameside West development.
- 5.9 Design and other work, including concluding the acquisition route for the land near Surrey Quays London Overground station required for construction of the new accessible station entrance, will continue on the East London Line Housing Infrastructure Fund projects prior to a return to the Committee in December 2021. Also on London Overground's East London Line, the associated signalling upgrade project will start on site in 2022.
- 5.10 Third-party funding will continue to be an important funding route for Rail and Sponsored Services Enhancement projects. A key challenge is to ensure that TfL submissions for funding opportunities, which often have tight submission timescales, reflect the best practical level of scope understanding, risks, costs and programme. A pan-TfL working group has provided improved visibility of pipeline opportunities, and the new procurement framework will enable earlier contractor involvement in project planning and estimating to support these submissions for third-party funding.

Bus Renewals and Enhancements – Planned Delivery

- 5.11 The New Routemaster mid-life refurbishment will commence. This will ensure the quality of the passenger experience is maintained for the full 14-year life of the TfL-owned New Routemaster bus fleet, with a recommended scope now endorsed and a preferred delivery route being finalised. The retrofit of Intelligent Speed Assistance to circa 3,000 existing buses will also start; this project will extend the benefit of this safety system to more of the existing bus fleet.
- 5.12 Work will continue on other safety improvements, including development of Automated Emergency Braking, which will be mandated in the 2024 edition of the Bus Safety Standard, and the retrofit of the Acoustic Vehicle Alerting System, an artificial sound emitted from quiet-running buses.
- 5.13 The Future Bus project, which is a set of measures to improve bus passenger experience, will also start, including provision of additional bus shelters and improved real-time information. The initial year of this project will trial different interventions on a specific bus route to promote the return of bus passengers to the network following the coronavirus pandemic, as well as helping arrest the long-term decline in bus patronage that was occurring prior to the pandemic. Subject to the evaluation of this initial year, this is anticipated to lead to further passenger-facing enhancements in future years.

6 Equalities Implications

- 6.1 In taking the decisions requested, the Committee must have due regard to the Public Sector Equality Duty; namely the need to eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act 2010, and to advance equality of opportunity between persons who share a relevant protected characteristic (race, disability, gender, age, sexual orientation, religion or belief, pregnancy and maternity, and gender reassignment) and persons who do not share it, and foster good relations between persons who share a relevant protected characteristic and persons who do not share it (section 149 of the Equality Act 2010).
- 6.2 How much regard is 'due' will depend on the circumstances and in particular on the relevance of the aims in the general equality duty to the decision in question in relation to any particular group. The greater the relevance and potential impact for any group, the greater the regard required by the duty.
- 6.3 It is not considered necessary to undertake an equality impact assessment in relation to the decision requested for overall Project and Programme Authority only. Due regard will be had to the equalities impacts of all projects under the Programme on a case by case, and cumulative, basis in accordance with TfL's obligations under the public sector equality duty in the Equality Act 2010, depending on the details and impacts of individual projects.

7 Financial Implications

- 7.1 The approved budget to 2022/23 provides the Financial Authority needed to deliver the scope of the works set out in this request. The request as it relates to the Programme's Financial Authority is shown in Table 3.
- 7.2 Existing Programme and Project Authority comprises £387m approved in the last annual submission to the Committee plus £8m approved under Chair's Action in June 2020 for the East London Line Housing Infrastructure Fund.
- 7.3 Total Programme and Project Authority is less than Financial Authority for the same period. Two further papers will be presented to the Committee within the next 12 months with additional requests: the East London Line Housing

Transport Activity	Current Financial £m	Current PIC P&PA Authority £m	Additional Proposed P&PA Authority £m	Authority Request (£m)								
				2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2017/18 to 2022/23
Public Transport Renewals	316	239	93	34	31	47	55	75	90	91	86	332
Public Transport Enhancements	248	192	-6	58	38	50	8	17	15	111	92	186
Overprogramming/Value Engineering	-12	-68	19	0	0	-2	-3	-18	-21	16	29	-48
<i>Gross Public Transport</i>	552	364	106	92	69	95	60	74	85	219	207	470
Bus Programme Renewals	6	10	-4	0	0	0	0	1	6	6	7	7
Bus Programme Enhancements	51	22	6	8	2	2	1	11	4	15	16	28
Overprogramming/Value Engineering	-16	-1	-5	0	0	0	0	-2	-4	-3	-6	-6
<i>Gross Public Transport (Bus Programme)</i>	41	31	-2	8	2	3	1	9	5	18	17	29
TOTAL	593	395	104	100	71	97	62	84	90	236	224	499.0

Infrastructure Fund in December 2021 and the next annual Programme submission in July 2022.

Table 3: Detail of Programme and Project Authority Request to 2022/23

- 7.4 The Extraordinary Funding and Financing Agreement for TfL provides funding to 11 December 2021. The Total Authority of the Programme prior to this point is £51.3m, with the remaining £32.8m from 12 December and extending into 2022/23. Commitment and utilisation of all Programme and Project Authority will be closely managed through corporate governance and delivery controls to ensure affordability.

8 .Programme Assurance

- 8.1 TfL Project Assurance and the Independent Investment Programme Advisory Group (IIPAG) completed an assurance review of the Programme in May 2021. No critical issues were identified and a plan to address the 13 recommendations has been agreed.

List of appendices to this report:

Appendix 1: List of Projects included within this Submission

List of Background Papers:

Independent Investment Programme Advisory Group (IIPAG) Report

TfL Project Assurance Report

Management response to IIPAG and TfL Project Assurance Reports

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Appendix 1 – List of Projects included within this Submission

The following list contains the detail of this request, including individual detail of those 20 projects¹ in the Programme which are forecasting expenditure of £1m or more between 2021/22 and 2022/23² (pending approval of the request set out in this submission).

¹ Excludes works on the East London Line Housing Infrastructure Fund. £8.10m Programme and Project Authority was approved in June 2020, with a subsequent paper due in December 2021.

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
Rail & Sponsored Services Renewals							
Docklands Light Railway	DLR Renewals Workbank Continue asset renewals, including: - Renew Canary Wharf centre platform points - Replace Limehouse structural expansion joints	102	148	148	155	-5%	Deferral Reprofiling of annual expenditure to reflect the impact of the coronavirus pandemic in 2020/21 and deferral of some activities Cost Savings Over £3m savings also realised in 2020/21 such as high voltage switchgear and track fixings
	Ticket Vending Machine Replacement Conclude stakeholder consultation and technical requirements	1	3	3	4	-32%	Deferral Reprofiling of expenditure due to project pause and awaiting the outcome of the wider TfL cashless consultation
London Overground	Overground Renewals Workbank Continue asset renewals, including: - Develop a Maximo mobile solution - Baseplate solution for Thames Tunnel corrosion issues	28	41	41	43	-4%	Deferral Reprofiling of annual expenditure to reflect the impact of the coronavirus pandemic in 2020/21 and deferral of some activities

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
	Silwood Warehouse Replacement Design the new maintenance facility	3	6	6	3	80%	Cost Increase Adjustment due to greater EFC certainty following completion of project feasibility study
	West Anglia Renewals Workbank Continue asset renewals, including: - Repair Stamford Hill station building - Platform resurfacing, premises upkeep	13	12	12	16	-21%	Deferral Reprofiling of annual expenditure to reflect the impact of the coronavirus pandemic in 2020/21 and deferral of some activities
London Trams	Trams Renewals Workbank Continue asset renewals, including: - Complete track renewals at Reeves Corner and Mitcham to Mitcham Junction - Upgrade CCTV on Stadler trams	44	71	71	61	17%	Scope Increase and Acceleration of Work Adjustment to reflect on-going assessment of the asset base and delivery over plan in the last quarter of 2019/20
	Tram Replacement Rolling Stock Complete market and infrastructure feasibility studies and commence market engagement	7	3	3	7	-49%	Deferral Reprofiling of programme expenditure to reflect longer feasibility stage and market engagement to inform business requirements prior to commencing new tram design works

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
Sponsored Services	Cable Car Renewals Workbank Continue asset renewals, including: - Overhaul a third of sheave assemblies	2	3	3	4	-12%	Deferral Reprofiling of annual expenditure to reflect the impact of the coronavirus pandemic in 2020/21 and deferral of some activities
	Cycle Hire Renewals Workbank Continue asset renewals, including: - Replace 2,390 aging Cycle Hire bikes	16	22	22	23	-4%	Scope Reduction Adjustment to respond to on-going assessment of the asset base needs
	Woolwich Ferry Resilience and Renewal Continue asset renewals, including: - Create a new lay-by berth - Provide a better fuel supply solution	0	7	7	0	-	New Project (Transfer in from Surface Assets Programme) An annual Resilience and Renewal workbank approach to the Woolwich Ferry following its transfer to TfL on 1 January 2021
Other Rail & Sponsored Services Renewals Projects (each less than £1m forecast in 2021/22-2022/23)		22	15	15	27	-43%	
Rail & Sponsored Services Renewals Sub-Total (excluding overprogramming and value engineering)		239	332	332	342	-3%	
Rail & Sponsored Services Enhancements							

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
Docklands Light Railway	<p>Customer Experience Enhancements Assess and confirm tranche 2 sites for improved signage and additional Oyster validators, for delivery in 2022/23</p> <p>Value statement: completed projects have improved safety as well as the customer experience. For example, additional Oyster validators at Lewisham to reduce instances of queueing on stairs. The programme's BCR will be confirmed as the tranche 2 projects are defined</p>	2	2	2	2	-8%	<p>Scope Reduction Forecast adjusted following a scope review, which included a reduction to the extent of signage works undertaken in 2020/21</p>

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
	<p>Royal Docks Station Upgrades Commence all funded concept designs for those station projects instructed to restart in August 2021</p> <p>Value statement: programme BCR of 5.4:1, prior to pause instruction. This is calculated on transport benefits only and does not include the new housing and jobs the programme will support in the Royal Docks Enterprise Zone. The BCR will be recalculated following the programme restart instruction and be reflective of only those projects that continue</p>	4	8	8	8	-8%	<p>Deferral Forecast adjusted to take account of the design pause instruction in March 2021 and a programme restart and remobilisation from August 2021. This has moved spend outside of the period and into future years</p>
London Overground ³	<p>East London Line Signalling Upgrade Start construction works</p> <p>Value statement: project BCR of 1.7:1 prior to the rescheduling of construction works to 2022. The BCR improves to 3.2:1 if sunk train leasing and maintenance costs for an 18tph service are excluded</p>	7	7	7	7	11%	<p>Cost Increase Forecast adjusted to reflect rescheduling of construction works and associated costs for project and supply chain remobilisation</p>

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
	<p>New Station Gatelines Installation of new gatelines at two stations Value statement: the gatelines will improve revenue capture for London Overground</p>	10	8	8	10	-18%	<p>Scope Reduction Forecast adjusted to reduce lower priority stations and retain those stations with the better payback periods</p>
London Trams	<p>Croydon Capacity Uplift Completion of concept design and detailed design for East Croydon Canopy replacement Value statement: works undertaken to improve the asset condition and implement safety improvements at the East Croydon tram stop</p>	6	2	2	6	-61%	<p>Deferral Forecast adjusted to reprofile capacity upgrade and congestion relief projects outside of the period, retaining customer safety and experience works at East Croydon tram stop only</p>
	<p>Trams Sandilands Upgrades Completion of outstanding initiatives: - Further enhancements to the Sandilands tunnel lighting system - Deployment of CSDE on the CR4000 trams fleet - Full roll-out of iTram speed warning alerts Value statement: works undertaken to improve safety on the tram network</p>	16	19	19	16	18%	<p>Cost and Scope Increase Adjustment to reflect later planned delivery, due to the impact of the coronavirus pandemic in 2020/21, and the additional work required to deliver the outstanding scope</p>

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
	Other Rail & Sponsored Services Enhancements Projects (each less than £1m forecast in 2021/22-2022/23)	147	139	164	221	-26%	
	Rail & Sponsored Services Enhancements Sub-Total (excluding overprogramming and value engineering)	192	186	211	271	-22%	
	Rail & Sponsored Services Overprogramming and Value Engineering	-68	-48	-48	-63	-	
	Rail & Sponsored Services Combined Gross Total	364	470	495	550	-10%	
Bus Renewals & Enhancements							
London Buses	New Routemaster Refurbishment 100 buses refurbished	10	7	7	10	-34%	Cost Savings EFC for the project has decreased by circa 25% since March 2021, but this also represents slower delivery than originally anticipated
	Bus Safety Standard Phase 2 400 buses fitted with Fatigue Detection Technology 100 buses fitted with Camera Monitoring Systems	8	4	11	8	26%	Scope Increase Adjustment following scope change (Bus Safety Standard Phase 2 is a collection of interventions)
	Future Bus Schemes Start the Future Bus trial on Route 63	0	5	16	0	-	New Project This project is new to the Programme since the March 2020 paper

Mode	Project Title and Associated Deliverables to the Next Annual Programme Submission in July 2022	This Paper Existing Authority (£m) 2017/18-2022/23	This Paper Total Authority Requested (£m) 2017/18-2022/23	This Paper EFC (£m) 2017/18-2022/23	March 2020 EFC (£m) 2017/18-2022/23	Forecast Variance	Comment on 2017/18-2022/23 EFC Variance
	Intelligent Speed Assistance Retrofit Retrofit of 500 buses complete	0	4	4	0	-	New Project This project is new to the Programme since the March 2020 paper
	Other Bus Renewals & Enhancements Projects (each less than £1m forecast in 2021/22-2022/23)	13	15	15	13	16%	
	Bus Renewals & Enhancements Sub-Total (excluding overprogramming and value engineering)	32	35	53	32	64%	
	Overprogramming and Value Engineering	-1	-6	-6	-1	-	
	Bus Renewals & Enhancements Gross Total	31	29	46	31	47%	
	Grand Gross Totals	395	499	554	580	-7%	The "March 2020 Paper EFC" stated here is £7m greater than that stated in the March 2020 paper (£573m) due to the accidental omission of New Routemaster works in 2017/18 (Authority approval for this work was captured in papers prior to March 2020)

Programmes and Investment Committee



Date: 21 July 2021

Title: Healthy Streets 2021/22 Programme

This paper will be considered in public

1 Summary

Table 1a: Authorities Requested (all figures in £m outturn values)					
Latest EFC (Gross)	Previous EFC		Financial Authority	Programme and Project Authority	Procurement Authority
979	1,086	Existing	613.9	241.3	NA
		Requested	-	67.4	NA
		Total	613.9	308.7	-
		<i>Future Submissions</i>	<i>364.7</i>	<i>669.8</i>	<i>NA</i>
<p>The Committee is asked to approve additional:</p> <p>Programme and Project Authority of £67.4m</p>					

- 1.1 A short-term approval of Authorities was agreed by Chair's Action on 19 April 2021 and reported to the last meeting. While a further approval by Chair's Action was sought in June 2021, further revisions were required and so that request is superseded by the request in this paper for an additional £67.4m of Programme and Project Authority for the continued delivery of the Healthy Streets Programme, including the London Streetspace Programme (together, the Programme).
- 1.2 The focus of this paper is to:
 - (a) set out proposals for Healthy Streets delivery and pipeline development in 2021/22;
 - (b) update on actions and recommendations from the Integrated Assurance Review undertaken in autumn 2020, and further review in spring 2021; and
 - (c) request a £67.4m of additional Programme and Project Authority for Healthy Streets delivery, bringing the total to £308.7m.

- 1.3 Procurement Authority will be sought at Officer level in accordance with Standing Orders.

2 Recommendations

- 2.1 **The Chair, following consultation with the Committee, is asked to note the paper and:**

- (a) grant additional Programme and Project Authority of £67.4m to support delivery of the Healthy Streets Programme, bringing the total Programme and Project Authority to £308.7m; and**
- (b) note that the matters for which Authorities are sought include commitments that extend beyond the period of the Budget to be approved by the Board on 28 July 2021 and appropriate provision will, therefore, need to be made for those commitments in future Budgets.**

3 Background

- 3.1 In March 2021, we largely concluded the rapid delivery of new temporary schemes (under the London Streetspace Programme) in response to the challenges of the coronavirus pandemic¹. More information on the ongoing monitoring of the infrastructure delivered through this approach, was provided in the Chair's Action sought on 19 April 2021. That paper also covered our proposals to consider whether to convert much of the temporary infrastructure to permanent. Any decisions about the future of temporary schemes will be subject to monitoring outputs, impact assessment and appropriate consultation and stakeholder engagement.
- 3.2 Additionally, we have now remobilised our longer-term Healthy Streets investment programme. A lot has changed since the programme was paused and we are now in a markedly different context. Our approach to Healthy Streets planning and delivery has adapted to reflect this with a review of some historic schemes, a new integrated pipeline of future schemes, and adoption of lessons learnt through the delivery of the London Streetspace Programme.
- 3.3 The continuing Healthy Streets Programme will deliver positive changes for road danger (in line with our Vision Zero Action Plan commitments), walking, cycling and bus travel across London. It will accelerate progress towards mode shift, decarbonisation, economic recovery and tackling health inequalities. Healthy Streets will also be an indispensable complement to other TfL initiatives – such as Crossrail, the electrification of the bus fleet, and the Ultra Low Emission Zone expansion – and help power London's wider recovery.

¹ Further temporary and experimental schemes will continue to be delivered through the Active Travel Fund in 2021/22 on borough roads.

4 Summary of Healthy Streets and LSP delivery in 2020/21

- 4.1 As set out in the submission to the Committee approved on 19 April 2021, the TfL monitoring programme for temporary schemes continues, adding to data provided from third party studies. Most of the temporary schemes introduced in 2020 remain in place, with a decision yet to be taken about their removal or retention as a permanent feature (with potential changes) resulting from the formal consultation process, monitoring of impacts, and the “active listening” to feedback during the life of the projects.
- 4.2 In March 2021, TfL published revised guidance² on the use of temporary and experimental schemes, and on monitoring the impacts of such schemes. This will feed into final decisions by TfL and the boroughs, and was supplemented by TfL’s own monitoring (for example around network and bus performance). We anticipate that the borough costs of any transition from temporary to permanent will be contained within budgets for Cycling Network Development (CND) and the Local Implementation Plan (LIP).
- 4.3 Delivery of Borough temporary schemes continues in 2021/22 through the DfT-funded Active Travel Fund Tranche 2. Around £11m of the original £20m allocation remains for this financial year, with the c£9m spent in 2020/21. Liaison continues with DfT regarding any changes requested to that programme, as well as monitoring and other requirements.

5 Planned progress during this submission

- 5.1 In future years, the Healthy Streets programme remains firmly focused on supporting a green recovery from the pandemic, and creating greater opportunities for safe, active travel on London’s streets – particularly around and within outer London town centres. Vision Zero policies and objectives remain a core driver for the future programme, to continue efforts to reduce road danger for vulnerable road users across both the TfL road network and borough roads.
- 5.2 In addition, there will be a focus on inclusivity and equity to ensure projects consider the needs of protected and diverse groups, with new consultation tools to help us connect with a range of communities and those with specific accessibility requirements – as well as reviewing the design process in the context of enhanced personal security, including for women and girls.

² See: <https://content.tfl.gov.uk/interim-guidance-for-delivery-using-temporary-and-experimental-schemes-march-2021.pdf>

Case Study

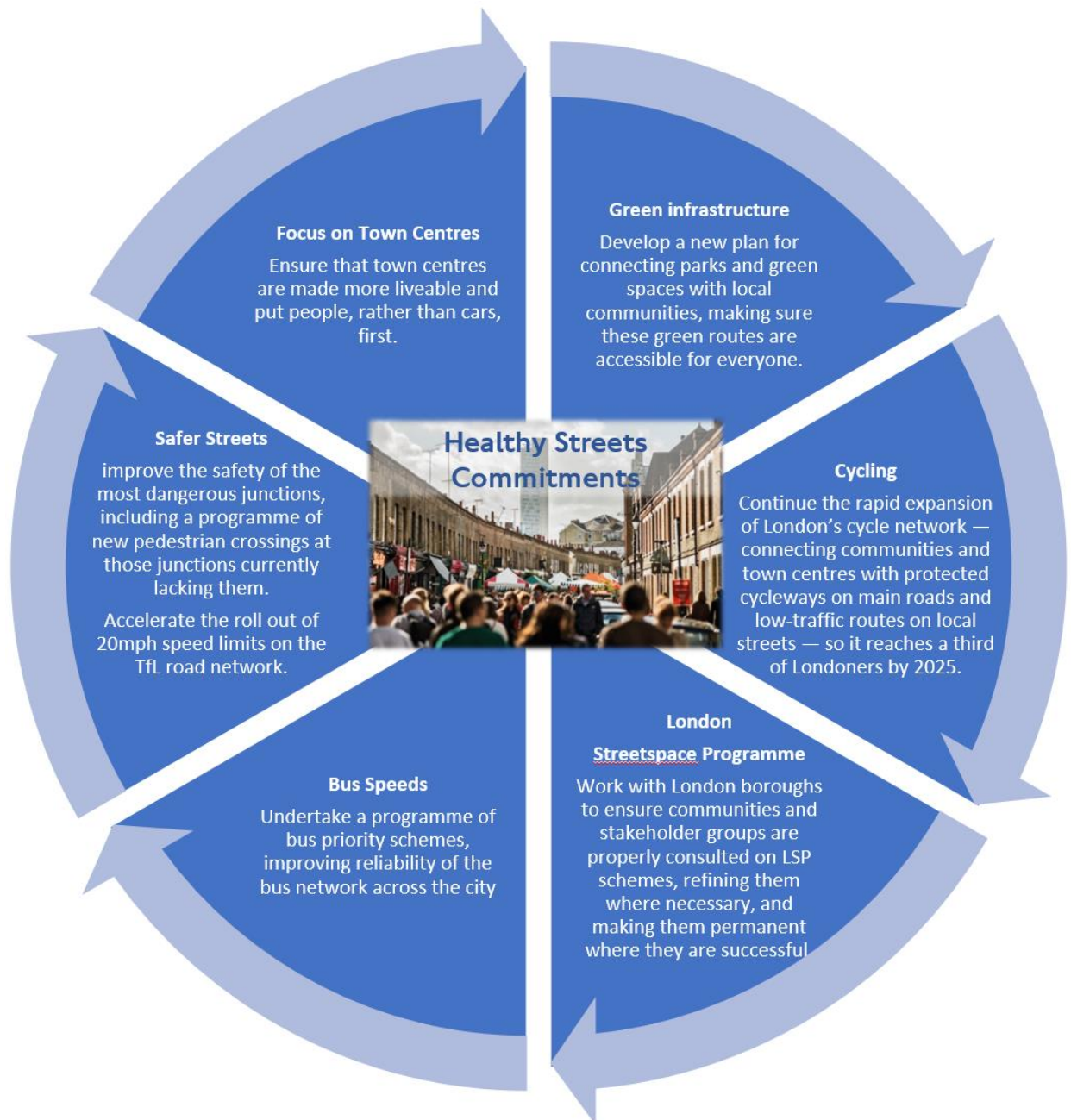
Evidence shows that women tend to make different types of journeys to men. Women's journeys around cities are typically shorter and more frequent than men's, use different modes of transport and are more likely to involve 'trip-chaining' which tend to be for a balance of childcare, work and household responsibilities. Historically, TfL's investment in cycling has focused on the commuter routes to central London.

However, since 2017, we have been using the Strategic Cycling Analysis (SCA) to guide our investment in cycling infrastructure. The SCA uses data on all types of trip that are cycled or could be cycled in London, including shorter trips made for a wider range of purposes. This is helping us plan and deliver a network that will enable a wider and more diverse range of journeys to be cycled, including those made by women and girls.



... that face disproportionate
... ncements embedded
Diversity & Inclusion work
programme is in the process of being set up, and will identify a list of common
infrastructure issues and opportunities for future research and guidance.

- 5.3 The Healthy Streets Programme will continue to deliver outcomes as set out in the Mayor's Transport Strategy (MTS) objectives including the target for 80 per cent of journeys to be walked, cycled or on public transport. The key focus areas of the 2021/22 Healthy Streets programme are set out in the diagram below.



5.4 **Safer Streets:** In 2021/22 we will seek to reduce speeds on a further 25km of TfL roads, and progress construction of Lavender Hill safety scheme, new pedestrian crossings at Battersea Bridge/Cheyne Walk, and deliver safety improvements at 8 further locations on the TfL road network. We continue work to generate a prioritised list of future pedestrian crossing locations across the network, based on a variety of factors, to help inform a future programme of protected crossings for vulnerable road users.

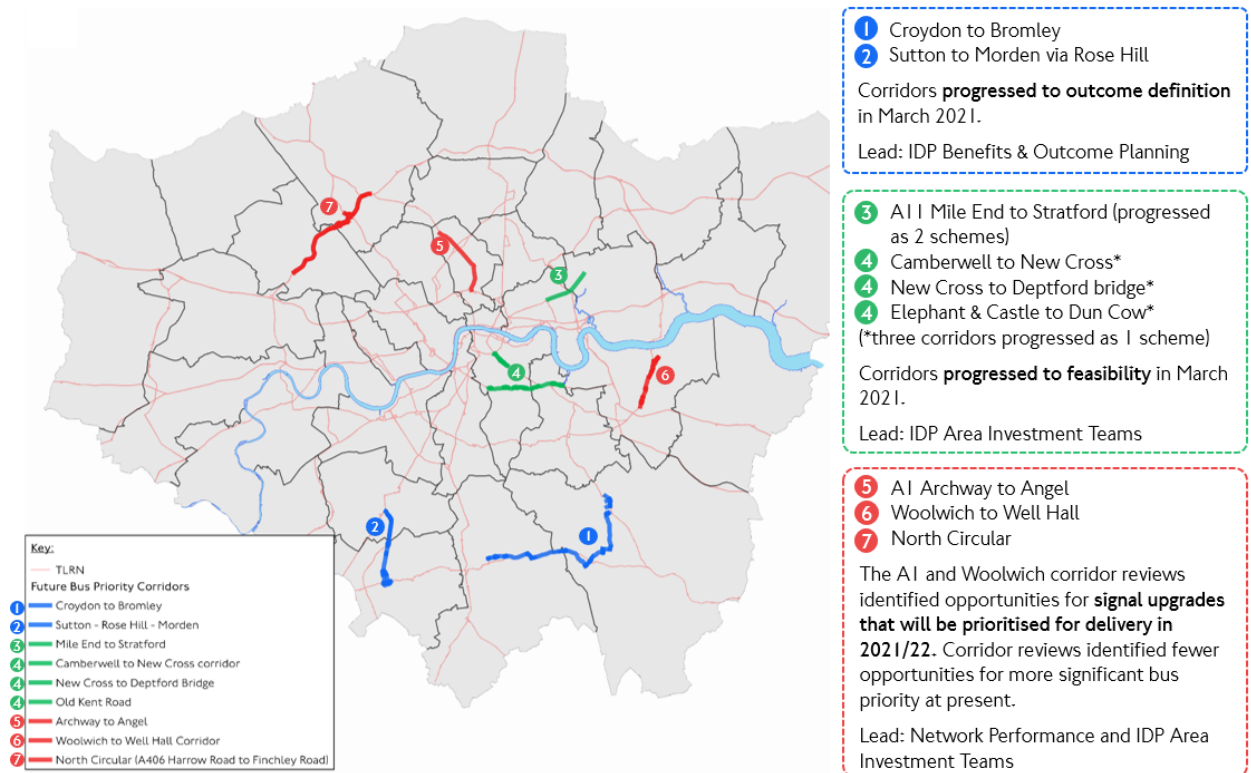
5.5 **Cycling:** Future infrastructure delivery for cycling will comprise a mix of low traffic streets, protected cycle lanes on main roads, and bus lanes with facilities for cyclists. This financial year, our plans include delivery of a further 30km of new or upgraded cycleways, as well as consideration of whether to convert temporary and experimental cycle routes delivered through the London Streetspace Programme into permanent facilities. The wayfinding and rebranding programme

also continues this financial year to ensure that new and existing infrastructure is easy to find and simple to navigate.



Above: “Dutch-style” roundabout; the first one in north London

- 5.6 **Green infrastructure:** We are in discussions with the Greater London Authority about funding for green infrastructure – which could be allocated to additional tree planting and sustainable urban drainage systems, as well as initiatives that help improve air quality, reduce carbon emissions and make streets more climate resilient. The funds could be used on both the TfL road network and borough roads, with projects potentially focussed on adding green infrastructure value to existing projects (for example, potentially including in the scope of a permanent design decision for appropriate existing temporary projects).
- 5.7 **Town Centres:** We will consider potential funding sources for a new Outer London Town Centres Fund, and how this aligns with the future Liveable Neighbourhoods programme.
- 5.8 **Bus Speeds:** Strategic priorities for the bus network are a core element of the revitalised approach to Healthy Streets and the new pipeline of multi-modal schemes. Through early analysis and prioritisation of the Street Space Framework (see also section 5.13 below) and Strategic Bus Analysis, 30 strategic bus corridors have been analysed including 14 in-depth reviews to identify bus priority opportunities. A selection of these corridors have now been progressed into Outcome Definition and Feasibility and are planned delivery for 2021/22.



5.9 **Conversion of temporary and experimental schemes to permanent:** Many of the temporary schemes delivered at rapid pace in 2020/21 align strongly to the longer-term sustainable transport objectives set out in the MTS and DfT’s Active Travel policies. Throughout 2021/22 we will review all the TfL-led temporary schemes and identify whether they should be removed, amended or retained on the network. Any decisions about the future of temporary schemes will be subject to monitoring outputs, impact assessment and appropriate consultation and stakeholder engagement. The scope for TfL projects includes 16 social distancing schemes, nine cycling schemes and three strategic movement corridors.

5.10 Boroughs will also need to review temporary schemes before the end of the relevant traffic management orders and make decisions on whether they should be removed or retained (with or without amendments). The guidance on temporary schemes referred to in section 4 is designed to support this process. The conversion of any borough temporary schemes to permanent – following a borough decision to amend, retain or remove each scheme – will be dependent upon LIP corridors funding (non-cycling schemes) and borough cycling funding (cycling schemes).

5.11 **Borough funding:** The boroughs control over 90 per cent of London’s streets including the majority of the bus network, and are therefore critical to delivery of the MTS objectives. Borough transport officers also perform essential below-the-radar functions including the development and application of parking policy (crucial in demand management), and in accessing third party funding opportunities. As for TfL, these borough resources are partly funded from the Healthy Streets investment programme. The proposed budget breakdown looks to balance delivery across TfL and borough-led projects and programmes, and follows the precedent set in 2020/21 to prioritise protection of core borough

transport staff resources. The priorities for boroughs have therefore been established as follows:

- (a) LIP Corridors core staff funding and costs for in-flight projects, notably including the process of decision making around converting temporary and experimental schemes to permanent status where appropriate; and
- (b) Smaller-scale projects that could be taken forward within the funding period, if funds are released from other area.

Due to the current funding constraints, we have taken the difficult decision to temporarily pause the Liveable Neighbourhoods programme. Aspects of some LN's are being delivered through these temporary schemes, which now need to be reviewed to determine their future. We will use the remainder of this year to work with the relevant boroughs to review the future scope of the Liveable Neighbourhoods programme in light of temporary schemes that have been introduced in some of the areas covered by the programme. We intend to restart the Liveable Neighbourhoods programme once further funding is confirmed.

- 5.12 **Supporting London's long-term growth:** Third party funding is critical to leveraging Healthy Streets and public transport improvements on our highway network. It is particularly important to support regeneration or opportunity areas where thousands of additional people are expected to live, work or visit. During 2020/21 we have kept opportunities open for schemes which support growth. The Nine Elms project provides a sustainable transport corridor through this Battersea regeneration area supporting 25,000 homes and 20,000 jobs; this scheme is fully third party funded.

A new Head Office building and additional homes require changes at Tolworth roundabout to mitigate bus delays and provide enhanced facilities for active travel, which will also be fully third party funded. Development work will continue, to progress Healthy Streets schemes that will transform Vauxhall and Catford gyratories – as well as Wandsworth Town Centre - supporting new homes and jobs while rejuvenating local commercial hubs. We will seek to access funding from the DfT Major Road Network fund, for both the Catford and Wandsworth schemes. As with other projects listed this will be subject to the quantum and conditions of funding from government, and any required prioritisation and phasing of investment.

- 5.13 **Pipeline development:** The integrated area pipeline encompasses new strategic Healthy Streets schemes that have not yet entered the Pathway process, as well as projects that are at a very early stage. A data-led prioritised shortlist of projects was completed at the end of May 2021, with the first wave of schemes moving to the feasibility stage in summer 2021. The prioritised list draws from both the data-led assessment and input from internal stakeholders. They also take geographical balance into account, as well as potential scheme complexity. The final recommendations include schemes in all London regions and comprise a mix of ambitious multi-modal schemes, as well as projects with a specific modal focus. Safety is a key objective of all schemes, particularly in locations with a high incidence of road danger.

We will use a similar approach to prioritising the Healthy Streets pipeline in future years, including building on the longlist with a comprehensive, evidence-led assessment of priority areas across London.

6 Key challenges, opportunities and lessons learnt

Key challenges

- 6.1 The future programme aspires to achieve broad consensus among stakeholder groups for proposals to improve London's roads for safety, walking, cycling and bus travel – while ensuring the requirements of all road user stakeholders, including the emergency services and black cab and private hire trade are considered in our scheme designs. There may however be some opposition and challenges in progressing the programme in some locations. We will seek to mitigate this risk as far as possible by ensuring early engagement with interested groups, both informal and formal consultation, the increased use of evidence from monitoring as this becomes available over time, and the use of experimental traffic orders where appropriate.
- 6.2 A further challenge is presented by the lack of long-term certainty around TfL's finances generally, and for active travel specifically. The Healthy Streets projects objectives are to clean up London's air; help people stay safe, fit and healthy; improve inclusivity and equity and prevent a car-led recovery from the pandemic. TfL's ability to deliver these long-term objectives will be subject to the quantum and conditions of funding from government, and any required prioritisation and phasing of investment. This means that the scale and pace of projects in the Healthy Streets programme will need to remain flexible and dynamic in response to this ambiguity.
- 6.3 Although the numbers provided in this paper are strongly indicative of the financial allocations to various parts of the Healthy Streets programme, we will need to retain the flexibility to move funding between work packages depending on the extent of emerging delivery risks throughout the year. This will ensure an optimal level of delivery against the £100m allocated by central government to active travel projects. This will require close working with boroughs (as seen during the London Streetspace Programme), and good visibility of opportunities to bring substitute schemes forward.
- 6.4 TfL has a suite of new delivery contracts that came into effect on 1 April 2021 and replaced our existing ones – and these will be the delivery mechanism for the TfL-led schemes within the Healthy Streets programme. The mobilisation of these new contracts is taking longer than originally anticipated due to the limited amount of work orders that were able to be placed during the short-term funding position in April and May 2021.
- 6.5 London's road network is currently in a state of flux in terms of demand and movement patterns, as the city recovers from the pandemic. Transport models are being recalibrated with post-pandemic travel predictions and increased data collection is being funded from the Healthy Streets programme to support future development of scheme designs, assessment and decision making. In this ambiguous climate there is therefore a risk that assessment of schemes will take longer, and that any unexpected changes in London's recovery may further delay

the decision-making process (i.e. our ability to predict and plan for future travel patterns will be further complicated).

Lessons learnt and opportunities

- 6.6 Some key lessons learnt from the past year have been embedded into the future approach. It is expected that the monitoring programme for temporary schemes will also give us a richer data set about impacts on a variety of TfL and borough objectives which we can feed into future investment decisions. These include:

Pre-March 2020	New approach
Buses seen as “outside” of the Healthy Streets story, despite their key role in achieving sustainable travel targets	Firmly embedding buses as part of Healthy Streets, and boosting delivery of bus outcomes (while maintaining level of ambition for active travel and Vision Zero); TfL will engage with the boroughs and underline the importance of bus infrastructure within the programme mix – including its importance to the achievement of sustainable mode share targets and provision of accessible travel options.
Healthy Streets schemes sometimes lead to “bus v cycle” situations, with conflicting investment recommendations in some locations	New integrated area planning and delivery model, designed to balance conflict and ensure Healthy Streets is delivering balanced outcomes for safety, walking, cycling and bus travel (at an area-wide level, accepting that some individual schemes may still involve trade-offs).
	Clearer focus on traffic reduction as an objective of Healthy Streets, with sustainable modes working together
Schemes designed and implemented using permanent measures, meaning that they can be expensive and slow to progress	More use of temporary materials, experimentation and other rapid delivery techniques (where appropriate), in order to deliver much-needed change at pace. This new approach recognises that changes at signalised junctions cannot be delivered in temporary materials, but that any investment would have a permanent legacy benefit for road users (even if an experimental scheme is not retained).
Formal public consultation for local communities, generally following concept design stage	More involvement from local communities and stakeholders throughout scheme development, using modern engagement techniques to help understand community needs and ensure inclusive input into schemes

7 Equality Implications

- 7.1 Section 149 of the Equality Act 2010 (the Public Sector Equality Duty) provides that, in the exercise of their functions, public authorities must have due regard to the need to:

- (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act 2010;

- (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and
 - (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.
- 7.2 In delivering schemes, TfL will comply with the Public Sector Equality Duty and Equality Impact Assessments will be undertaken and acted upon for Healthy Streets-delivered schemes as appropriate. In addition, TfL will comply with Section 17 of the Crime and Disorder Act 1998 and will consider how to reduce the risk of crime, including acts of terrorism, in their plans, projects and activities.
- 7.3 Where funding is allocated to boroughs for LSP delivery, published LSP guidance sets out requirements for projects that form part of the programme, including highlighting boroughs' own duty to comply with the Equality Act 2010 and Section 17 of the Crime and Disorder Act 1998.

8 Financial Implications

- 8.1 The 2021/22 breakdown below in Table 1 has been prioritised to fit within the available funding settlement from DfT, which allocated a further £100m for Active Travel. In addition, a further £5m has been allocated for new Bus Priority commitments. The projects within this programme were prioritised in line with TfL's prioritisation process and took the following items into consideration:
- (a) Alignment with DfT prioritisation criteria (i.e. no 'Desirable' projects – as defined by this criteria – will be progressed, and 'Minimum/Minimum+' projects have been protected);
 - (b) Alignment with strategic objectives (as set out in section 4);
 - (c) Deliverability spread across TfL and borough-led projects and programmes - including taking account of in-flight projects such as the temporary and experimental projects that will come to an end with the expiry of the relevant traffic orders, and where decision making is required to make them permanent where appropriate; and
 - (d) Current contractual commitments (including Old Street, Hammersmith Ferry, e-Scooters, e-Bikes).

Breakdown of Additional Authority Requested

Programme	Description	£m	£m	£m
		Existing Authority	2021-22 Commitments	Additional Authority Requested
Borough Programmes	Includes an allocation for Local Implementation Plan Corridors, and a limited number of other projects that contribute to MTS objectives. The Liveable Neighbourhoods programme has been temporarily paused.	12.3	44.6	32.3
Borough sub-total		12.3	44.6	32.3
Healthy Streets schemes	To continue design and delivery of schemes restarted in H2, including multi-modal projects, new TLRN cycle routes, lower speed limits, new pedestrian crossings, cycle parking, and targeted safety improvements. Some projects have been slowed down, to push construction start beyond P9. All 3 rd party funded projects continue.	4.4	31.1	26.6
Bus Priority (TLRN)	Continue with 2021/22 programme mobilisation, to ensure delivery of new bus lanes and pinch point removals, as well as create a pipeline of ambitious corridor schemes. Additionally, undertake signal timing reviews throughout 2021/22 to improve bus speeds.	0.6	4.7	4.1
The future of temporary schemes delivered as part of TfL's pandemic response	Ongoing work to measure the benefits and impacts of temporary schemes. Costs include data collection and public engagement to measure different aspects of each scheme. Any decisions about the future of temporary schemes will be subject to monitoring evaluation, appropriate consultation and stakeholder engagement. Trial schemes have a fixed endpoint associated with the traffic regulation order under which they have been implemented, so a continued pace of delivery is required to ensure TfL can make timely and well-informed decisions.	1.9	7.7	5.8
TfL sub-total		6.9	43.4	36.5
Active Travel Fund		11.0	11.0	(0.0)
Old Street Roundabout		29.7	29.9	0.2
Hammersmith Ferry		7.4	8.8	1.4
Timing and Efficiencies		0.0	(3.0)	(3.0)
Total Healthy Streets		67.2	134.7	67.4
Other Active Travel			12.1	
Healthy Streets plus other Active Travel			146.8	

*£12.1m of Other Active Travel (Cycle Training, E-Scooters, E-Bikes, Marketing) is included in other Portfolios

- 8.2 The current Financial Authority for Healthy Streets is £613.9m in line with the 2020/21 actuals and the approved TfL Budget up until the year 2022/23. No Financial Authority has been granted beyond these years.
- 8.3 Existing Programme and Project Authority is £241.3m. The Committee is asked to approve additional Programme and Project authority of £67.4m to continue the Healthy Streets programme.
- 8.4 A breakdown of the additional authority requested for 2021/22 is shown below.

£m	Description	20/21	21/22	22/23	Total 2020/21 to 2022/23
Financial Authority		153.9	230.0	230.0	613.9
Programme & Project Authority	Existing Authority	164.9	56.2	20.2	241.3
	Active Travel carry forward	-11.0	11.0	0.0	0.0
	Restated Existing Authority	153.9	67.2	20.2	241.3
	This request	0.0	67.4	0.0	67.4
Programme and Project Authority		153.9	134.7	20.2	308.7

8.5 It should be noted that the above table reflects the March 2021/22 TfL Budget and will be updated by the revised Budget which is due to go to the TfL Board on 28 July 2021.

9 Assurance

9.1 An assurance review was completed in June 2021, with five recommendations and no critical issues.

9.2 The External Expert note that the project team had fully discharged five of the recommendations, and partly discharged one. Five further recommendations were made, which are set out in the Assurance report accompanying this paper. The EE concluded that “*significant progress has been made in developing the strategic maturity and adequacy of the HS Strategy*”; that “*the criteria for prioritisation of schemes is well developed, and determines those schemes that deliver best value*”; and that “*the changes proposed to the governance framework are a positive step towards a structure that aligns with TfL’s stated objective that ‘Our investment governance frameworks must enable timely, commercially robust and effective decision making across the investment lifecycle’*”.

List of appendices to this report:

None

List of Background Papers:

Healthy Streets 2021/22 Programme, Programmes & Investment Committee, Chair’s Action, April 2021

Healthy Streets Programme, H2 2020/21, Programmes & Investment Committee, 12 Nov 2020

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Programmes and Investment Committee



Date: 21 July 2021

Item: **Members' Suggestions for Future Discussion Items**

This paper will be considered in public

1 Summary

- 1.1 This paper presents the current forward plan for the Committee and explains how this is put together. Members are invited to suggest additional future discussion items for the forward plan. Members are also invited to suggest items for future informal briefings.

2 Recommendation

- 2.1 **The Committee is asked to note the forward plan and is invited to raise any suggestions for future discussion items for the forward plan and for informal briefings.**

3 Forward Plan Development

- 3.1 The Board and its Committees and Panels have forward plans. The content of the plan arises from a number of sources:
- (a) Standing items for each meeting: Minutes; Matters Arising and Actions List; and any regular quarterly or periodic reports. For this Committee, these are the quarterly Investment Programme Report and the regular report on the Crossrail project.
 - (b) Programmes and Projects at a level requiring Committee approval. These include the annual review of the 20 sub-programmes in the Investment Programme and other approvals sought following advice from the operating businesses.
 - (c) Items requested by Members: The Deputy Chair of TfL and the Chair of this Committee will regularly review the forward plan and may suggest items. Other items will arise out of actions from previous meetings (including meetings of the Board or other Committees and Panels) and any issues suggested under this agenda item.

4 Current Plan

- 4.1 The current plan is attached as Appendix 1. Like all plans, it is a snapshot in time and items may be added, removed or deferred to a later date.

List of appendices to this report:

Appendix 1: Programmes and Investment Committee Forward Plan 2021/22

List of Background Papers:

None

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Programmes and Investment Committee Forward Plan 2021/22

Membership: Prof Greg Clark CBE (Chair), Dr Nelson Ogunshakin OBE (Vice Chair), Heidi Alexander, Mark Phillips, Dr Nina Skorupska CBE, Dr Lynn Sloman MBE and Ben Story

Abbreviations: Managing Director (MD), Customer, Communication and Technology (CCT), London Underground (LU), Surface Transport (ST), CFO (Chief Finance Officer), Investment Delivery Planning (IDP) and Director (D)

Standing Items		
Use of Delegated Authority	General Counsel	Standing item
Quarterly Programmes and Investment Report	MD LU and TfL Engineering, MD ST and D Major Projects	To note high-level progress update against the 20 grouped Investment Programme and Major Project items and any specific approvals required in relation to programmes not on the deep-dive list for that meeting.
IIPAG Quarterly Report (appendix on Second line Assurance Activities)	Project Assurance	Standing item
TfL Project Assurance	Project Assurance	Standing item

13 October 2021		
LU Track and Drainage	MD LU	Update and approval
LU Signalling and Control	MD LU	Update and approval
Elephant and Castle TBC	D Major Projects	Update and approval
Silvertown Tunnel	D Major Projects	Update and note

15 December 2021

East London Line HIF programme

MD ST

Update and approval

Regular items:

- Use of delegated authority by Chair, Commissioner and CFO.
- Quarterly Monitoring Report – to include:
 - high-level progress update against the 20 grouped Investment Programme and Major Project items;
 - specific approvals required in relation to programmes not on the deep-dive list for that meeting;
 - identification of programmes about to issue tenders so Members can input;
- Second Line Assurance Activities
- IIPAG Quarterly Report
- 4/5 deep dive papers each meeting from the rolling programme of Investment Programme / Major Project items. Papers to seek annual approval for the programme.
- ER8: Delivery of key projects and programmes (March)

Items to be scheduled:

- London Overground future planning
- Rotherhithe Tunnel
- Fiveways Corner in Croydon
- Innovative Technology in Signalling
- Lessons learnt from complex projects with commercial issues (D Major Projects)

Future items for Committee or Board:

- How TfL Investment Programme is affected by:
 - Potential rail devolution
 - HS2
 - Heathrow expansion
 - Oxford Street pedestrianisation
 - Football stadiums/events